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EXPRESSION OF THE CONCEPT OF MOTHERLAND IN UZBEK LANGUAGE

Abstract: *In the Uzbek language, the concept of motherland stands out by its national-cultural character, actively usage and being expressed through lexical, paremiological, syntactic units. The concept of motherland is the basis of all the religious, enlightening, spiritual, socio-political notions.*

Key words: *anthropocentric linguistics, cognitive linguistics, concept, association, lexical units.*

Language: *English*

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Introduction

Cognitive linguistics is the study of language as a cultural phenomenon, based on human knowledge and experience. Cognitive activities include the activities of receiving, presenting, and creating information, and these activities are related to linguistic reserve capabilities. In this sense, the ability of knowing is in harmony with a person's linguistic capableness. The object of cognitive analysis is the language system which is the source of acquisition and storage of knowledge, its application and transmission, and finally the means of its formation. Accordingly, while the nature and essence of cognition make up the basis of this science, the subject of study is the properties of language as a general mechanism for the formation, use, storage, transmission and processing of knowledge. The object of study of linguistic research in all directions is the language system, that is, linguistic activity and its products.

Seeing the world can also be considered as gaining knowledge about the universe. It is based on individuality and sociality in the process of learning. The language system meets the requirements of the learning process. Conceptual scenes of the world can be varied in different social and age groups. It is also possible for people to have similar concepts of perceive the world, even though they speak different languages. On the other hand, people who speak the same language may have different levels of concepts. In short, the concept of seeing the world is reflected in the interdependence of universal, national and individual characteristics.

The conceptual problem is one of the central problems of the anthropocentric paradigm. The term concept began to appear in linguistic research in the first half of the twentieth century. This term was interpreted by Uzbek linguists N.Makhmudov, Sh.Safarov and A.E.Mamatov [1, 3-16].

The concept lives in the human mind and reflects not only the concepts within the range of probabilities, but also the historical, social, scientific experience of mankind. In defining concepts, key words from a particular culture are taken into account.

As you know, a concept is an abstract notion. It cannot be observed directly. This phenomenon, which is associated with human cognitive activity, can be identified by its linguistic correlations [2,70].

In linguistics, different types of concepts are given: universally meaningful concepts: sleep, eat, start, read and etc., while the second type of concepts has cultural and national value (bread, guest, parents, wedding, friend, motherland).

The linguist D.Khudayberganova, recognizing the national-cultural nature of the concept, defines it as follows: 1. In cognitive linguistics: the unity of the information system that reflects the mental and spiritual capabilities of the human mind, its knowledge and experience. 2. In linguoculturology: a unit of community consciousness with a mentality and linguistic expression, characterized by ethno-cultural identity. 3. In psycholinguistics: a mobile perceptual-cognitive-affective structure that occurs in the cognitive and communicative activities of man and subject to the laws of his psyche [3,25].

Concept is the unity of thought and is based on the generalization of concepts, images and linguistic meanings. The formation of a concept begins with the birth of an individual image and ends with the emergence of a linguistic unit. [4,68]

The linguist D. Lutfullayeva emphasizes that lexical associations in the Uzbek language are formed in connection with the following linguistic factors and cites the followings [5, 85]:

1. Semantic interrelation of lexemes.
2. Lexical-grammatical relationship of lexemes.
3. Relation of lexemes according to their methodological features.
4. Generality of lexemes according to pragmatic sign.
5. Generality in the construction of lexemes.
6. Harmony in the pronunciation of lexemes.
7. Relation of lexemes according to their dialectal sign.
8. The commonality of the national-cultural sign of lexemes.
9. Proximity of lexemes according to social characteristics.
10. Relation of lexemes by gender.

The concept of homeland is also associatively embodied in the linguistic resources of language owners, expressing the above meanings.

The linguist Y.S.Stepanov considers the notions such as peace, motherland, trust, longing, love, home, time as constants of Russian culture [6].

Cultural constants are concepts that have existed since ancient times in connection with this nation, not only by thinkers and creators, but also respected by the people, glorified in terms of value, embedded in the standard of living. These concepts are units with national and cultural features that are also valuable for the Uzbek nation. One such concept in the Uzbek language is the concept of motherland.

The lexeme “Vatan” (motherland) is defined in the Explanatory Dictionary of Uzbek Language as follows [7,528]: Vatan [Arabic - place of birth, country] 1. A person's place of birth, city or the village; country, homeland; 2 The country in which a person is born and raised and considers himself its citizen; motherland; 3 Accommodation, shelter, dwelling, house; 4 means the original place of plants and etc.; to make a homeland.

The Uzbek language has lexical, paremiological, syntactic tools that refer to the concept of homeland, which are actively used in the Uzbek communication process. Feelings of motherland, patriotism, service to the motherland, protection of the motherland are immortal values for the Uzbek nation. The motherland is compared to the mother and it is always promoted that motherland is sole.

The lexical units that directly refer to the concept of homeland in the memory of language owners can be grouped as follows:

1) Synonyms: people, country, province, land, country, property.

2) Symbolic words: sunny, mother, eternal, free, prosperous, wide, bright, independent, immortal.

3) Homogeneous lexemes meaning place: house, threshold, family, neighborhood, city, dwelling, shelter, habitation.

4) Proper nouns meaning place: Uzbekistan, Tashkent, Khorezm, Xonka, Navruz makhalla.

5) Units of personal meaning: father, mother, brother, sister, sister, grandfather, grandmother, guardians of the homeland, defenders of the homeland.

6) Socially related words: citizen, population, people, president, border, border, territory, alienation, province, district.

7) Units of abstract meaning: loyalty, fidelity, duty, childhood, patriotism, patriotism, ancestral spirit, spiritual heritage, values, unity of nation, mentality.

8) lexemes of action and status: to adopt, to be born, to cherish, to glorify, to value, to love, to struggle, to be patriotic, to betray, to sell.

9) Units with metaphorical meaning: golden soil, golden cradle, mother's milk, motherland, white milk, a place where gold blooms in the soil, a place where umbilical cord blood is shed,

10) Words related to word formation: wanderer, becoming roamer, compatriot, to leave one's homeland, homeless, patriot, patriotism, betrayer, betrayal, make a homeland

11) Lexemes from the historical point of view: *badarga (exile)*, *vatangoh* (place of birth, place of residence), *vatansoz* (dwelling, house), *vatansoz qilmoq* (to build a house, to build a place, to make a place).

12) Negative words: traitor, espionage, treason, betrayal, cosmopolitan ([Greek cosmopolites - a citizen of the world] a person who has lost his sense of patriotism).

13) Units related to religious concepts: Muslim, faith, Islam, fard, prayer.

14) Notions related to the period: such as the Great Patriotic War, the period of independence, Defenders of the Motherland Day.

Lexical units such as nation, homeland, land, mother, a place where umbilical cord blood is shed, father, mother, brother, brother, sister, grandfather,

grandmother, house, threshold, family, neighborhood, threshold, family are located at the core of the field of the concept of motherland, while the others are the members of the field that are located after the core.

Syntactic units referring to the concept of homeland: any lexical unit related to the theme of homeland as a place where umbilical cord blood is shed, golden soil, blue sky, great future, great past, hardworking people, people who love children very much can be associatively embodied the concept of homeland in the memory of language owners.

The lexeme of the homeland and the relationship between the constructed words formed by it also creates associative connections in human thinking [5,85]. For example, wanderer, becoming roamer, compatriot, to leave one's homeland, homeless, patriot, patriotism, betrayer, betrayal.

Thus, the above constructed words also refer directly to the concept of homeland, in which the cognitive knowledge on which the word is based is the basis. The relationship between a lexeme and its derivatives creates paradigmatic associations.

From a historical point of view, the words such as *badarga (exile), vatangoh* (place of birth, place of residence), *vatansoz* (dwelling, house), *vatansoz qilmoq* (to build a house, to build a place, to make a place) also refer the concept of homeland but since these units are now obsolete words, they cannot be considered active units in our linguistic reserve referring to the concept of homeland.

It is known that the concept of homeland as one of the main categories of reality in human thinking is one of the other mental essences, such as love, trust, happiness, dignity, conscience, destiny, freedom.

In proverbs, a person's attitude to the society in which he lives, lifestyle, mental state, positive or negative qualities of emotions, ethical-aesthetic and philosophical views are embodied in the laws of society and life's trials.

There are a lot of proverbs which refer to the concept of homeland in Uzbek, such as *To love the Motherland is faith, Your homeland is your golden cradle. If your motherland is alive, your color will not be straw. East or west home is best. The nightingale loves the grass and the man loves his motherland. Foreign soil - crazy soil.*

In the saying "Everyone's home is Egypt", in the written and oral literature of the East in the past, Egypt was imagined as a developed, prosperous, rich country that people dreamed of visiting.

In this proverb, too, the word Egypt is used in the same sense, and it means "every person's homeland is very valuable, beautiful and honorable for him, no matter where it is situated and what it looks like.

In the works of art, especially prose, there are many expressions of life, death, motherhood, homeland, love, goodness, justice, and woman, which are the basic concepts in linguoculturology. Since a work of art is a product of creative activity, the expression of a particular concept in such texts, of course, first of all shows the signs of individuality, figurativeness [2, 76]. There are many classic and modern poetic works in Uzbek literature that reflect and point to the concept of motherland. In the poems of such classic poets as Zakhiriddin Babur and Furkat, the reference to the concept of homeland prevailed.

Furkat describes his sufferings abroad and homesickness in the following verses: *One weeps in your grief from night till the morning, and in the morning he cries again till sunset.*

Or we can see that the concept of homeland is expressed in the following lines of Babur: *I was unlucky so my soul was tormented, What I did was all a mistake, I left my country and went to India, O Allah, what can I do, my face blushed with shame.*

In prose works, one can also find texts and parts of the text referring to the concept of motherland: *"Motherland. The city and country where a person was born and raised is called the homeland of that person. Everyone loves the place where they were born and raised. Even animals have the sense of patriotism. If an animal loses its homeland, it will not live as happily as in its own land, life will be bitter there, and the love for its homeland will always be in the corner of its heart.* (A.Avloniy). In this text, the words such as homeland, city of birth, city, country, feeling, emotion, land, pleasure, corner, love serve to more vividly express the meaning of the concept of motherland.

At the initial point of concept formation, an idea of reality emerges. The same concept becomes a linguistic symbol and forms the core of the meaning of this symbol. The mind distinguishes the features of reality that are important to it, and on the basis of them creates a model of the perceived phenomenon [5, 59].

Conclusion.

This means that the concept of motherland is expressed in the Uzbek language using several levels of units. Lexical units differ from others in that they are different in subject matter. Proverbs referring to the concept of motherland are an integral part of the Uzbek people's communication process. The concept of motherland which has a national-cultural character is characterized by its active usage in the folklore, written literature and oral style of communication.

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FORMS OF INTERACTIONS IN SIMPLE SENTENCES IN PROSE OF ALISHER NAVOI ARE ONE OF THE TOOLS OF COMPLICATING THE SENTENCES

Abstract: *Alisher Navoi was a genius writer and a unique thinker who became well-known both during his time and after that. His works have been scientifically studied from the time when the poet was alive, and this work is being further developed at the present, at the same time his works still need research. One such issue is the relationship forms in the syntax in the prosaic works of Alisher Navoi. In the works on the historical semantics of the Uzbek language, this issue is not specifically addressed, but some examples are taken from his works. In this article, the peculiarities, semantics, and structure of the application of relationship forms in simple sentences in the prose works of the author are highlighted based on the latest data.*

Key words: *simple sentence, complexity of sentence, form of relations, semantics, the structure of the sentence, fragments, introductory words.*

Language: *English*

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Introduction

The forms of interactions are one of the components of that complicate the sentences. The issue of the complexity of simple sentences in the Uzbek language is one of the least studied areas. It is known that there are different views and interpretations of the complexity of the sentence in terms of structure and content, as well as its terms, which have different meanings. Abdurahmonov, D.Ashurova, F. Ubaeva, H. Boltaboeva called this phenomenon, as a matter of fact, some of its types as fragments [1, p 3; 5, p 109]. A. N. Kononov did not use this term for the components that complicate the sentence but describes two types of it, that is, he thinks about the expansion of parts of speech and traditionally about stimuli and inflections [7, p 363, 391, 393],. A. Gulomov and M. Askarova explained these phenomena, that is, the fragments, the exclamation, the introductory words, and the introductory ones, as separate phenomena [15, p 1965, 154, 183, 189].

The different names of the components that complicate the sentence have been studied in the literature [10, p 86] and now they are also referred to in terms such as introductory words, insertion, insertion construction and they were studied as a separate subject in some cases [12, p 5[. However, there are no viewpoints that these phenomena complicate the sentence, only H. Boltaboeva used this term in her monograph in Uzbek linguistics [6, p 5]. In the following years, it was also proposed to study exclamation in the content of the segment structure from the components that complicate the sentence [13, p 10] and others. We divide the complicating means of the sentence into two categories:

1. At present, the minimum sentence is understood only as a predicate but the expansion of the sentence with other parts of speech complicates

the sentence structure. Homogenous parts of speech are included in this category.

2. Syntactic groups that are not grammatically connected to the parts of speech in the structure of the sentence, but are related semantically: fragments, exclamation, introduction, and insertion, adverbial phrases have a pivotal role in complicating the sentence. They are syntactic phenomena that occur with the expressiveness of thought.

In this paper, one such tool in the form of interactions, which we will touch on in its use in the prose of Alisher Navoi. We recommend this term that is, forms of interaction as a term which in most literature refers to the introductory word, the introductory part because the first term which has been used as usual could not be called a syntactic term, the second one is that the integral part of the sentence is also denoted by this term, as a result, the term fragmentation causes syntactically different phenomena to be called as the same term. As well as, it causes misunderstandings in science. The suggested term fully reflects the semantic nature of this phenomenon. The application of this issue in the history of Uzbek language also suggests how historical it is.

It was told that in ancient Turkic and old Turkic language in the literature concerning to the historical grammar of the Uzbek language the use of such words *siziksiz (doubtless), kör (see), bil (know), kel (come), adin (then), biri (one of them), yori (go), bor (go), haqq (right), balguluk* (*it's known*) as an introductory part (what we call a form of interactions) when to speak about the introductory parts, there is an opinion that the scope and amount of its application are much more than in the old Uzbek language [2, p 2008, 183], but no concrete facts are given.

It should be noted that the above-mentioned word forms used in the ancient Turkic and the Old Turkic language are not found in the position of the form of interactions in simple sentences in the prose of Alisher Navoi, but other words and constrictions replace them.

In the linguistic literature, there is a commonality in the definitions of forms of interactions (introductory words and introductory constructions), that is, introductory words denote the speaker's attitude to the thought [Gulomov, Askarova,], modal attitude [Abdurahmonov] and the expression of the speaker's emotion in such relations [Gulomov, Sayfullaev] being told. These definitions of relationship forms are quite general. The semantics of the word forms involved in the expression of this form determine their particular semantic-syntactic property in the sentence structure. Alisher Navoi's prose reveals the following semantic features of forms of interactions:

1. It indicates that the idea is expressed with confidence. Such meaning is expressed through the following introductory words:

Filhaqiqat. Va, ***filhaqiqat,*** johilliqdin besaodatliqroq ne nima bor? [18, p 100] meaning: ***Really***. *And, really what is more miserable than knowledgness. Filhaqiqat, olam asbobi dag'i besh kunluk umrdakim nihoyati o'lmakdur* (17, p 166). Meaning: ***Indeed***, all our actions in the life end with a death.

*Filvoqe'ki****.*** ***Filvoqe'ki,*** *ul qavmda andin odamivashroqu insoniyatliqroq kishi yo'qtur*. [17, p 131]. *Meaning: Unduobtly, there is no other philantrop person in this tribe than him*

*Hamonki****.*** *Bu havfg'a dag'i turkey alfoz guharin nazm silkiga tortquchi shuaro taarruz qilmaydurlar,* ***hamonki****, ishkoli jihatidindur.* (17, p 214).

Meaning: *Unduobtly*. Poets who apply this pronunciation to Turkish poems do not resist, undoubtly it term of complexity of it.

Hamonki*, tolibi ilmlig'i bor* [17, p 192]. Meaning: Undoubtly, it is nessaary to gain a knowledge. Such a meaning expressed by *suziksiz, haqiqat* in the ancient Turkic language, the truth [2, p382]. The above-mentioned forms of interactions in the present Uzbek language are given by such introductory words: albatta (of cours), haqiqatan ham (indeed), Shubhasiz (undoubtly).

2. It denotes uncertainty, suspicion of the occurrence of a particular thought. The meaning is expressed through a form of interaction, "ne uchunkim" (for some reasons). ***Ne uchunkim*** *Mavlono yuzni jannatqa nisbat qilibdur* [17, p 290]. Meaning: Mawlana turned his face to heaven for some reason. The word form " ne uchundir" may be seen to modern person as an attribute that realizes the interrogative pronoun, but in the old Uzbek language it is used as a synonym for the current word "for some reason", and this is also evident from the content of the above sentence.

3. Forms of interactions indicate the source of thought. In this sense, the words *go'yo (it's said, it's supposed to), goyoki (it's said, it's supposed to)*, are involved: Qabri, ***go'yo,*** *Astrobod viloyatidadur* [17, p 68]. Meaning: his tomb is supposed to be in the province of Astrobod.

Qabri, ***go'yoki,*** *Xiyobondadur* [17, p 66]. It is said that his grave in the Alley. As is known, in the current Uzbek linguistics, the words goýo/goýoki are considered the linking words [14, p 572], comparative conjunctions [8, p 149], and the analogy are seen as the means which links the subordinate clause to the main clause [Mahmudov]. Unfortunately, H. Nazarova who studied the syntax of the work "Boburnoma" also interpreted the words *goyo/goýoki* as an auxiliary word linking the components of a compound sentence [9, p 127] but these words in the prose of Alisher Navoi, in general in the old Uzbek language, retaining their farsi lexical meaning are equivalent to the meanings of the words *derlarki* (*it is said),aytishlaricha (it is supposed)* in the Uzbek language [4, p 234].

goýo/goýoki the expanded forms of word forms could be involved in the final structure of sentences with homogeneous parts. *Ul sipohiyliq suratida erdi va alni hajv qilur erdi, go'yo, emdi ikalasidin mutaboid bo'lubdur* [17, p 99]. Meaning: He was in the status of a soldier, and used to tease the people, it is said that he gave up both of it. Such words also appear in the context of the commentary construction: *Mir Ishqiy Jahonmulkbegimning nabirasidirkim, g'oyat taayyindin, go'yoki, na'rifi hojat emas, Amir Yodgorbekkim, zikri yuqori o'tti, inisining o'g'lidur* (17, p 175). Meaning: it is said that it is not nessasry to describe for being famous because Mir Ishqiy is the grandson of Jahonmulkbegim, Amir Yodgorbek, the son of his brother mentioned above.

The form of the relationship of *goýo/goýoki,* was mainly used in the work "Majolisun nafois". And this is connected with the genre of the work, the style of description. It is known that attempts were made to give accurate information about the life and work of each of the poets described in this work, but Alisher Navoi himself acknowledged that some information about them is tentative information. Because of this, he used the form of the interactions of *goýo/goýoki* in explaining the supposed information and the information was reported to him.

4. Relational forms were used to highlight and emphasize the idea. This meaning is expressed by the words bataxsis (particularly), bataxsiski (particularly). This word comes before the allocated fragment: *Hofiz Ali Jomiy o'z zamonining sohib kamoli erdi, bataxsis, tasavvuf ilmida (*17, p 198). Meaning: Hafiz Ali Jami was the clever man of his time, particularly, in the science of mysticism. These words were used to highlight and emphasize one of the homogeneous expanded predicates: *O'zin birovga qul deb qochqan dodakdur, balki dodakdin yuz qatla kamrakdir, bataxsiski, mufrit tarbiya ko'rmish bo'lg'ay va muqobalada beandom loflar urmish bo'lg'ay* (18, p 53). Meaning: if someone considers himself as a slave of someone, he is a scoundrel that, he is a hundred times less than the scoundrel, particularly, he is uneducated man and used to exagrate. This meaning is expressed in the current Uzbek language by such words, *hususan* (*in particular), shahsan (personally)*.

5. Relational forms mean that the idea expressed in the previous sentences is summed up, emerges, and is realized in the sentence in which they involved. In this sense, the words *ittifoqo, hosili kaloi, alqissa, har taqdir bila, bahar taqdir* are used. Although they also make a semantic group according to common semantic features, each has its peculiarities through its lexical meaning. Because of this, they were explained separately.

Ittifoqo (as acpacted). The word which denotes the form of interactions expresses the expected goal in the antipathy and the sympathy of the thinker in the performance of a particular action and its implementation: *Ittifoqo, o'zi ham bu chohqa tushub halok bo'ldi* [19, p 59]. Meaning: as acpacted, he fell into this pit and perished. Although, rarely, this word is still in use in the written Uzbek literary language.

The word *"alqissa"* (so, thus) means that the idea in the sentence in which it is applied as the result of the idea put forward in the sentence that comes before this sentence: ***Alqissa,*** *Gushtasp bu xabardin voqif bo'lg'ach, bu ishdin ko'p pushaymon bo'ldi* [19, p20]. Meaning: So, Gushtasp regretted a lot when he heard about this news.

Alqissa, *Kobuliy bu she'rni bitib,navvobdin birining vositasi bila oliy majlisqa yetkazibdur* (17, p 254). Meaning: Kabuli had written this poem in this way and delivered it to the parliament with the help of one of the duty person. The meaning of the word "alqissa" in our first example is the same as the phrase "shunday qilib" (so) in modern Uzbek language, the phrases "shunday qilib" (so), "shu tariqa" (thus) are the equivalents to the word "alqissa" in the second sentence that is, if in the first sentence it expresses the relation to the time when the thought is about to occur, it expresses the relation to the mode of occurrence of the thought. It is known that the word "alqissa" (thus) is now peculiar to the language of the epics or the language of works written in the epic style.

Hosili kalom (briefly, shortly). This means that the idea expressed in the previous sentence is firmly concluded in the sentence in which the form of interaction is used: ***Hosili kalom,*** *andin so'ngrakim muncha qaviy daloyilu azim shavohid bila bu faqirning vuqufi, balki mahorati bu fanning forsiyuturkiy nazmida sobitu ravshan bo'ldi* (16, p 31). Meaning: shortly, after that the knowledge and skills of the poor man, with the help of a strong and a great witness, became famouse in the Persian-Turkish poetry. This meaning is given in the current Uzbek language by the so-called "*hullas" (shortly)*.

Har taqdir bila, bahar taqdir (unfortunately/in any case). The combinations that express this form of relationship, which has a Turkish and Persian sentence structure, also indicate that the idea, which includes the historical events described in the previous sentences, ends in this sentence: ***Har taqdir bila,*** *ul har kun bu jihattin ikki kishi o'lturur erdi* (19, p 26). Meaning: Shortly, he would kill two people every day. ***Bahar taqdir,*** *Ardasher Bobak Sosoniylarning avvalg'i podshohidur* (19, p 36). Meaning: Shortly, Ardasher Bobak is the former king of the Sassanids' dynasty. In some compound sentences, a more complex form of this expression is also used: ***Boriy har taqdir bilaki bor,*** *bovujudi turk alfozining forsiyg'a muncha maziyati va nafsi amrda muncha diqqati va vus'ati nazm tariqida shoe' emas erdi va kitmoni nihon xonasig'a tushub erdi...*(16, p 39). Meaning: Shortly, the Superiority and sensitive as ell as wide spred of Turkish poetry in the Persians are not so popular.

*Har oinakim.*This combination implies a certain degree of attention to the idea being summed up: ***Har***

oinakim, *bu bayttin boshqa el ichida g'azalidin bir ozroqcha bor* (17, p 20). Meaning: Anyhow, there are other bit of a ghazal among the people besides this couplet . In this sense, expressions such as *vallahu alam, inshallah, rahmatun lil alamin*, which came through the Qur'an and other religious works, also take part in these forms of relations: ***Insholloh,*** *tuz yo'lg'a kirgay* (17, p 88). Meaning: ***Insholloh*** (if the God wants) he will come into right way. *Va Rumda Batlimusni qaysar qildilar*, ***vallohu a'lam*** (19, p 29) Meaning: And in Rome they made Batlimus a king, ***vallohu a'lam*** (only God knows). *Bu so'zdin Shopur ul ishni tark qildi,* ***rahmatun lil olamin*** *(*19, p 47). Meaning: By this word, Shopur gave up his habit, *rahmatun lil olamin* (God bless him). It expresses negative attitude of the speaker and feelings to the thought perceived from the sentence. In this sense, the word "hayhot' (alas) is used: *Bu habis zotu muncha oroyish pok eranlar holidin anda namoyish, hayhot, hayhot, uyot, va yuz ming uyot* (18, p 60). Meaning: It's a pity, making up of the men is shameful, it is a pity.

6. It expresses the order, the continuation of the idea. In this sense, the combination of "*yana ulkim" (again)* is involved: ***Yana ulkim,*** *fahm jinsi ojizlarni ham moyil, balki mushtag'ilushbu nav'g'a ko'rarva zamon va rasm ahlitariqidinchiqarg'anni munosib ko'rmas va bu nav' bila qolur* (16, p 20). Meaning: The people who devoted himself to the science wants the uneducated people to gain a knowledge and they don't want to be out of their era and customes and remain in the domin of their behavior.

Relational forms are also widely used in compound sentences. They included such words and phrases, *umid ulkum, kerakki, har miqdor, andoq ma'lum bo'lurki, oyo, yana bir misol, andin so'ngrakim, кerak edikim, turfa bukim* along with the above-mentioned words. This kind of words and phrases require special research. Relational forms are in the frame of a word form and a phrase. It is also possible to include the words *alqissa, ittifoqqo, hamonki, batahsis(ki), filhaqiqat, go'yo(кi), hayhot* and the word *inshallah*, formed from simplification to the forms of relations in the frame of a word. They all come from Arabic and Persian. The phrase "*ne uchundir*" (for some reason) can be a good example to the analytic form. Forms of relations in the frame of a phrase include such patterns *har taqdir bila, bahar taqdir, hosili kalom, har oinakim, rahmatun lil olamin, vallohu a'lam.* Their grammatical relationships are different. They were used in the form of Turkish phrases (har taqdir bila), in the form of Persian phrases (bahar taqdir), in the form of Persian izofa (hosili kalom) and the form of Arabic phrases (rahatun lil olamin). Words and phrases that represent most forms of relationship are used with *-ki / kim* particles, even without particle forms of relations like *ne uchunkim* couldn't do their functions. Relational forms such as *hosili kalom, ittifoqo* could not accept these particles, but in some of them the particles -ki / kim was free to use, and in the places where they are used, they have the meaning of emphasizing the word in the form of an relations. Most of the forms of relations used in Alisher Navoi's prose belonged to the category of noun (alqissa), partly pronoun (ne uchunkim), verb (go'yo, an etymological verb), and exclamation (hayhot).

As it turns out, Alisher Navoi prose has its syntactic place in the form of relations, which provided different modal relations in the structure of the sentence, and the great writer could use these opportunities of the Uzbek language efficiently.

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METHODS FOR CALCULATING THE DISCOUNT RATE FOR THE EVALUATION OF THE COST OF OBJECTS MAKING INCOME ON THE EXAMPLE OF THE REPUBLIC OF UZBEKISTAN

Abstract: *The discount rate is necessary to determine the current value of the income stream for making key decisions on the purchase / sale of a property, enterprise or when choosing a specific investment project. When calculating the value of real estate, enterprise and analyzing the effectiveness of investment projects, financial analysts and appraisers often face the problem of correctly determining the discount rate.*

The correct calculation of these indicators allows you to more accurately take into account the conditions of the market environment in which the circulation of property and the implementation of investment projects are possible.

Key words: *Valuation object, discount rate, fixed asset valuation model, weighted average cost of capital model, cumulative construction model.*

Language: *English*

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Introduction

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Initially, for the sake of brevity, the concepts of investment projects, profitable real estate or an existing enterprise, for the sake of generality, will be called valuation objects, noting, if necessary, some differences in their valuation.

The discount rate necessary to establish the current value of the future income stream is the main economic standard used in assessing the effectiveness of an investment project or any other property of a production complex that can generate income from investments at a certain stage of their life cycle.

In the course of the analysis, the discount rate is understood as the rate of return on the capital invested in the valuation object required by the owner of the given object.

Main part

A low rate can overstate the value of future cash receipts or valuation subject and as a result, the owner can choose an ineffective investment project and incur losses or overstate the value of real estate / existing company.

Using a high rate can result in losses associated with a missed income opportunity. All this necessitates a careful justification of the discount rate [1].

The discount rate should take into account all the individual financial interests included in the capital structure, and the ultimate goal of the investor and property owners (investor) is to receive income from

the use of the profitable object in excess of the originally invested amount for its creation / acquisition.

Based on this, the investor's total expected return consists of a full return on the originally invested amount and profit, i.e. return on invested capital.

The difference between the net income accumulated for the billing period and the net present value (discounted accumulated balance) for the same period is the discount. The discount rate is the cost of capital raised at which the owner of the capital agrees [2]:

1. Invest in a project in case of evaluating the effectiveness of an investment project. In this situation, the discount rate may be different for different calculation steps in cases of time-variable risks or time-variable structure of invested capital;
2. Purchase / sell a comparable property in case of valuation of profitable real estate or an existing enterprise. In this situation, the discount rate can be assumed constant over time and depend only on the structure of capital.

The profitability of deposits or other securities, inflation, rates of return on various types of loans and other indicators are additional data on the basis of which a decision is made on the acceptable return on invested own or mixed capital for the investor / buyer.

To separate the concepts of profitability from an investment project and from real estate or an enterprise, it is necessary to distinguish between the concepts of current profitability and final return [3].

When assessing the cost of an investment project, the requirements of a particular investor should be taken into account, which can be focused only on current returns during the period allocated to them within the project life cycle.

The requirements of another investor can be expanded to the final return of the project, when it is planned to sell the object at the end of the investment period. In the latter case, the discount rate should be determined by the norms of final return [4].

When assessing the profitability of real estate or an enterprise, it should be borne in mind that these objects already exist de facto, and additional investments (during reconstruction, re-profiling, maintenance), if any, are aimed only at creating additional value that provides the necessary market potential subsequent sale (reversion).

Two conclusions follow from the foregoing:

1) The size and structure of the discount rate in all the above situations will be different, both in size and in structure;

2) The choice of the method of calculating the discount rate depends on which investment cash flow project is used as the basis for the assessment.

This is the essence of all discussions about an acceptable and reasonable value of discount rates.

It is necessary to distinguish the following discount rates used in evaluating the effectiveness of an investment project [7]:

- commercial, in assessing the commercial effectiveness of the project and determined taking into account the alternative efficiency of capital use. Most often used in assessing the value of an object without the participation of budget funds;
- discount rate of the project participant, reflecting the effectiveness of individual industry enterprises and other participants, selected by project participants;
- social rate of discount, when assessing socio-economic projects with a minimum of requirements for their effectiveness. This norm is considered a national parameter and is set centrally by state bodies in conjunction with forecasts of the country's economic and social development
- the budget discount rate is the alternative cost of state budget funds and can be set by order at the republican or regional level.

The following methods are most often used for the analytical determination of the discount rate (assessment of the commercial effectiveness of an investment project, real estate and an existing enterprise):

– valuation of capital / long-term assets (CAPM);
– weighted average cost of capital (WACC);
– cumulative construction.

1. Capital Assets Pricing Model – CAPM

The model is based on the analysis of stock market information arrays on changes in the yield of freely traded shares. The rate of return on equity R_e (1) for any type of investment depends on the risks associated with these investments, and is determined by the expression:

$$R_e = R_f + \beta (R_m - R_f) + g1 + g2 + C \quad (1)$$

Where R_f is the return on risk-free assets. In the conditions of the local market, the Central Bank of the Republic of Uzbekistan [5] refinancing rate is used as R_f - 8.5% (currently); $(R_m - R_f)$ - market risk premium, the amount by which the average market rate of return on shares in the stock market exceeded the rate of return on risk-free securities.

It is based on statistical data on market premiums for a long period (in a number of recommendations this premium is taken equal to 5%); g1 - additional premium for small enterprises (low creditworthiness and financial instability). The value of this premium may be up to 75% of the nominal risk-free rate of loan interest; g2 - risk premium for a given object, accepted expertly; β - "beta" coefficient - the ratio of the volatility of the company's stock price to the volatility of a similar indicator for the market as a whole.

If β = 1, then fluctuations in stock prices of the enterprise coincide with fluctuations in the market as

a whole. If β = 1.2 - it is expected that the value of the shares of the enterprise will grow 20% faster than the market as a whole. And vice versa; C - country risk. According to the ratings of the countries of the world given in international publications and statistics (for example, the German firm BERI), this premium can be up to 250% of the discount rate calculated taking into account all other factors. In the absence of the necessary data, the prize is evaluated expertly. When the project is of national importance, the value of C can be taken at the level of 1%.

Many components of this methodology are evaluated subjectively enough, there is no linking of the risk premium to the specific risks of the subject of assessment and the account of its current functioning.

In countries with developed stock markets, data on ratios are published in print.

For example:

Re = Rf + β (Rm – Rf) + g1 + g2 + C = 8,5 + 0,172 (14 – 8,5) + 1,15 + 1 = 11,6%.

Thus, the discount rate of the valuation subject will be 11.6%.

2. Weighted Average Cost of Capital –WACC

This is the most objective method of determining the discount rate and is used in cases. when not only equity but also borrowed capital is attracted to finance the facility.

The profitability of such an object should compensate for both the risks associated with investing its own funds and the costs of attracting borrowed capital. The long-term portion of the debt is considered unchanged.

The discount rate is defined (2) as the weighted average cost of capital:

WACC = Ks Ws + Kd Wd (1 – T) (2)

Where Ks is the cost of equity; Ws is the investment projective share of equity; Kd is the cost of borrowed capital; Wd is the share of borrowed capital; T - income tax rate.

In those cases when it is impossible to obtain the necessary data, then available information on the ratio of Ws and Wd of similar objects is used. At the same time, the value of Wd is adjusted taking into account the income tax rate, the meaning of which is that interest on debt servicing is attributed to the cost of production, thereby reducing the tax base for income tax [8].

For example:

The cost of equity is at 13.6% [6]. The share of equity is 75%. The annual interest rate on borrowed funds is 6.5%. The share of borrowed capital is equal to 25%. The income tax rate in accordance with the Tax Code of the Republic of Uzbekistan is 20%.

Substituting the given values in the formula (2), we obtain:

WACC = 13,6% x 0,75 + 6,5% x 0,75(1– 0,2) = 10,2 + 1,3 = 11,5%.

Thus, the discount rate will be at the level of 11.5%.

3. Cumulative discount rate building method

This method of constructing an income rate is most often used in countries with poorly developed stock markets and is used [8]:

1) mostly for enterprises:

– with limited retrospective data;

– with reduced profitability;

– with significant dependence on the supplier;

– with high fixed costs in comparison with variable costs.

2) then, when risks are caused, first of all, by unsystematic risks of the evaluated object.

The cumulative construction of the discount rate D is carried out by successively adding to the value of the risk-free income rate Rf (lower limit) additional premiums PRк (3) for various types of risk for investing in this object:

D = Rf + PRm+ PRs + PRu (3)

1. PRm - the risk of investing in this object, which should be interpreted as country risk. The lower the risks of doing business in the country, the lower the required return;

2. PRs - risk to small enterprises. The smaller the object of assessment, the greater the risk of investing in it;

3. PRu - specific risks, such as [9]:

– the quality of the facility management (the presence of a qualified key figure, its integrity, predictability);

– the risk of a narrow set of sources of financing for the facility and its low financial stability;

– the risk of commodity and territorial diversification of the industry to which the subject of valuation belongs and is determined solely by the internal characteristics of each industry - the volatility of their cash flows. For example, the volatility of flows in wholesale trade and oil production will be completely different;

– clientele diversification. The higher the degree of diversification of the clientele and the longer the period of effective communication with them, the lower the risk of investment;

– the degree of certainty of the projected net profit or cash flow. The amount of risk depends on the ability to generate high profits over the past few years;

– other specific risks inherent in the subject of assessment.

The specific value of the premium for each type of risk (with the exception of country risk) is determined by experts on a likely interval from 0 to 5% and is completely based on subjective opinion, and therefore can cause serious objections [10].

The situation is aggravated by the fact that the profitability of investments in various facilities in the conditions of economic instability is not always adequate to the risks themselves.

Typically, the return on investment is higher than the bank rate i.e. the discount rate is always higher

than the bank interest rate. However, in a real situation, the involvement of individual objects may not ensure the profitability of the valuation object above the loan rate.

Under these conditions, the final return on initial investments in a profitable object and income from its functioning may not be higher than the rate on bank loans [11].

Consequently, the discount rate for some objects may be lower than the loan rate, which leads to the inability to attract borrowed funds. At low discount rates, the levels of capitalized income themselves should be low.

Chart 1. Advantages and disadvantages of various method

Method	*Advantages*	*disadvantages*
CAPM	Allows you to take into account the influence of external factors that are not dependent on the progress of the project, political risks, rates of return (without risk, industry and average market)	It is directly related only to companies that are joint stock companies and have stock market quotes. Companies that have sufficient statistics to calculate their β coefficient or are able to find a close partner company.
WACC	The cost of capital can be calculated quite accurately. Based on the cost of capital, it is possible to judge possible options for using resources, returning money to shareholders and creditors in proportion to their contributions to the company's capital.	The cost of equity (dividends by shareholders) does not correspond to the market level of profitability (there are no stock quotes on the open market). The cost of borrowed capital is often distorted due to the possibility of applying concessional lending schemes, the complexity of lending schemes.
Cumulative discount rate building method	Ease of use	It is highly subjective, since it is based on the use of expert assessments. It does not take into account the specific cost of capital when implementing the asset. This indicator has been replaced by inflation and the minimum yield on medium-term foreign currency deposits, which is not related to the profitability of the property being valued, as well as to the weighted average interest rate on loans and the structure of its own and borrowed capital.

When evaluating an investment project, it is advisable to analyze its sensitivity to various discount rates if the forecasting period is at least 3 to 5 years. Sensitivity analysis will determine the stability limit of the investment project, the level of profitability acceptable to investors.

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AUTOMATION OF REACTIVE POWER COMPENSATION IN ELECTRICAL NETWORKS

Abstract: *This article analyses the existing problems of automation of reactive power compensation in electrical networks, automates circuits of reactive power sources in the power supply system using analytical and experimental methods, as well as provides recommendations for their optimization.*

Key words: *Reactive power, rectifier, synchronous machine, network, load, automatic control, coefficient, electrical device.*

Language: *English*

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Introduction

The energy sector is the main core of production, and today it is entrusted with the task of providing high-quality electric power to production technologies that meet the world standards, and therefore it is subject to responsible requirements.

It is known that reactive power compensation is used to save energy. [1, p. 88]

At large industrial enterprises, this issue is considered more relevant. The use of reactive power compensating devices is the most effective and efficient way to reduce power consumption from the network.

The work aims to analyze automated schemes of reactive power sources in the power supply system and develop recommendations for their reasonable implementation based on optimization.

The practical importance of work: Since electricity consumers have reactive power consumption, it is necessary to control the power of reactive power sources.

This problem manifests itself in the automation of reactive power sources.

To solve this problem, it is important to improve the automatic control schemes of jet sources and optimize their modes.

MATERIALS AND METHODS

In the course of research on automation of reactive power compensation in electrical networks, analytical and experimental methods were applied: Study of electrical and magnetic circuits and systems, graphic models, control theory, the theory of measuring transducers, modelling, probabilities, the

study of errors and methods of reliability calculation. [[2, p. 73]

Algorithms and methods have been developed to calculate in real-time the determinants, static and dynamic classifications of electromagnetic converters that can work together with semiconductor elements in the control of the reactive power of the power system, providing high accuracy, linear output classification, economic cheapness, simplicity in structure, high sensitivity, low power consumption, informativeness, reliability;

The method and principle of adequate change of sizes, angles and irregularities of single- and three-phase currents, angles and irregularities of the energy system to the secondary voltage, providing combined control of reactive power sources, implementing the principles of building energy-efficient and resource-saving energy systems, was created. [3, p. 145]

The main consumers of reactive power are:

1. Asynchronous motors (AM) -they consume 60% of the total reactive power.

2. Power transformers consume about 20% reactive power.

3. Adjustable rectifiers, induction furnaces, etc. consume about 15-20%.

High-voltage synchronous motors (SM), synchronous compensators and static sources of reactive power with voltage up to 1000 V and above 1000 V, capacitor batteries (CB), high-voltage synchronous motors (SM) are used to reduce consumption of reactive power received from the system at enterprises and in workshops. Also, it is possible to reduce the consumption of reactive power, affecting the process and structure of the operation of technological mechanisms and electrical installations. [4]

In the design and operation of ETS, various measures 2 are used to replace reactive power:

1. Coating using a special jet power supply;

2. Compensation measures affecting the process, design and parameters of the electrical installation without using a special source.

We will look at these events:

1. Limit the salt stroke time of an asynchronous motor in a mechanism or machine. Because the asynchronous motor consumes mainly reactive power when the salt is going, and the power factor cos, Therefore, the motor circuit breaker from the network is installed, Salt walking time is more than 10 seconds.

2. If the design of the mechanism allows, replacing ad with a more powerful engine with a smaller load factor. At the same time, if the load ratio of the engine $K_{io} < 0.45$, the high-power engine can be replaced by a low-power engine without performing economic calculations. If $0.45 < K_{io} < 0.7$, it is possible to replace based on technical and economic calculations.

3. Reducing reactive power consumption by reducing the voltage by reconnecting the blades from the triangle to the star, which allows low-loaded asynchronous motors and synchronous machines to the stator cams. It can be used for 4A series engines where the blades are triangularly connected at rated voltage.

4. If possible, replace asynchronous motors with synchronous machines (pumps, compressors, fans) installed on mechanisms with the constant mode of operation. Because the synchronous machine can independently produce and transmit to the network without consuming reactive power.

5. For mechanisms with variable operation mode (for large-size pumps, compressors, fans) it is planned to install a synchronous machine during its new design.

Capital investments will be less costly to perform the above actions. Therefore, they can be performed first, and then special reactive power sources can be used if necessary.

In the capacitor, it is allowed to increase overload currents up to 30%, and voltage up to 10%. [5] in practice, the load current due to resonance can reach 400% -500%. When selecting the power supply location and installation of capacitor batteries, it will be necessary to take into account the voltage and current generated by the load. When considering the operation of capacitor batteries under nonsinusoidal voltage conditions, it is necessary to take into account the interdependence of the capacitor battery with the high harmonics of the power supply circuit. Figure 1 shows a distribution network of capacitor batteries in which a thyristor converter is provided and installed to compensate for reactive power.

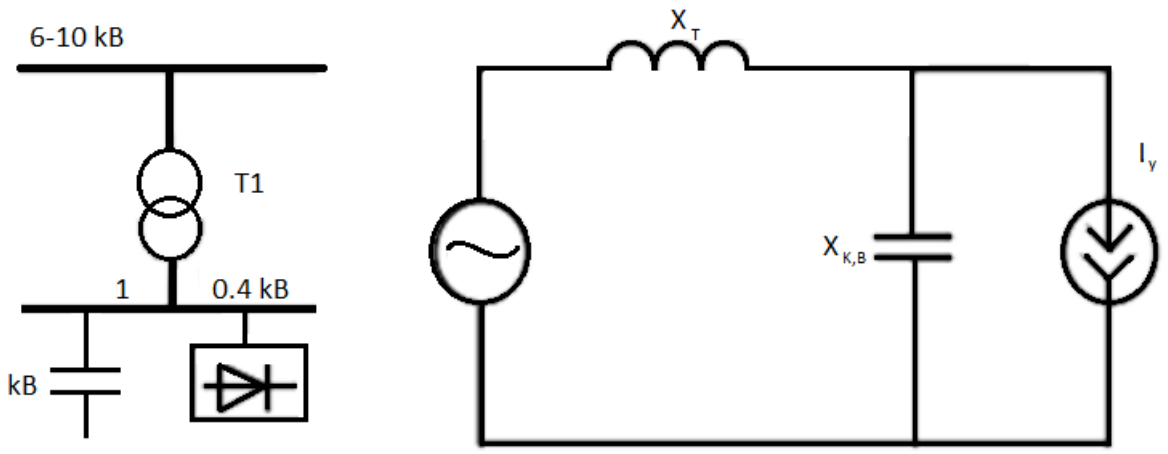

Figure 1. Capacitor (a) connected to the AC transformer and its exchange circuit (D)

УКРМ (КРМ, УКМ, АКУ) - Automatic equipment for reactive power compensation. This device makes it possible to cover the reactive power with capacitor banks. The device can be automatically controlled or manually operated.

– The device supports the set CoC coefficient φ, which monitors the change in reactive power in the network and compensates for the reactive power when loaded.

– Eliminates the generation of reactive power in the network.

– Prevents voltage drop in the mains.

– Prevents overheating of wires distributed in the enterprise.

– The company pays less, reducing the consumption of active and reactive energy.

– The equipment covering the reactive power will consist of:

– Disconnector (disconnector), network connection and disconnection for construction with eyes.

– Circuit breaker type D, each capacitor separately for the battery.

– Contactor with a capacitor, contactor with special two-stage switching. The contactor capacitance with a capacitor is designed for consumers. The capacitor switches off when the charge is assembled in the short-circuit mode. [6] The installation of conventional contactors may cause equipment to fail and operate incorrectly.

– The thyristor contactor is also used instead of the contactor for a fast connection.

– The condenser battery, dry, oil, other types of liquid static condensers are available, they get out depending on climate and operating modes.

– controllers for automatic control; Controllers can be flat or power. [7; 8] The same flat stage capacitor battery may be turned off while the power stage controller may be turned on and off by different power batteries according to the power included in the program.

– A board with the cooling system depending on the capacity and arrangement

– The surge protectors compensating jet power should be added to high-capacity power supply systems and poor quality.

The reactive power to be coated is determined by the following formula:

$$K_{крм} = P_{актив} * [(mг(\varphi_1) - (mг(\varphi_2)] = P_{актив} * K(кВАр) \quad (1)$$

Here

тг(φ_1) - Current indicator

тг(φ_2) - The indicator we need to achieve the K ratio is determined from the table above.

$$KPM\ (кВАр) \quad (2)$$

The capacitor, consisting of R and L connected in parallel to the load, is selected so that the current flowing through the capacitor is selected at a value close to the absolute value of the current I magnetic L flowing through the capacitor. It can be seen from the vector diagram that when the capacitor C is connected with the value from φ1 to φ2, the angle of phase shift of current and voltage in the load value and, accordingly, the increase in the load power factor increases the amplitude.[9;10].

By increasing the capacitance in which φ2=0 is located, the entire load can be compensated by the

reactive power. Reactive power compensation is an important technical event and can be used for several purposes.

At industrial enterprises, including due to very high energy consumption, a lot of research and development work on energy saving is currently being carried out. In research works, it is important to organize the energy balance at the enterprise, to analyze energy indicators in production, to determine the degree of loading of reserve sources of energy efficiency of power transformers, reactors and other electrical appliances.

CONCLUSION

Electrical balance is the balance of reactive power with an active power in consumption, t. e. the sum of all network losses is taken into account. How much energy is used in different parts of the plant can be estimated by analyzing the data collected during the energy audit. The identified energy consumption can be compared with the target and standard indicators set for the enterprise. In order to compensate for reactive power and to solve related problems related to the increase of power consumption and power quality at various elements of the power supply system, a reactive power balance is made. To increase the efficiency of energy resources use and reduce heat losses, it is necessary to improve the condition of heat networks at the enterprise, as well as to organize a constant control over the correctness of measurements on the devices at the enterprise, the rational use of energy resources in the heat source and places of its consumption.

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SYMMETRICAL VIBRATIONS OF A PIVOTALLY SUPPORTED OF AN ELASTIC TWO-LAYER PLATE

Abstract: *The equations of vibration of a two-layer plate are written, as a special case of the equations of vibration of a tree-layer plate. The formulas are derived that allow, in the field of the auxiliary functions introduced, uniquely and with a given accuracy to calculate the fields of displacements and stresses in an arbitrary section of the plate. Solved the problem of symmetrical vibrations two-layer plate, of a pivotally supported.*

Key words: *two-layer and three-layer plate, vibrations, displacements, stresses.*

Language: *Russian*

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СИММЕТРИЧНЫЕ КОЛЕБАНИЯ ШАРНИРНО-ОПЕРТОЙ УПРУГОЙ ДВУХСЛОЙНОЙ ПЛАСТИНКИ

Аннотация: *Выписаны уравнения колебания двухслойной пластинки, как частный случай уравнений колебания трехслойной пластинки. Выведены формулы позволяющие, по полю введенных вспомогательных функций, однозначно и с заданной точностью вычислить полей перемещений и напряжений в произвольном сечении пластинки. Решена задача о симметричных колебаниях двухслойной пластинки, шарнирно опертой по краям.*

Ключевые слова: *двухслойная и трехслойная пластинки, колебания, перемещения, напряжения.*

Введение

Двухслойные, трехслойные и многослойные пластинчатые элементы широко используются в различных областях техники, начиная с сороковых годов прошлого столетия. Двухслойные и трехслойные структуры хорошо удовлетворяли этим требованиям и почти идеально соответствовали сочетанию функциональных требований и механических характеристик. Все более широкое использование двухслойные, трехслойных и многослойных структур способствовало зарождению потребности в эффективных методах расчета таких элементов. Поэтому, наравне с началом применения трехслойных и многослойных пластин появились и теории расчета. В связи с этим над пластинками одновременно проводится несколько исследовательские работы. К этим исследовательским работам можно отнести многих статьи, в том числе эти статьи приведены в работах [1-5].

В данной статье рассмотрены плоские уравнение колебание двухслойные пластические

композитные пластинки эти уравнение получены как плоской задачи.

Постановка задачи и метод решения.

В данной статье в декартовой системе координат рассмотривается двухслойная пластинка. Этом ось Ox направлен вдоль средней линии продольного сечения, а ось Oz - вертикально вверх.

Пронумеруем слои пластинки как показано на рис.1, т.е. верхний слой назовем первым слоем, нижний слой вторым слоем. Пусть h_1 и h_2 толщины первого и второго слоев, соответственно; λ_k, μ_k - упругие постоянные материалов слоев т.е. коэффициенты Ляме; ρ_k - объёмные плотности слоев $(k=1,2)$. Пластинку, будем считать, шарнирно опертой в продольном направлении по двум $x=0$ и $x=l$ краям. В качестве разрешающих уравнений примем уравнения колебания в безразмерных переменных [6].

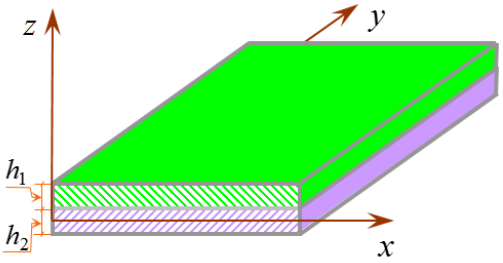


Рис.1. Объект исследования.

Зависимости напряжений $\sigma_{ij}^{(k)}$ от деформаций $\varepsilon_{ij}^{(k)}$ в точках слоев пластинки описываются законом Гука для каждого слоя $(k=1,2)$. Уравнения движения точек составляющих слоев в декартовой системе координат

$$\sigma_{ij,j}^{(k)} = \rho_k \ddot{U}_i^{(k)} \qquad (1)$$

значительно упрощаются введением потенциалов φ_k и $\vec{\psi}_k$ продольных и поперечных волн по формуле

$$\vec{U}^{(k)} = grad\varphi_k + rot\vec{\psi}_k \qquad (2)$$

и принимают вид волновых уравнений.

$$\begin{cases} \lambda_{k1}(\Delta\varphi_k) = \rho_k \ddot{\varphi}_k; \\ \mu_k(\Delta\vec{\psi}_k) = \rho_k \ddot{\vec{\psi}}_k, \end{cases} \qquad (3)$$

где Δ - дифференциальный оператор Лапласа;

В случае плоской деформации учитывая, что векторы перемещений точек слоев равны

$$\vec{U}^k = U_k \cdot \vec{i} + W_k \cdot \vec{k}, \quad U_k = U_k(x,z,t);$$
$$W_k = W_k(x,z,t), \qquad (4)$$

где $\vec{i}$, $\vec{k}$ – единичные орты осей координат достаточно положить

$$\varphi_k = \varphi_k(x,z,t); \quad \vec{\psi}_k = \psi_k(x,z,t)\vec{j}, \qquad (5)$$

где $\vec{j}$ – единичный орт оси Oy, чтобы уравнения движения точек слоев пластинки приобрели вид

$$(\lambda_k + 2\mu_k)(\Delta\phi_k) = \rho_k \frac{\partial^2 \phi_k}{\partial t^2};$$
$$\mu_k(\Delta\psi_k) = \rho_k \frac{\partial^2 \psi_k}{\partial t^2}, \qquad (6)$$

где $\Delta = \partial^2/\partial x^2 + \partial^2/\partial z^2$.

В силу теоремы Гельмгольца при отсутствии внутренних источников векторные потенциалы $\vec{\psi}_m$ поперечных волн должны удовлетворять условиям соленоидальности векторных полей

$$div\vec{\psi}_k = 0, \quad k = 1,2.$$

которые в случае (2) выполняются автоматически.

Предполагается, что при $t<0$ пластинка находилась в покое, а в момент $t=0$ к её граничным поверхностям прикладываются динамические воздействия

при $z = \frac{h_2}{2} + h_1$

$$\sigma_{xz}^{(i)}(x,z,t) = F_x^{(i)}(x,t);$$
$$\sigma_{zz}^{(i)}(x,z,t) = F_z^{(i)}(x,t);$$
$$\sigma_{yz}^{(i)}(x,z,t) = 0. \qquad (7)$$

при $z=-\frac{h_2}{2}$

$$\sigma_{xz}^{(i)}(x,z,t)=-F_x^{(i)}(x,t);$$
$$\sigma_{zz}^{(i)}(x,z,t)=-F_z^{(i)}(x,t);$$
$$\sigma_{yz}^{(i)}(x,z,t)=0. \quad (8)$$

Кроме того, на поверхностях вторым слоем $z=\frac{h_2}{2}$ имеют места динамические и кинематические контактные условия

$$\sigma_{zz}^{(1)}(x,z,t)=\sigma_{zz}^{(2)}(x,z,t);$$
$$\sigma_{xz}^{(1)}(x,z,t)=\sigma_{xz}^{(2)}(x,z,t);$$
$$\sigma_{yz}^{(0)}(x,z,t)=0. \quad (9)$$

и

$$U_1(x,z,t)\big|_{z=\frac{h_2}{2}}=U_2(x,z,t)\big|_{z=\frac{h_2}{2}};$$
$$W_1(x,z,t)\big|_{z=\frac{h_2}{2}}=W_2(x,z,t)\big|_{z=\frac{h_2}{2}} \quad (10)$$

Начальные условия задачи считаются нулевыми, т.е. при $t=0$

$$\varphi_k=\psi_k=0,\ \frac{\partial\varphi_k}{\partial t}=\frac{\partial\psi_k}{\partial t}=0. \quad (11)$$

Таким образом, при общей постановке задачи о нестационарных колебаниях пластинки, задача приводится к решению для каждого слоя двух уравнений – (6), при граничных (7), (8) и контактных – (9), (10) и нулевых начальных условиях – (11).

Для решения задачи выберем потенциальных функций ψ_k и φ_k в виде приведенной работе [4]. Перемещение точки слоев двухслойной пластинки также опишем как в работе [4]. После этого эти выражения перемещений, приравнивая к выражениям потенциальных функций, приходим к новым неизвестным функциям, подлежащим определению. Используя контактные условия получим систему, представляющая общие уравнения колебания. Из полученной системы получим следующую систему уравнений для симметричных колебаний двухслойной пластинки.

$$\left\{A_{11}\frac{\partial^4}{\partial t^4}+A_{12}\frac{\partial^4}{\partial x^2\partial t^2}+A_{13}\frac{\partial^4}{\partial x^4}+\right.$$
$$\left.A_{14}\frac{\partial^2}{\partial t^2}+A_{15}\frac{\partial^2}{\partial x^2}+A_{16}\right\}\frac{\partial}{\partial x}W_0^{(0)}+$$
$$+\left\{B_{11}\frac{\partial^4}{\partial t^4}+B_{12}\frac{\partial^4}{\partial x^2\partial t^2}+B_{13}\frac{\partial^4}{\partial x^4}+\right.$$
$$\left.B_{14}\frac{\partial^2}{\partial t^2}+B_{15}\frac{\partial^2}{\partial x^2}\right\}U_0^{(0)}= \quad (12)$$
$$=\left\{C_{11}\frac{\partial^4}{\partial t^4}+C_{12}\frac{\partial^4}{\partial x^2\partial t^2}+C_{13}\frac{\partial^4}{\partial x^4}+\right.$$
$$\left.C_{14}\frac{\partial^2}{\partial t^2}+C_{15}\frac{\partial^2}{\partial x^2}+C_{16}\right\}f_x^{(1)}(k,p);$$
$$\left\{A_{21}\frac{\partial^2}{\partial t^2}+A_{22}\frac{\partial^2}{\partial x^2}+A_{23}\right\}W_0^{(0)}+$$
$$\left\{B_{21}\frac{\partial^2}{\partial t^2}+B_{22}\frac{\partial^2}{\partial x^2}+B_{23}\right\}\frac{\partial U_0^{(0)}}{\partial x}=C_{21}f_z^{(1)}(k,p).$$

Здесь $W_0^{(0)}$ и $U_0^{(0)}$ искомые функции, A_{ij}, B_{ij}, C_{ij} $(i,j=1,2)$ - постоянные связанные с упругими характеристиками слоев и их размерами. Например,

$$A_{11}=-\left(\frac{q_0}{a_1^2b_1^2}+\frac{1-q_1}{a_0^2a_1^2}\right)\frac{z_1h_0^4}{12}-$$
$$\left(\frac{2q_1}{a_1^2b_0^2}+\frac{3(1+q_1-3q_0q_1)}{a_1^2b_1^2}+\frac{2q_0q_1}{a_0^2a_1^2}+\frac{3q_0(1-q_1)}{a_1^4}\right.$$
$$\left.+\frac{1+q_1}{b_0^2b_1^2}+\frac{q_0(1+q_1)}{a_0^2b_1^2}\right)\frac{z_1^3h_0^2}{36}$$ и т.д.

Систему уравнений колебания двухслойной пластинки (12) приведем к безразмерному виду. Для этого вводим следующие безразмерные величины.

$$x^*=\frac{x}{l},\ z^*=\frac{z}{l},\ h_m^*=\frac{h_m}{l},$$
$$t^*=\frac{t\cdot b_0}{l},\ a_m^*=\frac{a_m}{b_0},\ b_m^*=\frac{b_m}{b_0},\ \mu_m^*=\frac{\mu_m}{\mu_0},$$
$$U_0^{(0)*}=\frac{U_0^{(0)}}{l},\ W_0^{(0)*}=\frac{W_0^{(0)}}{l},\ \xi^*=\frac{\xi}{l}. \quad (13)$$

Вводя безразмерные величины (13) в (12), затем выполняя некоторые математические преобразования, получим следующую систему уравнений

$$\left\{A^*_{11}\frac{\partial^4}{\partial t^{*4}}+A^*_{12}\frac{\partial^4}{\partial x^{*2}\partial t^{*2}}+A^*_{13}\frac{\partial^4}{\partial x^{*4}}+\right.$$
$$\left.A^*_{14}\frac{\partial^2}{\partial t^{*2}}+A^*_{15}\frac{\partial^2}{\partial x^{*2}}+A^*_{16}\right\}\frac{\partial}{\partial x^*}W_0^{*(0)}+$$
$$+\left\{B^*_{11}\frac{\partial^4}{\partial t^{*4}}+B^*_{12}\frac{\partial^4}{\partial x^{*2}\partial t^{*2}}+B^*_{13}\frac{\partial^4}{\partial x^{*4}}+\right.$$
$$\left.B^*_{14}\frac{\partial^2}{\partial t^{*2}}+B^*_{15}\frac{\partial^2}{\partial x^{*2}}\right\}U_0^{*(0)}= \quad (14)$$

$$= \left\{ C^*_{11} \frac{\partial^4}{\partial t^{*4}} + C^*_{12} \frac{\partial^4}{\partial x^{*2} \partial t^{*2}} + C^*_{13} \frac{\partial^4}{\partial x^{*4}} + \right.$$

$$\left. C^*_{14} \frac{\partial^2}{\partial t^{*2}} + C^*_{15} \frac{\partial^2}{\partial x^{*2}} + C^*_{16} \right\} f_x^{*(1)}(k, p);$$

$$\left\{ A^*_{21} \frac{\partial^2}{\partial t^{*2}} + A^*_{22} \frac{\partial^2}{\partial x^{*2}} + A^*_{23} \right\} W_0^{*(0)} +$$

$$\left\{ B^*_{21} \frac{\partial^2}{\partial t^{*2}} + B^*_{22} \frac{\partial^2}{\partial x^{*2}} + B^*_{23} \right\} \frac{\partial U_0^{*(0)}}{\partial x} = .$$

$$= C^*_{21} f_z^{*(1)}(k, p)$$

Здесь

$$A^*_{11} = -\left(\frac{q_0}{a_1^{*2} b_1^{*2}} + \frac{1 - q_1}{a_0^{*2} a_1^{*2}} \right) \frac{z_1^* h_0^{*4}}{12} -$$

$$\left(\frac{2q_1}{a_1^{*2} b_0^{*2}} + \frac{3(1 + q_1 - 3q_0 q_1)}{a_1^{*2} b_1^{*2}} + \frac{2q_0 q_1}{a_0^{*2} a_1^{*2}} + \right.$$

$$\left. + \frac{3q_0(1 - q_1)}{a_1^{*4}} + \frac{1 + q_1}{b_0^{*2} b_1^{*2}} + \frac{q_0(1 + q_1)}{a_0^{*2} b_1^{*2}} \right) \frac{z_1^{*3} h_0^{*2}}{36}$$

и т.д.

Далее на основе уравнений (14) решим задачу о симметричных колебаниях двухслойной пластинки размер по оси, которой равна *l*. При *x=0* и *x=l*, т.е. граничные условия задачи, в соответствии с условиями крепления краев пластинки [7-10], имеют вид:

$$\frac{\partial U_0^{*(0)}(x,t)}{\partial x} = 0; \quad \frac{\partial^3 U_0^{*(0)}(x,t)}{\partial x^3} = 0;$$

$$W_0^{*(0)}(x,t) = 0; \quad \frac{\partial^2 W_0^{*(0)}(x,t)}{\partial x^2} = 0. \qquad (15)$$

Решения системы уравнений (14) ищутся в виде суммы гармонических решений по координате, т.е. в виде сумм тригонометрических функций. Такими решениями, удовлетворяющие граничные условия (15), будут

$$W_0^{*(0)} = W_1(t) \sin \frac{\pi x}{l}; \quad U_0^{(0)} = U_1(t) \cos \frac{\pi x}{l}; \qquad (16)$$

В этом случае функции $f_x(x,t)$ и $f_z(x,t)$ следует также представить как

$$f_x = f_{x1}(t) \cos \frac{\pi x}{l}; \qquad f_z = f_{z1}(t) \sin \frac{\pi x}{l}. \qquad (17)$$

Далее, подставляя (16) и (17) в систему уравнений (14) получена система уравнений относительно функций $U_m(t)$ и $W_m(t)$

$$\left\{ T_{11} \frac{\partial^4}{\partial t^4} + T_{12} \frac{\partial^2}{\partial t^2} + T_{13} \right\} W_1(t) +$$

$$+ \left\{ N_{11} \frac{\partial^4}{\partial t^4} + N_{12} \frac{\partial^2}{\partial t^2} + N_{13} \right\} U_1(t) = H_{11};$$

$$\left\{ T_{21} \frac{\partial^2}{\partial t^2} + T_{22} \right\} W_1(t) + \qquad (18)$$

$$+ \left\{ N_{21} \frac{\partial^2}{\partial t^2} + N_{22} \right\} U_1(t) = H_{21}.$$

где

$$T_{11} = \tilde{A}_{11} \frac{\pi}{l} \; ; \; T_{12} = \tilde{A}_{14} \frac{\pi}{l} - \tilde{A}_{12} \left(\frac{\pi}{l} \right)^3 \; \ldots$$

и т.д.

$$H_{11} = \left[C_{11} \frac{\partial^4}{\partial t^4} + \left(C_{14} - C_{12} \left(\frac{\pi}{l} \right)^2 \right) \frac{\partial^2}{\partial t^2} + \right.$$

$$\left. + + C_{13} \left(\frac{\pi}{l} \right)^4 - C_{15} \left(\frac{\pi}{l} \right)^2 + C_{16} \right] f_{1x}(t).$$

$$H_{21} = C_{21} f_{1z}(t).$$

Начальные условия для функций $U_1(t)$ и $W_1(t)$ имеют вид

$$U_1(x,t) = \frac{\partial U_1(x,t)}{\partial t} =$$

$$= \frac{\partial^2 U_1(x,t)}{\partial t^2} = \frac{\partial^3 U_1(x,t)}{\partial t^3} = 0; \qquad (19)$$

$$W_1(x,t) = \frac{\partial W_1(x,t)}{\partial t} =$$

$$= \frac{\partial^2 W_1(x,t)}{\partial t^2} = \frac{\partial^3 W_1(x,t)}{\partial t^3} = 0.$$

Таким образом, исходная задача приведена к интегрированию системы двух обыкновенных дифференциальных уравнений (18) с начальными условиями (19).

Результаты расчетов.

Система уравнений решена численно, с помощью пакета прикладных программ Maple-17. Для расчетов приняты следующие значения геометрических и физико-механических характеристик слоев:

$$l = 0.5\,m; \; h_1 = 0.004\,m; \; h_2 = 0.05m;$$

$$\xi = 0.3 h_0; \; \nu_1 = \nu_2 = 0.33;$$

$$\rho_1 = \rho_2 = 2700\,kg/m^3; \; E_1 = E_2 = 69 \cdot 10^9\,Pa;$$

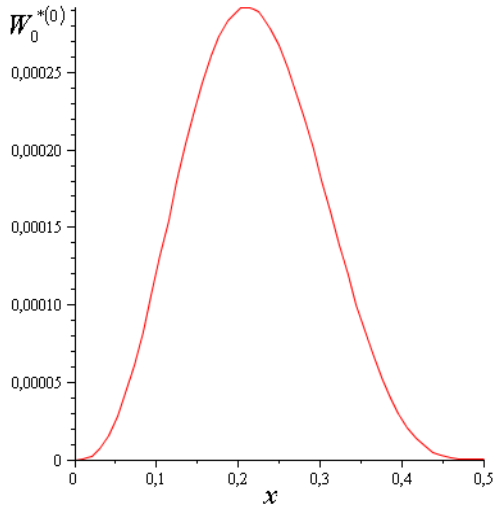
$$f_x^{(1)} = f_z^{(2)} = 50N.$$

По результатам решения системы дифференциальных уравнений (14), по формулам (16) вычислены главных частей поперечного - $W_0^{*(0)}$ и продольного - $U_0^{*(0)}$ продольное перемещения точек плоскости $\xi = 0.3h_0$ срединного слоя в зависимости от координаты. Полученные результаты приведены на рис.2*а,б.*

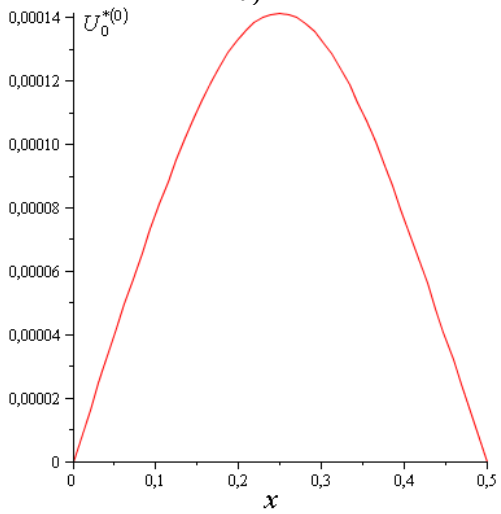
Затем перемещения выражены через свои же главные части $W_0^{*(0)}$ и $U_0^{*(0)}$, которые являются искомыми функциями системы уравнений (14), по следующим формулам:

$$U_0^* = \frac{1-q_0}{a_0^{*2}}\frac{z^{*2}}{2}\frac{\partial^2 U_0^{(0)*}}{\partial t^{*2}} - \left(1-q_0\right)\frac{z^{*2}}{2}\frac{\partial^2 U_0^{(0)*}}{\partial x^{*2}} + U_0^{(0)*} - \frac{1}{\xi^*}q_0\frac{z^{*2}}{2}\frac{\partial}{\partial x^*}W_0^{(0)*};$$

$$W_0^* = \frac{1}{\xi^*}\left(1+\frac{q_0}{a_0^{*2}}\right)\frac{z^{*3}}{6}\frac{\partial^2 W_0^{(0)*}}{\partial t^{*2}} - \left(1+q_0\right)\frac{z^{*3}}{6}\frac{1}{\xi^*}\frac{\partial^2 W_0^{(0)*}}{\partial x^{*2}} + \frac{1}{\xi^*}z^* W_0^{(0)*} + \frac{q_0}{a_0^{*2}}\frac{z^{*3}}{6}\frac{\partial^3 U_0^{(0)*}}{\partial t^{*2}\partial x^*} - q_0\frac{z^{*3}}{6}\frac{\partial^3 U_0^{(0)*}}{\partial x^{*3}}. \quad (20)$$



a)



b)

Рис. 2. Графики функций $W_0^{*(0)}$ (*а*) и $U_0^{*(0)}$ (*б*).

Данные формулы позволяют вычислить перемещения по результатам решения системы уравнений колебания (14). Полученные результаты представлены на рис.3, из которых следует, что характер изменения перемещений носит синусоидальный характер

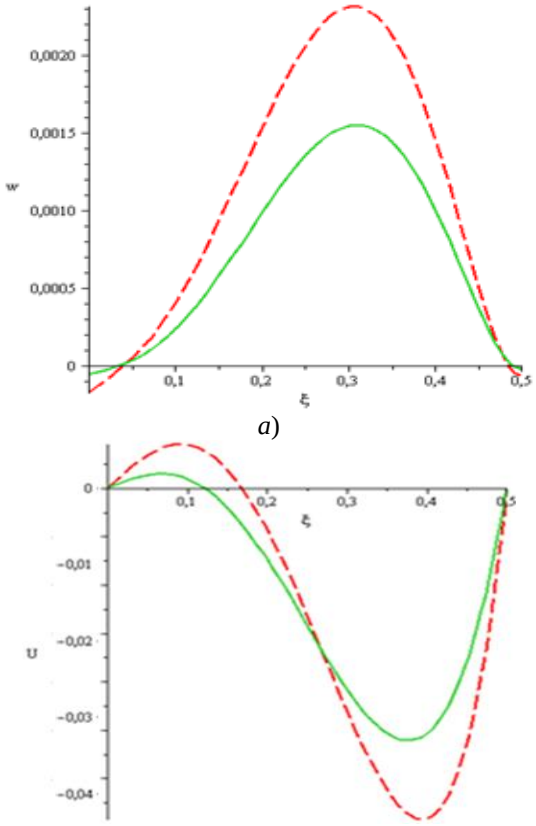


Рис. 3. Графики поперечного W_0^* (*а*) и продольного U_0^* (*б*). перемещений точек пластинки при $z_1^* = h/2$ - штриховая линия; - $z_1^* = h/3$ сплошная линия.

При этом значения продольного перемещения на порядок выше, чем соответствующие значения поперечного перемещения. Такой результат вполне соответствует физической сущности задачи, так как рассматриваются симметричные (продольные) колебания пластинки.

Выводы.

Разработана теория нестационарных симметричных колебаний двухслойной упругой пластинки в плоской постановке свободной от гипотез и предпосылок. В частном случае, когда пластинка однородная, уравнения колебания (12) переходят в известные [9-10] уравнения колебания однослойной упругой пластинки;

При симметричных колебаниях двухслойной пластинки появление незначительных поперечных перемещений, вызвано действием продольных внешних нагрузок $f_x^{(1)}$, на лицевой и обратной сторонах пластинки. Эти перемещения незначительны и на порядок меньше по сравнению с продольными перемещениями. Поэтому, можно пренебречь поперечными перемещениями точек слоев.

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SOCIAL WORK WITH A GROUP AND CREATION OF CONDITIONS FOR THE FUNCTIONING OF THE GROUP AS A SUPPORT SYSTEM

Abstract: *The presented article analyses issues of social work with groups related to the concept of "two clients", the interrelationship between them and the functional-role orientation of the activity of the social worker as a group leader in a specific professional context. The research focus is on building the group as a whole, the formation of a sense of community and mutual identification, the realization of constructive and positively oriented interactions between the members of the group, between them and the group leader and the presentation of the main tasks of a social worker in an activity aspect to create conditions and environment for the functioning and development of the group as a system of mutual support and assistance. Emphasis is placed on the opportunity for group members to make the most of the resources of the created social and supportive microenvironment, promoting the achievement of individual and group goals and individual and group growth and development. The analysis of ideas, concepts and models of researchers in the field of social work with groups and the position of the author allow highlighting the importance of certain components that create conditions for the functioning of the group as a system of mutual support and assistance.*

Key words: *social work with group; client concept; group as a helping system; group work structure; group work culture; group culture and ethnicity; group development.*
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Introduction

The analysis of the topic of social work with a group is related to one of the leading concepts in terms of interaction of the "two clients" (the individual and the group) and the interdependence between them. The activity of a social worker in the conditions of a group is characterized by a two-dimensional directionality - the individual members and the group as a whole – where both "clients" require his or her professional attention and services. Leading in this direction, on the one hand, are the help for the members of the group to deal with problems encountered and to achieve change and development, and on the other hand – the group to be formed and function as helpful, encouraging the growth and development of the microenvironment system. In the present research, we direct the attention on the group as a whole and the relationships between group members and between them and the social worker in the specific client context. The group potential for mutual assistance is an inherent characteristic of any group, but it should not be seen as an invariable feature of any unification of people**.** The main focus in the professional activity of the social worker with its two-dimensional directionality is, using the opportunities of the specific service, to create conditions for the group to build and act as a system of mutual support and assistance with certain characteristics (group interaction, group interdependence, group structure, group goals, group unity, and group development). In parallel, its members have the opportunity to make the most of its resources in order to achieve both their individual

goals and those of the group, as a whole and an organism in the process of development.

1. The group model as an "organism" – forming a sense of community and mutual identification of the group members.

Considering the group as a dynamic system and wholeness allows the social worker to better understand its specifics, properties and development and to form an appropriate work strategy. The properties of the group in social and socio-psychological terms and especially those that characterize it as a second client in the context of social work with a group are essential for the implementation of its functions as a system of mutual support and assistance and require more detailed analysis.

The group is a complex and dynamic formation, for the accessible perception and analysis of which the use of a certain model is required. Lawrence Shulman's view is that an appropriate model of the organism is one that contributes to good demonstration and represents a desire for growth and development [18]. The use of the terms "model" and "organism", according to the author, provides an opportunity for better detection of changes in the group as a developing system, which cannot be likened to an elementary aggregate of its constituent elements.

In our opinion, it is appropriate to include the concept of "group development", which is essential for analysing its functioning as a system of mutual support and assistance. With regard to the concept of "group development", there are different points of view and definitions with different degrees of depth of interpretation. In this regard, Bernard Berkowitz considers the development of the group in the context of changes in the group process, which provide more alternative ways to solve problems [5]. Other authors link the development of the group with the improvement of communication models in it [15].

The definition that best corresponds to the essence and content of the concept "group development" and the related to it "model" and "organism" is presented by researchers with linearly progressive model developed by them [16;19]. According to them, the model of development of the group as a kind of organism should be considered in the context of changes in terms of internal structures, processes and culture of the group. The development of the group is interpreted by the researchers in three main aspects: social aspect – refers to the organizational structure of the group, role models and the structure of the participants; activity aspect – includes the activity of the group, its tasks and work process; group culture - is associated with group norms and values and the common group goal.

The groups provide people with the opportunity to work together on joint tasks and projects, to partner, help and support each other and to develop themselves and their relationships with others. But at the same time, as an environment for socialization, they can create conditions for the emergence of opposition, restriction and oppression of some members, as well as negatively affect their lives as a result of wrong decisions. In this regard, the following factors have a significant impact on the effective supportive activity of the group: group interaction; group interdependence; group structure; group goals; group unity; group development. Another group of factors has a stimulating influence on the activity of the group and its development: mutual assistance; mutual engagement; combining mutual support and challenge; feeling that they are not alone with their own problems, are not the only ones who face such problems and can receive advice, support and help from others in the group; providing conditions for the implementation of targeted actions in order to deal with problems; altruism; acquiring knowledge and skills to deal with difficulties and problems and to seek, receive and provide support and assistance; experiencing together with other members of the group important moments of the joint activity – omissions, failures and achievements; correcting relationships with others; testing perceptions, feelings and behaviours; compliance with the group norms. The presented factors act as a accelerator for creating cohesive and helping connections and relationships in the group. In this context, researchers emphasize the view that one of the important directions in the activities of the group leader is to focus on the group as a whole [9]. According to them, this means focusing on what is happening in the group context and in the social context in which the group finds itself. Researchers note that this is one of the most important components in the work of a social group worker. The presented does not mean that the individual change and development resulting from the group interaction is ignored. At the same time, the group must build adaptive behaviour towards the surrounding social environment (the community, the social service, the social worker as a representative of the social service) in order to preserve and function fully.

The formed new behaviour of the group, the actions of the members, which are influenced by it, represents the "visible part" of the model of an organism in the process of development. And the "invisible part", related to the clearly defined group goal, allows the analysis of the actions and behaviour of the members in the process of its realization and achievement. In turn, their actions and behaviour are further influenced by interactions, mutual expectations and the feeling of belonging to the group as a significant and active whole and a visible and evolving organism. This means that with its specificity and significance, the emergent behaviour

and the emergent property of the group as a developing support system stands out.

2. Main tasks for the development and functioning of the group as a system of mutual support and assistance

At each of the stages of social work with a group certain tasks are solved, corresponding to the specifics of the level of development of the group. During the initial phase, some of the leading tasks are related to: formation of the group as a system for mutual support and assistance; reaching an agreement and materializing it in a contract that reflects the correspondence between the needs of the clients and the functional specifics of the social service and its possibilities to satisfy them; reaching an understanding between the participants, which expresses their common concerns, worries and fears; opinions of all members and their agreement on an active and constructive start of the group's activity; clarification of mutual obligations and expectations, etc. The realization of these tasks and the adequate use of the professional skills of the social worker to help clients to more successfully manage their feelings and problems largely determine the effectiveness of the group's activity. When working with an individual in the group, the importance of the individual functional roles of the participants is highlighted and the opportunity through them to try to cope with the difficulties they face. Here, the social worker is committed to helping these members to make optimal use of the group's functional capabilities as a dynamic and supportive system and to increase the effectiveness of mutual support and assistance. If we summarize what has been presented so far, the fact will stand out that the efforts of all participants in the group work are focused on the implementation of common tasks, which can be considered and implemented in case that the group develops and continues to function as a whole and a dynamic system of mutual support and assistance.

The activity of the group and its development are connected to the implementation of tasks related to the topic of power and power relations and in particular to the attitude of clients to the social worker as a figure with certain powers, professional competencies and practical experience. In regards to the intended task and the related to it topic, researches attribute the one about the proximity in the relationships between the members of the group [17]. Their position is that these two tasks and topics are of key importance and occupy a central place in addressing the issue of the group's culture. The topic of power and power relations in the group is one of those that seriously excite the members of the group when they engage in discussing their attitude towards the social worker as an authoritative and competent specialist, to the methods and approaches used by him or her in order to work with them, as well as and the extent to which the assistance he or she provides contributes to achieving their objectives. The topic of the proximity in the relationships is less discussed, but at the same time extremely important because it covers the specifics and direction of the internal relations between the members and the issues of mutual support and assistance between them in the group as a whole, developing organism and dynamic support system. Combining and complementing these two topics and the related to it tasks represent the driving force of the group's activity and experiences [17].

The ability and competence of the group to engage in addressing issues of power and power relations and proximity are directly linked to the development of its culture. The formation of group culture contributes to the effective solution of the set tasks. At the same time, it creates a necessary basis for building a working structure, through which the responsibilities are shared between the members of the group, the activities for the implementation of the tasks and the related formal and informal roles are distributed. The performed analysis reveals that the following mutually complementary leading tasks of the group's development are distinguished [18]:

- formation of a positive and constructive attitude of the members of the group towards the social worker as a group leader and a professional figure with certain powers, competencies and practical experience;
- building relationships between the group members based on: mutual trust, respect and consideration of the rights, personality, feelings and positions of each participant; mutual support and assistance, group unity, tolerance and non-discrimination, etc. ;
- facilitating and promoting the development of the work culture in the group, contributing to its functioning as a dynamic and evolving system of mutual support and assistance;
- forming a work structure of the group by creating an appropriate organization, structuring and distributing of the responsibilities, activities and roles of its members.

The activities for the realization of the presented tasks for the development of the group are materialized in certain directions.

A. Activities for forming a positive and constructive attitude towards the social worker

Building a positive and constructive attitude of the group towards the social worker is one of the first steps in its development, for the realization of which it is necessary to be taken action in certain important aspects. The topic of the positions of power and control functions of the social worker is one of the causes of serious concern and significant dynamics of the thoughts, feelings and experiences of the members and the group as a whole. At the beginning of the group work, the participants come with pre-formed ideas and stereotypes about the group leader and the

social work with groups. In the presence of negative impressions and experience of interactions with social workers and participation in groups, they may cause anxiety, worry or fear of joint activities with a figure with certain power and control functions and ability to use procedural mechanisms to take action to sanction in case of irregularities or for referral to other competent authorities with negative consequences for the clients.

There are also some cases of bad attitude of social workers towards clients, cases of emergence of contradictions and conflicts between them or of poor quality social service provided to users. They can also be a factor in generating negative experiences and fear in the group members regarding the interaction with a social worker. When establishing minimal indications for such dynamics of the inner thoughts, feelings and experiences of the group members, the social worker must create conditions for an open discussion on these issues, give them the opportunity to express them and openly present their position. In this way he or she can bring calmness to the group and create an atmosphere and environment of security and comfort. It is necessary for the social worker to keep in mind that a one-time conversation does not lead to a lasting effect.

The question of the group's attitude towards the social worker as an authorized figure with control functions can never once receive a final answer and information and impressions on it are provided continuously in the process of the group work. When the need arises, this issue can be raised, discussed and clarified again. Such an approach brings peace to the group and allows its members to always ask not only this question, but also other issues of concern.

An important topic included in the given group of activities is that of ambiguities about the functions, role and experience of the social worker as a group leader and related concerns of the group members. The social worker can overcome such situation by carefully explaining about them and about the responsibilities assumed by him or her and the ways in which he or she will work.

Taking responsibility for the implementation of the accepted tasks and the manifestation of activity in the actions towards the solving of the problems related to them is an important component of the activities for forming a positive and constructive attitude towards the social worker. Two questions are of key importance in this direction: "What do the clients expect the social worker to do?", "What responsibilities can the clients and the group as a whole take in the implementation of the accepted tasks?" The lack of clarity on the issues at hand may be one of the reasons why the members of the group are trying to "dump" all the responsibility on the social worker. In this regard, the social worker should discuss with the group their concerns and worries, to address this issue together and guide them to take responsibility so that the group can work effectively. In such situations, the behaviour of the participants is based on contradictory feelings, characterized by the presence of fear of the power of the social worker, at the same time the clients would most likely prefer for the social worker to take responsibility for the group [18]. In developed by researches linear-progressive model of group development on the basis of these feelings are identified the types of individuals - members of the group and the position that communication is one of the essential factors influencing the activities of the group is presented [4]. The lack of good communication makes it difficult or impossible for the group to respond appropriately to contradictions and conflicts, to create conditions for active involvement of all members in problem-solving activities and to function effectively as a system of mutual support and assistance. Researchers highlight the dependence and the interdependence as two main areas of interpersonal relationships that determine effective group communication. They present the dependence and the interdependence as two main phases of group development, during which members use different styles to deal with relationship problems.

The topic of the power is related to the attitude and reactions of the group towards the social worker who is in the role of a leader who sets requirements. In all activities with the group he or she has to set clear, open and persistent demands for work to the participants. In some moments, it is possible to do this in the context of discussing situations that are associated with painful and traumatic experiences for the clients and thus generate negative reactions to the social worker on their part. An adequate professional approach presupposes a well-founded requirement for the clients to perform certain tasks and to take responsibility for it. In this way, the social worker, as a professional figure with the power to make demands, can provoke negative feelings and reactions from the members of the group towards him or her, due to the pressure exerted. The social worker should welcome these reactions calmly and provide opportunities for the members of the group to express them, as it is possible for them to unconsciously transform into a lack of interest in the issues under discussion. The social worker should not neglect the positive aspect of setting a job requirement, as through it he/she expresses concern for the problems of the group and readiness to help its development.

Another part of the power topic is related to the assistance of the group members by the social worker in realizing the situation that he or she will not provide them with ready-made solutions to the problems, so instead it is necessary for them to look for ways to deal with them. Such awareness process by some clients may be associated with painful thoughts, feelings and experiences, which also require appropriate coping support from the social worker.

Engaging the group to consider its reactions to the social worker as a specialist, who is caring towards

them and is doing everything in his or her power, is another area of the power topic in the context of social work with groups. In the context of the implemented activity the members of the group gain impressions about the positive attitude, the constructive approaches of work and the empathy of the social worker in the interaction with them and with the group as a whole and a system for mutual support and assistance. This creates conditions for them to feel calmer and more confident, encourages mutual support in the group and helps them to better understand their own feelings and relationships. It is necessary for the social worker to encourage and assist the clients in conducting discussions to highlight their feelings towards him or her. When they are aware of the attitude and feelings towards themselves and the social worker the members of the group work for their own and group development.

B. Activities for building conditions and environment of trust, security and safety in the members of the group

It is essential for the group to create conditions and an environment of trust, security and safety, as unspoken thoughts and experiences (whether positive or negative) can hinder or prevent its activities. If they remain hidden, the negative effect of the reactions of the group members will be stronger. Open discussion has the potential to predispose clients to be honest, open and straightforward and to find their place in the group as a system of mutual support and assistance.

A specific aspect of working with the relationships between the group members is showing an understanding of their views on the ways in which they receive help in the group. For example, some of them prefer to listen carefully to what others share or how they comment on the issues they present, which they define as important help.

Giving members the opportunity to express their attitudes toward their own and others' participation encourages those who are concerned to communicate and to present their concerns to the group first. The concealment and non-expression of both positive and negative feelings and experiences by some members hinders their activity and ability to benefit from the group's trust.

Interpersonal disputes and contradictions are one of the difficult topics to discuss in the social work with groups. Dealing with it requires social workers to have a high level of competence and good experience in working with groups, which allows them to gain confidence in dealing with issues of power and power relations. This contributes to the next stage of their engagement in discussing issues of proximity between the group members. The prohibitions imposed by the culture of the community, the anxiety and fear of the members of the group not to hurt others, as well as not to be hurt by them, have a special power and force them to look for indirect ways to express them before gaining confidence to do so. In some cases, the social worker's feeling that he or she takes full responsibility for managing and dealing with all negative attitudes and reactions of the clients can also have a deterrent effect.

Upon reaching a certain level of development and building sustainable positive relationships between the members, the group forms potential and acquires abilities to solve problems and function as a system of mutual support and assistance. In such conditions, the professional intervention of the social worker is transformed into a stimulating factor that helps and encourages clients to consider taboo topics related to their culture or religion.

Presenting the difficulties of the group members in the work process in two important areas, relating to their attitude to the social worker and the attitude to other participants, allows to focus on another important task - the formation of a work culture in the group.

C. Activities for development of work culture in the group

The working culture in the group covers the norms, areas of taboos, rules and roles of the participants, which determine the patterns of behaviour in the group. Understanding its essence presupposes consideration of the following levels: different cultures have their own conceptualizations for the small groups and the norms operating in them. This suggests that groups in different cultures may have similarities and differences; the members of the group get involved and present in it their experience, influenced by their culture, which reveals similarities and differences; each group forms its own culture, which is visible in the accepted norms of interaction, language, ways of communication, used rituals, practices, etc. Although similarities between group cultures can be observed in general, there are also differences between them in terms of unique interaction between the members. The group culture is identified by the following common cultural indicators: used vocabulary and specificity of the lexis; implemented practices and related to them procedures; stories of the individual members and the group as a whole; a metaphorical way of expression, allowing indirect messages to be sent to the members of the group and to the social worker leading the group; rituals involving group customs, daily activities that group members perform regularly, as well as ceremonies, rare activities that mark a specific occasion; subject of activity, expressed in the use of non-verbal symbols that represent key aspects of the group, as well as a logo or emblem which reflects the culture of the group.

We view the term "group culture" in the context of group norms, prohibitions adopted by different cultural communities to discuss certain topics (taboos) and roles. We focus mainly on the interpretation of the norms and the prohibitions adopted by the different

cultural communities for discussing certain topics (taboos).

In the modern multicultural societies there are a number of taboos related to the perception of injustices and negative effects of the neo-colonialism, the ethnocentrism, the nationalism, the racism, the sexism, the religious extremism and others. The social changes lead to the creation of new taboos – for example, the spread of the taboo on paedophilia and over the ephebophilia; the ban on the use of alcohol, cigarettes and psychopharmaceuticals (especially among pregnant women); the use of political euphemisms to mitigate various alleged forms of discrimination [14].

After the formation of the group, each of its members joins it with the adopted and used in the community and society norms of behaviour and their vision of certain areas from their "taboo" culture. The culture of the group in the initial phase is rather dominated by the culture of its members. The norms determine the direction and the ways of work of the members of the group in the direction of achieving the adopted by it goals and tasks for implementation. The difficulties and the problems in the activity of the group arise mainly from the norms and areas of taboos existing in the separate cultural communities and in the society. In this regard, its leading task is to establish a system of norms and support for the group members in their efforts to address topics falling within the field of taboo. Discussing issues of power, power relations, addictions and proximity includes the support and assistance of the social worker not only in dealing with the barriers and dynamic experiences of the taboo areas (the topics of power and addictions are mostly taboo areas in our society), but also the supplementation and improvement of the norms in the interest of the effective functioning of the group as a system of mutual support and assistance. Paying attention to the taboo topics and group norms, the social worker helps to form a new culture that contributes to the development of the group and the increase of its productivity.

D. Group culture and ethnicity Each member of the group is involved in its activities with its own culture, values, views, models and norms of behaviour, attitudes towards authorities and figures with power positions, formed in the process of his or her socialization in its own ethnic community. To a certain extent and depending on the type of the group (homogeneous or diverse in ethnic aspect) these factors influence: the behaviour of the members; their views on sharing problems and giving suggestions for dealing with them through active communication in the group; their points of view for sharing thoughts, feelings, experiences and worries in front of other people and for mutual support. In modern society, despite the dominant values of the democracy, cultural diversity, tolerance and non-discrimination, there are still manifestations of eurocentrism and ethnocentrism, which to some extent influence the human behaviour and human interactions.

The eurocentrism and the ethnocentrism also have a significant impact on the social work with groups, especially with culturally diverse groups and can be a serious obstacle to the formation of an appropriate group culture [1; 7; 10; 13].

The analysis of culturally sensitive theories and social work practice allows us to identify the following main points that contribute to a better understanding of the ethnicity influence on the development of an effective group culture [10; 11; 12]:

- some models and elements of human behaviour in a group are common to the representatives of all cultural groups;
- the views on the role of authority, the expertise of the social worker about the power and power relations in the group, as well as the areas of taboo and the possibilities for their discussion differ significantly in the different ethnic groups;
- the issues of leadership (formal and informal) and the position of the leader in the group are interpreted differently by each of the cultural groups;
- the concepts of unity, cohesion, proximity in the relations and approaches to deal with contradictions and conflicts are specific to the different ethnic communities;
- in general conceptual plan the good practices of social work with groups may be applied to groups with different cultures, but in a specific technological respect, consideration of the ethnic differences is required;
- encouraging and facilitating the group members to express thoughts, feelings, experiences and concerns in the context of their own cultural traditions and to seek a result that is acceptable to their own ethnic group;
- helping members of the group who, due to their ethnic origin and the environment in which they lived, do not speak the official language well;
- careful and thorough discussion of topics related to oppression and discrimination on the grounds of ethnic origin;
- showing respect for ethnic differences in the views and positions of the group members and accepting the diversity values.

E. Providing assistance to the members of the group for the establishment of a work structure

The structure of the group is the internal framework that determines the sustainable relations between the members in the process of its development [20]. One of the most considered and analysed elements of the group structure are the roles, norms, values, communication models and differences in the status [6]. The group structure can also be interpreted as a basic model of roles, norms and networks of connections and relationships

between the members who define and organize the group.

The formation of a work structure of the group is an essential moment of its development. Through the concept of "work structure" Lawrence Shulman presents the formal and informal rules, roles, ways of interaction, rituals, procedures, etc., which the members of the group adopt in order to facilitate its work [18].

The work structure of the social work group is influenced by the following factors:

- status of the members, determined by: the level of activity and inclusion in the group activity; creativity and non-standard behaviour; positions and authority in the group; influence on other members and the whole group; qualities and skills for constructive interaction with the others and providing support;
- models of communication in the group depending on: the configuration of the members in the group; the ways of contact and the possibilities for intensive communication; the style of interaction (cooperation or competition) and the constructiveness of the communication; the position of the leader in the communication process; the formed internal leadership in the group – "task-focused leader" and "leader who is focused on building the group and providing support to its members";
- the norms and roles and the related to them responsibilities, the organization and the way of functioning, on which the efficiency of the group activity depends. An important point here is the presence of a clear vision of the place and role of the social worker as a leader of the group, who is also exercising control and monitoring of the group activities and work structure in the direction of solving the problems.

Researchers associate the roles in the group with ways of thinking, perception of others and oneself and fulfilled actions [8]. In this regard, it can be noted that between the different types of roles and norms, a multi aspect interaction is realized, which affects the work structure of the group.

There are author's positions for differentiation of the roles and for considering them as a "means of work" of the group [3]. In the context of the question of the differentiation of the roles in the group, the following points of view about the contacts in the group are presented:

- the members of the group establish contacts in the first work meetings with those who they identify as similar to them and face similar to their problems in order to feel more secure in the group and to keep it;
- the members of the group establish contacts with those who perceive them as different from them and represent an additional factor that encourages them and gives them the opportunity to learn and achieve change and development.

In addition, some roles in the group change over time and acquire specificity. In research are presented certain functional roles of the group members [2; 3]. In summary, they can be classified as the following main groups of roles contributing to the formation of the work structure: focused on the task of the group roles (oriented to the implementation of the task and the organization of the group in order to achieve the goal); roles for building and maintaining the group (intended to change or maintain the way the group works so that it can be built, strengthened and developed, as well as to form group- centred attitudes and affirmative mutually supportive behaviours); dysfunctional roles ("individual" roles with a negative impact on the participants' efforts to increase the effectiveness of the group as a system of mutual support and assistance and cause contradictions and conflicts).

The formation of a work structure of the group and its development is associated with the combination in an appropriate way of the task-oriented and oriented to building and maintaining the group roles. The main groups of roles include individual roles, characterized by their specificity and content.

Conclusion

The social work with groups is a method of social work that stands out with its humane, democratic and dynamic way of helping people in a certain micro-environment and in accordance with the accepted goal to seek a solution to deal with the arising problems and achieve their desired changes in life and social functioning. The productive activity of the social work group as a whole, a system with a dynamic character and an organism in the process of development is associated with the achievement of interaction, proximity, interdependence, cohesion, unity, partnership and mutual support. It creates conditions for the formation of an effective work structure with certain values, roles, norms, responsibilities and patterns of behaviour and communication, oriented towards building a group culture and formation as a supportive microenvironment, promoting individual and group growth and development. In its synthesis and in the context of a certain social microenvironment, the referred characteristics of the group activity and interactions are oriented towards satisfying identified needs, solving certain problems and contributing to the functioning of the group as a supporting system. The presented analysis of ideas, concepts and models of researchers in the field of social work with groups and our author's position allow us to highlight the importance of certain components that contribute to creating conditions for the functioning of the group as a system of mutual support and assistance:

- building in the context of interactions in the group a positive and constructively oriented

relationship between its members, between individual members and the group as a whole and a developing organism, between the group and its members and a social worker with group leader functions and professional figure with certain powers, competencies and practical experience;

- optimal use of the abilities of the small group as a social micro-environment with a dynamic and interactive nature, which creates conditions for the formation of relationships characterized by: mutual trust; respect for human rights, individuality, personal identity, feelings, opinions and positions of each member; seeking, accepting and providing support and assistance; achieving a high level of group unity; exchange of positions and experience; acceptance of the diversity and the tolerance and the opposition to oppression and discrimination on the basis of various grounds;
- formation of a work culture in the group and its continuous encouragement with a focus on building an effectively functioning system of mutual support and assistance, distinguished by its specific dynamics and orientation towards achieving change, growth and development in individual and group aspect;
- creating a work structure in the group, which is based on good organization and coordination of activities and interactions, distribution of roles and fulfilment of responsibilities by the group members with a focus on achieving agreed goals and objectives.

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METHODOLOGICAL ASPECTS OF THE SOCIAL WORK WITH CLIENTS USING AND ADDICTED TO PSYCHOACTIVE SUBSTANCES

Abstract: *The presented article analyses issues of the use and addiction to psychoactive substances as serious social problems and dynamically manifesting forms of deviant behaviour, characterized by a negative impact on the formation and development of personality and its social functioning. In the context of the measures taken by European countries to tackle the use of psychoactive substances and their dependent behaviour the importance of social work stands out and related social and psychosocial rehabilitation and resocialization activities implemented in social services and rehabilitation centres. Conceptual, content and activity aspects of methods of social work with users and addicted to psychoactive substances clients with psychodynamic, behavioural and cognitive-behavioural orientation, methods taking into account the influence of social and cultural factors, outreach work and motivational interviewing are analysed. The functional specifics of certain institutional forms of social services for social and psychosocial rehabilitation and resocialization of clients addicted to psychoactive substances are revealed. The position of the author on the highlighted advantages and disadvantages of the analysed methods is presented as providing an opportunity for a constructive approach and choice of social work methods and for exploiting the opportunities of social and psychosocial rehabilitation with clients using and addicted to psychoactive substances through forms of social support in the community.*

Key words: *social work with clients using and addicted to psychoactive substances; social work methods with clients using and addicted to psychoactive substances; psychosocial rehabilitation of clients using and addicted to psychoactive substances; forms of social support in the community of substance-dependent clients.*

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Introduction

In the modern conditions we live in, the use and dependence on psychoactive substances are one of the most serious social problems, negatively affecting the functioning and development of the individual and the society. As dynamically occurring forms of deviant behaviour, they stand out with a tendency to reduce the age of the users and abusers. The psychoactive substance-dependent behaviour is characterized by a destructive orientation towards the organism of the given individual, the formation and development of his or her personality and the social functioning (self-destructive behaviour). In connection with the presented negative aspects, the efforts of the European countries to deal with the use and dependence on psychoactive substances are related to monitoring, research, development and implementation of certain policies, construction of models and methods and related to them practices [12]. The results reveal that the effectiveness of the support and assistance provided through social work to deal with behaviour dependent on psychoactive substances increases when they are implemented in specialized clinics, rehabilitation centres and social services through: replacement of the addictive behaviour by inclusion in positively oriented individual and group activities; achievement of personal change through inclusion in psychosocial rehabilitation and resocialization activities; use of appropriate medical therapy and psychotherapy, etc. [9; 24].

1. Social work methods for clients using and addicted to psychoactive substances

1.1. Psychodynamically oriented social work method for clients using and addicted to psychoactive substances

The essence of the psychodynamically oriented social work method for clients with psychoactive substance-dependent behaviour is expressed in providing help so they can realize and neutralize the impact of factors that psychologically underlie their addiction. Initially, clients are given the opportunity to express and understand the causes of their internal contradictions, after which the efforts are focused on helping them to change their lifestyle, determined by the effects of the substance abuse [19]. This method of social work is one of the used ones, but it has been criticized by opponents for not being effective enough due to the difficulties of clients with substance-dependent behaviour to understand independently the essence of the reasons for this behaviour and lifestyle without taking into account the influence of and the object of dependence [7; 16]. Researchers believe that the psychodynamically oriented social work method with psychoactive substance-dependent clients is more effective when applied in a complex of rehabilitation activities and in combination with cognitive methods and appropriate medication therapy [6; 14].

1.2. Behavioural-oriented social work methods for clients using and addicted to psychoactive substances

The behavioural-oriented social work methods with psychoactive substance-dependent clients are one of the preferred ones to use. In certain cases, they are administered in the form of aversion therapy, which involves taking medications (e.g. Disulfiram) that provoke unpleasant sensations and disgust to alcohol after exposure to certain reflexes. This method is also used in cases where alcohol abusers do not acknowledge their addiction and have not decided to deal with it [28]. In one of its variants, the aversion therapy is based on the association of alcohol use with nausea and vomiting, determined by the action of a specific medical substance [10]. In another variant, through the aversion therapy (hidden sensitization) in alcohol addicts, notions of unpleasant or frightening scenes are formed during its use [11]. It is assumed that in several unpleasant scenes accompanying the use of alcohol, negative reactions are formed in the clients. Another variant of the behavioural method of work with clients addicted to psychoactive substances (alcohol or drugs) is the training in the implementation of behaviour that is alternative to their use [3]. Training is conducted with the clients, so they can build self-confidence and confidence in their own abilities, to acquire communication skills that allow them to express their feelings and experiences and under the influence and help of the immediate environment to stop using the psychoactive substance [8]. The behavioural-oriented methods of social work with addicted to psychoactive substances (alcohol or drugs) clients are effective mainly in combination with cognitive methods and in the presence of strong motivation on their part to cope with their addiction, despite unpleasant experiences or pressing needs [31]

1.3. Cognitive-behavioural-oriented social work methods with clients using and addicted to psychoactive substances

The cognitive-behavioural-oriented methods of social work with psychoactive substance-dependent clients are oriented towards helping them to acquire knowledge and skills so they can control their behaviour in relation to the use of substances. This is done through training in order for them to acquire knowledge and skills for self-control [20]. At the beginning, the clients describe the time, place, feelings and experiences, physical manifestations and other details related to their dependence on the given psychoactive substance, thus with the support of the assisting specialist gradually they become aware of the risk situations in which it is possible to abuse it. They are then trained in the use of methods and models of behaviour that helps them to deal with such situations. The clients learn to gradually limit the use of the psychoactive substance and to use methods to deal with situations in which they usually resort to its use. Researchers note that in many cases, clients manage to make progress in overcoming their addiction [22]. Another variant of the cognitive-behavioural-oriented methods of social work with clients with psychoactive substance-dependent behaviour is associated with training in skills for planning an acceptable amount of psychoactive substance (alcohol) for use and circumstances in which it can be used. Such an approach significantly reduces the incidence of intoxication [17]. This method has been used with some success in the treatment of marijuana and cocaine addiction [6; 30].

1.4. Methods of social work with clients using and addicted to psychoactive substances, while taking into account the influence of social and cultural factors

Researchers who have developed these methods and the social workers who apply them adhere to the view that problems with substance-dependent behaviour arise in a particular social and cultural environment, which requires not only consideration of the factors in them, but also the use of the client's resources and the community. Many substance-dependent people live in poverty and face exploitation, violence, oppression and discrimination in their lives. In this regard, by taking into account the impact of the social and cultural factors people living in, such as poverty and unemployment and being part of oppressed, discriminated and marginalized minority ethnic groups that are spatially isolated in slum ghettos, the share of social work with psychoactive substance addicts is increasing, [15].

According to experts using these methods, helping clients from the mentioned vulnerable groups to cope with their social problems and overcome established stereotypes about them and their cultural community are one of the very good means of protection from frequent stressful and critical situations in their lives, which are forcing them to use psychoactive substances to escape the harsh reality.

1.5. Outreach work with clients using and addicted to psychoactive substances

The outreach work is a method of social work with groups of users and addicts of psychoactive substances (drugs) in their usual places of residence, which is oriented towards the establishment of contact and provision of assistance in the form of information, counselling and providing means for prevention of transmission of infectious diseases. It is characterized by compliance with the conditions and rhythm of the clients' life, which determines the time and duration of the assistance [27]. The target group of this social work method are people who use injecting drugs and live in an open street environment, gather in certain places and spend their daily lives in them. The basic principles of outreach work as a method of social work are expressed in:

- objective perception of the addiction of people who use drugs by injection. This does not mean that drug use is approved or encouraged. The activity carried out in accordance with the given principle is based on the view that at this stage the client has decided to continue the use of drugs. He or she is not forced to stop this use, but is motivated to take a similar step with the professional support of a social worker;
- the preventive care is defined as a service that is provided regardless of whether the client is under the influence of a psychoactive substance, and is expressed in information, counselling, giving free sterile syringes, condoms and other protective equipment;
- voluntariness – people who use injecting drugs decide for themselves whether to accept the help and resources provided to them;
- anonymity – the client who comes into contact with an outreach worker provides only the information about himself / herself defined as necessary;
- confidentiality of the information – the outreach worker keeps responsibly and does not disseminate the information acquired during the interaction with the client, for which such an agreement has been reached;
- non-condemnation of the injecting drug users, willing to work with each one of them, regardless of their values, beliefs and behaviour, and to help them minimize the harmful effects of the drug use.

The goals of the outreach work as a social work method include:

- minimizing the harm from the injecting drug use by protection against HIV/AIDS, hepatitis, sexually transmitted infections through counselling on how to avoid risky behaviour;
- organizing and coordinating interactions with injecting drug users and developing relationships of trust with them;
- providing different types of assistance and services depending on the scope of the outreach work;
- counselling, medico-social and psychosocial support; partnership with medical institutions (mental health centres, dermatological and venereological dispensaries, infectious disease wards at medical institutions, etc.), lawyers and legal institutions and creation of a social support network;
- documenting and evaluating the results of the accomplished outreach work.

In theory and practice, certain types of outreach work stand out as a method of social work: outreach work on ground - on the street, in abandoned buildings, in restaurants (cafes, bars, etc.), in clubs, railway stations, etc.; outreach work at the place of residence – regular visits to the homes of people who use drugs by injection; outreach work in places of temporary residence – arrests, prisons, etc.

1.5.1. Models of outreach work with clients using and addicted to injecting psychoactive substances

In the theory and practice of social work with clients who use injecting drugs, the following models of outreach work are derived:

1. A model of using leaders from groups of clients who use injecting drugs [32]. The model uses the capabilities of the group leaders whose members inject drugs to establish contact with them. The leader is seen as an authoritative figure whose patterns of behaviour, advice, and influence in the group have the potential to influence its members. In organizational and technological terms, the model includes the following main components: visit of the place where people who use injecting drugs are located; establishing contact with the leader or leaders of the group – independently or through an intermediary (friends, acquaintances, relatives, doctors, etc.); assessment of the risk behaviour of the leader or leaders; providing information to the leader; conducting preventive work in the group by the leader.

2. A model of creating a network of mentors from the environment of groups with clients using injecting drugs. The model was developed at Johns Hopkins University and is based on the view that there is a network of people who inject drugs depending on the type of the drug used [18]. It is structured by the components: establishing contacts with people injecting drugs from each network; study of the structure and characteristics of the injecting drug networks; selection of injecting drug users from the group environment who can perform the functions of

mentors; preparation of the mentors through training in the conditions of training within ten thematic classes; assessment of the acquired knowledge and skills of the mentors; conducting outreach work by the mentors among the network members; periodic interviewing of the network members by the mentors.

3. Peer-mentors outreach model. It was developed at the University of Connecticut and is based on the concept of enabling each person who is using injecting drugs to fight the spread of HIV in their community by attracting and training associates from their environment ("peers") [4]. In organizational and technological terms, the model includes the following main components: establishing contact and attracting one or two people using injecting drugs to participate in the outreach work; conducting an interview with the engaged clients and giving a reward for their participation in the interview; training of the engaged injecting drug clients in a training program on main topics; realization of preventive work by the mentors among the attracted injecting drug clients, for which they receive a reward; conducting a re-interview with the engaged injecting drug clients every three months.

4. An outreach-work model that includes a supervisor, a group leader, an outreach worker, and a mentor from within the group of injecting drug users. It was created in the 1980s in the Netherlands as a result of the activation and self-organization of people who used drugs [29]. The work on the model began with the self-organization of a group of drug users called "Junkienbond", whose goal is the prevention and regular check-ups of hepatitis among the injecting drug users by providing them with sterile syringes. With the gradual development of the model, professionals are involved in its activities, as well as people who have used or stopped using drugs. The model is widespread in a number of European Union countries. The following components are included in the organizational and technological scheme of the model:

A. Selection of supervisors. The supervisor is a competent specialist in the field, who provides the necessary advice and consultations to conduct effective outreach work. He or she is engaged in: selection of outreach workers; educating through trainings; identifying leaders from the environment of the trained outreach workers; together with the leaders forms groups of trained outreach workers.

B. Training of outreach workers in a special training program. The trainings are conducted by the supervisor, the leaders of the groups of outreach workers and by involved trainers. The knowledge and skills acquired by the outreach workers are checked and evaluated through a test.

C. Organizing and conducting outreach work. This component includes: development of internal documentation, consisting of: diaries, rules for outreach work, work responsibilities, type, frequency and duration of the outreach work;

D. Educating in the conditions of training of injecting drug users, engaged as mentors. The training is conducted by the leaders of the groups of outreach workers and by outreach workers under special guidance (European Peer Support Manual, Trimbos Institute, Utrecht, Netherlands).

E. Implementation of regular workshops for outreach workers (at least once a week). The workshops are held by the group leaders and are designed to exchange information between the outreach workers, analysis of the arising problems and development of information materials.

F. Conducting individual and group supervision (at least once a month). The supervision aims to analyse the outreach work, to increase the efficiency of the outreach workers, as well as to prevent the burnout syndrome. The supervisor helps outreach workers to transform lapses and mistakes, to overcome them by turning them into a source of important experience.

G. Carrying out periodic research of the behaviour of people using injecting drugs. The implementation of the outreach work models includes the stages: situation assessment; choice of outreach work model; selection and training of staff; creating an appropriate organization for conducting outreach work; implementation of outreach work; evaluation of the results of the outreach work and its effectiveness.

1.6. Motivational interviewing of clients using and addicted to psychoactive substances

The essence of the motivational interviewing of clients with alcohol problems was first presented in a publication by William Miller in 1983 [20]. The method was supplemented and refined in 1991 by William Miller and Stephen Rollnick in their book on motivational interviewing of people with addictive behaviour [21; 23]. The motivational interviewing in general aims to help addicted clients to analyse their behaviour and choices and to facilitate them in achieving change and success, based on their ability to change their harmful habits. The role of the interviewing social worker is to help the client by encouraging him to think about himself and his own dependent behaviour and makes it easier for him to come up with his own ideas for overcoming it. This approach is based on the view that real change can only be achieved by motivating the client, as the role of the social worker is expressed in creating the conditions for achieving this without exerting pressure and using coercion. In the motivational interviewing the focus is not on the authority and power positions of the social worker. The client is expected to be independent and make important decisions, sharing the view that the real driving force for change is in the client, not in an external source. This means that in this position the client is empowered and take

responsibility for his or her own decisions and overcome the drug dependent behaviour.

The effectiveness of the motivational interviewing as a method of dealing with problems related to the use of psychoactive substance was presented by Brian Burke and colleagues in a review of twenty-six researches, eleven of twelve of which revealed its usefulness in overcoming addiction of psychoactive substance [5]. The motivational interviewing is successfully applied alone and in combination with other methods and has the following advantages:

- low cost - its nature of advisory assistance implies minimal costs;
- effectiveness – scientific and practical evidence has been presented for the achievement of good results in dealing with high-risk addictive behaviour, such as drug injections; stimulating the client's resources to achieve change;
- compatibility with other methods – there is a possibility to use a motivational interview in both long-term and short-term rehabilitation and therapeutic programs;
- strengthening the client's motivation – the client's motivation is an important factor for the achievement of change. In this regard, he or she always receives support and is encouraged by a social worker, which is essential for the decisions made and the behaviour afterwards;
- increasing the readiness to adhere to the suggestions and recommendations of the social worker and other assisting specialists, which leads to increasing the quality of the achieved results.

Clients with psychoactive substance-dependent behaviour very often find themselves in a situation of hesitation whether or not to realize their intention to change. The social worker switches to active work with them when they have overcome their hesitations and decided to actively change [26]. Then the social worker has more options to help clients realize what they set out to do. This means that in order for the change in client behaviour to be successful, they need to be sufficiently motivated to implement it. When clients are in a situation of transition from intention to change to active change, it is appropriate to use motivational interviewing. In cases where the social worker has failed to help clients move towards change or even decide to change, this is considered from the positions of motivational interviewing as an acceptable result. The outlined direction shares the view that it is possible for clients to return to discussing the issue of change and dealing with addictive behaviour. The situation in question requires the social worker to maintain contact with such clients.

Table 1. Stages of work and tasks of the social worker in the motivational interviewing with clients with psychoactive substance-dependent behaviour

No	Stage of change and characteristics of the stage	Tasks of the social worker	Actions of the social worker in order to accomplish the tasks
1	Stage of considering an intention to change	Helping the client to realize the risks and problems associated with his or her behaviour	Achieving mutual understanding. Accepting the client's lack of readiness. Acceptance of the situation that the decision is made by the client. Offering and providing information in a neutral and non-judgmental manner. Explaining the risks and considering them in the context of the attitude towards the client. Providing information to minimize harm. Encourage the reassessment of the existing patterns of behaviour. Encourage self-analysis from the client, not on behalf of his or her behaviours.
2	Stage of expressed intention for change	Determining the reasons for change and the risks associated with the lack of change. Strengthening the independence and self-confidence of the client in order to achieve	Acceptance of some shortcomings in the expressed readiness. Acceptance of the situation that the decision is made by the client. Joint analysis with the client of the good and the bad, according to him/her, in drug use. Analysis of the scheme for a normal day to day activities.

		change in his or her behaviour	Encourage the analysis and evaluation of all the pros and cons of behavioural changes. Understanding, summarizing and presenting the client's hesitations and doubts regarding the change. Emphasising on the positive changes in perspective, found in the analysis and evaluation. Track, register and encourage the client's statements, through which he or she encourages itself. Avoiding arguments in favour of the changes. This requires the client to be encouraged to do so himself.
3	Stage of preparation for taking actions for change	Helping the client to outline an optimal plan for taking actions for change	Joint study of behavioural options and strategies. Identifying obstacles and problems and providing support to the client to overcome them. Assisting the client in identifying possible sources of social support. Helping the client believe in their own ability to make changes in the behaviour. Encouraging the initial steps of the client on the path to implement changes in his or her behaviour.
4	Stage of implementation of the actions for change	Assisting the client in the initial steps to implement changes in the behaviour	Assisting the client in the planning and setting goals. Providing support in dealing with the problem. Assisting the client in identifying obstacles to the implementation of change, as well as the factors supporting and affirming the change. Focus on the signs of the change and the social support. Strengthening the independence and self-confidence of the client in overcoming the obstacles. Assisting the client in overcoming the feeling of loss in relation to his or her previous lifestyle. Discuss and strengthen the understanding of the long-term nature of the benefits of the change.
5	Stage of maintaining the intentions for change	Providing support to the client in identifying failure factors and assisting him in the development and implementation of strategies for prevention of possible failures	Support of the client in his or her self-promotion. Discussion of options for counteracting to possible failures. Identify strategies for overcoming failures, which could possibly contribute to achieving a good result. Study and prediction of factors that are likely to cause a failure. Drawing up a support plan, close environment, self-help groups, consultant, etc.
6	Failure stage (this stage is presented as possible and is not compulsory) The client returns to previous patterns of behaviour	Helping the client to return to consideration and preparation of actions, so he or she does not become discouraged and does	Assisting the client in analysing the occurred failure. Supporting the client in viewing the failure as an instructive experience, not as necessarily something bad. Joint assessment of the high-risk situations.

		not return to previous patterns of behaviour	Focus on all the pros and cons and immediately return to attempts to change the behaviour.

2. Forms of social support in the community of clients addicted to psychoactive substances

With the decrease in the degree of mental and physical dependence of psychoactive substances, the support of clients, implemented through the social work-based institutional forms of social services, increases. An important component of them is the psychosocial rehabilitation, including psychosocial support of the process of remission, positivity and increase of the personal resources of psychoactive substance addicts.

The centre for psychosocial rehabilitation of the type Minnesota Model of Addiction Treatment [2], in contrast to self-help groups, relies on the help of professionals in dealing with addiction to psychoactive substances. In it, the principles of work in groups such as "Alcoholics Anonymous" or "Drug Addicts Anonymous" are appropriately combined with the achievements and capabilities of the psychology, psychiatry, sociology, social work and others. Created in the 1940s of the twentieth century in the United States, today it is developing intensively and a new approach is applied for the solution to the problem of addiction to psychoactive substances.

The Daytop Village Foundation Inc. program is one of the first and largest drug addiction treatment programs in the United States (http://www.daytopvillage.org), which is based on the model of the therapeutic community, is organized and operates on the principle of the "big family". It focuses on the formation of positive models of behaviour and the combination of individual counselling and group work, in which an analysis of one's own behaviour and mistakes is made and one takes responsibility for dealing with them. It is defined as one of the most successful in the field and is presented as contributing to the formation of an emotionally empathetic community in which the client feels safe and at the same time is under strict control and learns to behave responsibly [1; 13]. The program is characterized by its intensity and requires maximum involvement and "immersion" in the therapeutic process. It is designed for a wide range of services, which include providing assistance not only to clients but also to their families and loved ones. The assisting professionals facilitate the process of their adaptation to the behaviour of the addict, to the acquisition of knowledge and skills to help him or her cope with the addiction, to achieve change and return to a normal lifestyle.

Social services in the community of resident type (sheltered housing, transitional housing). In this type of social services for a certain period of time social and psychosocial rehabilitation and resocialization activities are carried out, including: individual and group social work and psychotherapy, occupational therapy, art therapy and sports activities; providing consultations for social, legal and educational purposes; conducting discussions and debates on various topics: health, daily routine, prevention of relapse, sports and hobbies, taking responsibilities, seeking and securing employment, acquiring and developing knowledge, skills and experience for positive and constructive communication; acquisition of knowledge, skills and experience for overcoming interpersonal conflicts in the conditions of the social service, with family members and in the community; preparation for integration into a family environment and building trust in the family; work with the family of the addict and with the close environment; providing assistance in finding work and housing.

Orthodox centre for spiritual care and support of addicts to psychoactive substances. In the city of Varna, Bulgaria, there is an Orthodox centre for spiritual care of drug addicts "St. Boyan Enravota". Its activity is based on a program for social and psychosocial rehabilitation and resocialization of drug addicts by a team of assisting specialists (social worker, psychologist, occupational therapist, art therapist, catechist), which is combined with spiritual care by priests. Within the rehabilitation work, individual and group spiritual therapy is carried out too [25].

The success of social and psychosocial rehabilitation is determined by the willingness of the client with drug dependent behaviour to cooperate with the team of assisting professionals. This requires from the very beginning of the joint activity that the social worker devotes sufficient time and uses the necessary professional approaches and resources in order to create a suitable work atmosphere and to achieve a very good level of trust. The realization of this goal takes different time and it is the longest in cases of clients addicted to psychoactive substances with pronounced personality changes. Building a cooperative relationship requires a clear delineation of the responsibility for the results of the work carried out by the both parties. In this regard, the social worker and the client reach an agreement, together they determine the purpose and objectives of the activities, draw up a work plan and deadlines for implementation and objectively assess the contribution of each in the process of dealing with addictive behaviour. In the work for overcoming the

addiction the social worker is based on the personal resources of the client, determines and discusses his or her resistance to change, models and predicts his/her future, both in the case of maintaining the dependent behaviour and in dealing with it.

The successful implementation of the social and psychosocial rehabilitation also relies on the interaction with the family of the client addicted to psychoactive substances by: providing in a clear and accessible way information about the purpose of the social and psychosocial rehabilitation and the methods used; periodic counselling of the family members by a social worker, psychologist, psychotherapist and psychiatrist, specializing in providing support and assistance to psychoactive substance addicts; organizing and involving family members in group work to acquire knowledge, skills and experience for interaction with a member of the family who is addicted to psychoactive substances; informing about the possibility of inclusion in self-help groups of families with drug addicts.

Conclusion

The presented theoretical and applied analysis of methods of social work with users and addicted to psychoactive substances clients allows to highlight their organizational and technological specifics, their practical abilities to provide professional support and assistance to this vulnerable group of people and deal with one of the serious and complex in nature social problems in modern society at national and European level [12]. The dynamic changes in the market and the use of psychoactive substances, and above all the challenges society is facing, require professionals in the field of social work through conducting research, analysis of theories and practices to deepen and develop their vision not only for prevention and counteraction to the spread and use of psychoactive substances, but also to apply effective methods of intervention and provide support to the clients so they can deal with their addiction. In the outlined context, highlighting the advantages and disadvantages of the considered methods will provide a certain opportunity for a constructive approach and choice of methods of social work with users and addicted to psychoactive substances clients, together with the utilization of the opportunities for social and psychosocial rehabilitation in the conditions of institutional forms of social services.

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GIF (Australia)	= 0.564	ESJI (KZ)	= 8.716	IBI (India)	= 4.260
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NUMERICAL MODELING OF A DIFFERENTIAL MODEL OF SUGAR DIABETES

Abstract: *A disease known as diabetes is widespread. In diabetes, certain processes in the body are disrupted, associated with sugar oxidation processes leading to energy production. If the function of the corresponding mechanism regulating the sugar content in the blood is disrupted, then it increases. The main effect on homeostasis is insulin, which is involved in the processes of sugar metabolism. For one reason or another, the action of this particular mechanism Is violated. In this article, based on a multipara meter system of ordinary differential equations describing diabetes mellitus, the biochemical process taking place in the human body is numerically modeled. For a numerical solution, the Cauchy problem for a system of differential equations uses the fourth-order Runge-Kutta method.*

Key words: *numerical modeling, differential model, diabetes mellitus, sugar, insulin, Cauchy problem, system of differential equations, equations of state, external thread guides, Runge-Kutta method, algorithm.*

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ЧИСЛЕННОЕ МОДЕЛИРОВАНИЕ ДИФФЕРЕНЦИАЛЬНОЙ МОДЕЛИ САХАРНОГО ДИАБЕТА

Аннотация: *Болезнь, известная под названием сахарного диабета, широко распространена. При диабете нарушаются определенные процессы в организме, связанные с процессами окисления сахара, приводящими к выработке энергии. Если нарушено функционирование соответствующего механизма, регулирующего содержание сахара в кровы, то оно возрастает. Основное влияние на гомеостаз оказывает инсулин, который участвует в процессах метаболизма сахара. По тем или иным причинам нарушается действие именно этого механизма.*

В данной статьи на основе многопараметрической системе обыкновенных дифференциальных уравнений описывающих сахарный диабет численно моделируется биохимический процесс протекающих в человеческом организме. Для численного решения задачи Коши для системы дифференциальных уравнений применяется метод Рунге-Кутты четвертого порядка точности.

***Ключевые слова**: численное моделирование, дифференциальный модель, сахарный диабет, сахар, инсулин, задача Коши, система дифференциальных уравнений, уравнения состояния, внешние ниточники, метод Рунге-Кутты, алгоритм.*

Введение

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Невозможно представить себе современную науку без широкого применения математического моделирования. Сущность этой методологии состоит в замене исходного объекта его “образом” математической моделью – и дальнейшем изучении модели с помощью реализуемых на компьютерах вычислительно-логических алгоритмов. Этот “третий метод” познания, конструирования, проектирования сочетает в себе многие достоинства как теории, так и эксперимента. Работа не самим объектом (явлением, процессом), а с его моделью дает возможность безболезненно, относительно быстро и без существенных затрат исследовать его свойства и поведение в любых мыслимых ситуациях. В то же время вычислительные эксперименты с моделями объектов позволяют, опираясь на мощь современных вычислительных методов и технических инструментов информатики, подробно и глубоко изучать объекты в достаточной полноте, недаступной чисто теоретическим подходам. Неудивительно, что методология математического моделирования бурно развивается, охватывая все новые сферы – от разработки технических систем и управления ими до анализа сложнейших экономических и социальных процессов [1-5].

Проникновение математических методов в самые разнообразные, подчас неожиданные сферы человеческой деятельности означает возможность пользоваться новыми, как правило, весьма плодотворными средствами исследования. Рост математической культуры специалистов в соответствующих областях приводит к тому, что изучение общих теоретических положений и методов вычислений уже не встречает серьезных трудностей. Вместе с тем на практике оказывается, что одних лишь математических познаний далеко не достаточно для решения той или иной прикладной задачи – необходима ещё получить навыки в переводе исходной формулировки задачи на математический язык. Собственно, в этом и состоит проблема овладения искусством математического моделирования [3].

Математическое моделирования имеют при этапа своего развития [1].

В первом этапе элементы математического моделирования использовались с самого начала появления точных наук.

Второе «рождение» методологии математического моделирования пришлось на конец 40-х – начала 50-х годов XX века и было обусловлено по крайней мере двумя причинами. Первая из них-появление компьютеров, хотя и скромных по нынешним меркам, но тем не менее избавивших ученых от огромней по объему рутинной вычислительной работы. Вторая-беспрецедентный социальный заказ по созданию ракетно-ядерного щита, которые не могли быть реализованы радиационными методами. Математическое моделирование справилось с этой задачей: ядерные взрывы и полёты ракет и спутников были предварительно «осуществлены» в недрах компьютеров с помощью математических моделей и лишь затем претворены на практике.

Сейчас математическое моделирование вступает в третий принципиально важный этап своего развития, «в страиваясь» в структуры так называемого информационного общества. Впечатляющий прогресс средств переработки, передачи и хранения информации отвечает мировым тенденциям к усложнению и взаимному проникновению различных сфер человеческой деятельности. Без владения информационными «ресурсами» нельзя и думать о решении все более укрупняющихся и все разнообразных проблем, стоящих перед мировым обществом. История методологии математического моделирования убеждает: она может и должна быть интеллектуальным ядром информационных технологий, всего процесса информатизации общества.

Технические, экологические, экономические, медицинские и другие системы, изучаемые современной наукой, больше не поддаются исследованию обычными теоретическими методами [6-11]. Прямой натурный эксперимент над ними долог, дорог, часто либо опасен, либо попросту невозможен, так как многие из этих систем существуют в «единственном экземпляре». Цена ошибок и просчетов в обращении с ними недопустима высоко. Поэтому математическое (шире-информационное) моделирование является неизбежной составляющей научно-технического прогресса [1].

2. Постановка задачи

Приведем дифференциальную модель сахарного диабета [3]. Две основные переменные, включенные в модель, представляют собой величины, которые можно измерять или управлять в клинической практике; это уровень сахара в крови x и уровень инсулина в крови y. Несколько меньшую роль играют также две

дополнительные переменные – ввод пищи z и, для больных диабетом, ввод инсулина w.

Качественное описание биохимических процессов в организме здорового человека можно кратко изложить следующим образом [Кэжнбелл, 1963]. Устойчивое состояние, принимаемое за точку отсчета, есть уровень сахара в крови при голодании, x_0, при нулевом уровне инсулина $y_0 = 0$. Если эти уровни отличаются, то они изменяются в результате действия нескольких независимых механизмов.

3. Математическое моделирование сахарного диабета

Для определения уровня инсулина в крови у имеем следующую дифференциальную уравнению

$$\frac{dy}{dt} = b_1(x - x_0)H(x - x_0) - b_2 y + b_3 w(t), \qquad (1)$$

где первое слагаемое в правой части (1) $b_1(x - x_0)H(x - x_0)$ означает, что если уровень сахара в крови превышает устойчивый, то поджелудочная железа секретирует инсулин в кровеносное русло. Это явление можно описать кусочно-линейной моделью.

второе случаемое $-b_2 y$ описывает, что содержание самого инсулина уменьшается под влиянием нескольких биохимических процессов; в живом организме половина свободного инсулина инактивируется за время от 10 до 25 мин. И наконец, третье слагаемое $b_3 w(t)$ означает любой внешний источник инсулина. Для здорового организма это слагаемое тождественно равно нулю; для больных диабетом оно будет функцией времени t, определяемой графиком инъекций. Три постоянных b_1, b_2 и b_3 по определению положительны. Они представляют собой соответственно чувствительности градиента инсулина к а) высокому уровню сахара в крови (b_1), б) уровню инсулина (b_2) и в) к вводу инсулина (b_3). Для смягчения сложности учета фактора а) введена ступенчатая функция $H(x - x_0)$, определяемая соотношениями

$$H(\xi) = \begin{cases} 0, & при \quad \xi < 0, \\ 1, & при \quad \xi \geq 0. \end{cases}$$

Для моделирования градиента уровня сахара в крови используется следующее дифференциальное уравнение

$$\frac{dx}{dt} = -a_1 xy + a_2(x_0 - x)H(x_0 - x) - a_2'(x - x_0)H(x - x_0) + a_3 z(t). \qquad (2)$$

Известно, что присутствие инсулина приводит к метаболизму сахара, что понижает содержание его в крови. Чем выше содержание сахара в крови или уровень инсулина, тем быстрее происходит это понижение. Поэтому первое слагаемое в (2) $-a_1 xy$ по крайней мере для малых изменений переменных достаточно хорошо описывает этот эффект.

Уровень сахара в крови может падать ниже равновесного (например, вследствие большой физической нагрузки при голодании). Для того чтобы поднять его y_0 нормального уровня, высвобождаются запасы углеводов из печени. Данный эффект хорошо отражает второе слагаемое из уравнения (2), т.е. $a_2(x_0 - x)H(x_0 - x)$.

И наконец, третье слагаемое в (2) $a_3 z(t)$ описывает, что внешним источником сахара в крови является потребляемая пища, она является явной функцией времени.

Таким образом, дифференциальная модель сахарного диабета есть система нелинейных обыкновенных дифференциальных уравнений (1) и (2).

4. Усовершенствование математической модели сахарного диабета

Усовершенствуем дифференциальной модели сахарного диабета (1)-(2) с учетом внешних источников.

Теперь определим третье слагаемые в уравнениях (1) и (2). В норме поступление сахара в кровь зависит от приема пищи, а не от непосредственного введения его в кровяное русло. Запасы пищи в организме пополняются периодически, а не непрерывно; кроме того, даме предполагается, что на любой стадии эти запасы уменьшаются экспоненциально. Тогда слагаемое, описывающие поступление сахара за счет внешних источников, может быть записано в виде $a_3 z(t)$, где

$$z(t) = \begin{cases} 0, & при \quad t < 0, \\ Qe^{K(t - t_0)}, & при \; t \geq t_0. \end{cases}$$

Таким образом, слагаемое $a_3 z(t)$ записанное через ступенчатой функции $H(\xi)$ имеет вид

$$a_3 z(t) = a_3 Q e^{-K(t - t_0)} H(t - t_0) \qquad (3)$$

Таким образом, информация, которая должна быть задана относительно каждого приема пищи, содержится в параметрах Q (количество), K (параметр запаздывания), t_0 (время приема пищи). Различные K соответствуют различной пище. Инъекцию глюкозы можно описать, одновременно задав большие значения для Q и для K.

Естественное поступление инсулина в кровь представляет собой периодически повторяющийся процесс, который регулируется

механизмом обратной связи. При нарушение этого механизма применяется введение инсулина, аналогичное введению сахара. Периодические подкожные инъекции можно моделировать пополнением «депо инсулина», из которого последний в течение некоторого времени поступает в кровь. Известно, «максимальный эффект» инъекции достигается по истечении определенного промежутка времени (обычно около трех часов), и что через некоторое время действие инъекции полностью прекращается. Если считать, что максимальный эффект соответствует максимальной скорости поступления инсулина в кровь и, следовательно, наибольшему влиянию на градиент инсулина, то описанную ситуацию можно моделировать, выбирая функцию $w(t)$ такой, как показано на рис.1.

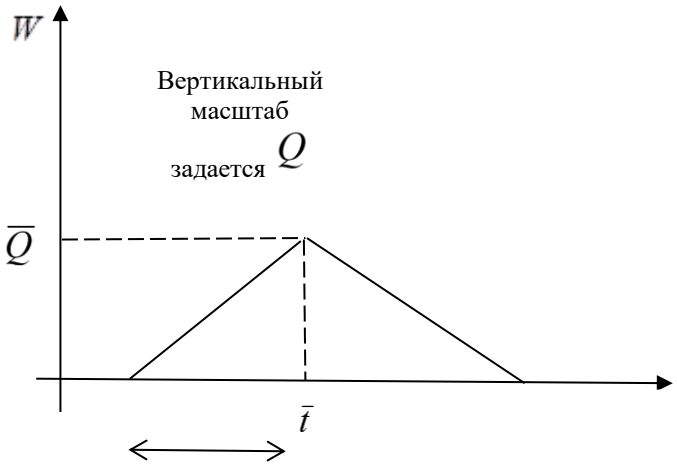

Рис.1. Функция запасов инсулина $w(t)$.

Для функции $w(t)$ достаточно легко записать выражение в виде кусочно-линейной функции времени; для этого требуются следующие данные: время инъекции, количество вводимого инсулина, время, необходимое для достижения максимального эффекта, а также наклоны участков возрастания и убывания привой. В данном случае параметр b_3 - чувствительность уровня инсулина к инъекции-вводится для того, чтобы количество поступающего извне инсулина измерялось привычными числовыми значениями.

$$w(t) = \begin{cases} (t_0 + t)Q, & \text{если } t \le \bar{t}, \\ (\bar{t} - t)Q, & \text{если } t \succ \bar{t}, \end{cases}$$

Таким образом, третье слагаемое в управление (1) можно записать в следующем виде:

$$b_3 w(t) = b_3 Q(t_0 + t)H(\bar{t} - t) + \\ + b_3 Q(\bar{t} - t)H(t - \bar{t}). \qquad (4)$$

Следует подчеркнуть, что рассматриваемая модель (1)-(2) с учётом (3) и (4)-самая простая из тех, которые могут представлять реальность.

$$\begin{cases} \dfrac{dy}{dt} = b_1(x - x_0)H(x - x_0) - b_2 y + b_3 Q(t_0 + t)H(\bar{t} - t) + b_3 Q(\bar{t} - t)H(t - \bar{t}) & (5) \\ \dfrac{dx}{dt} = -a_1 xy + a_2(x_0 - x)H(x_0 - x) - a_2'(x - x_0)H(x - x_0) + a_3 Q e^{-K(t - t_0)} H(t - t_0) & (6) \end{cases}$$

5. Алгоритм численного моделирования сахарного диабета

Для упрощения изложения вычислительного алгоритма метода Рунге-Кутты систему дифференциальных уравнений (5) и (6) записываем в следующем виде [12-14]:

$$\begin{cases} \dfrac{dy}{dt} = f_1(t, x, y), & (7) \\ \dfrac{dx}{dt} = f_2(t, x, y), & (8) \end{cases}$$

где

$$\begin{cases} f_1 = b_1(x-x_0)H(x-x_0) - b_2 y + b_3 Q(t_0+t)H(\bar{t}-t) + b_3 Q(\bar{t}-t)H(t-\bar{t}) \\ f_2 = -a_1 xy + a_2(x_0-x)H(x_0-x) - a_2^{/}(x-x_0)H(x-x_0) + a_3 Q e^{-K(t-t_0)}H(t-t_0) \end{cases}$$

Тогда алгоритм метода Рунге-Кутты четвертого порядка точности имеет вид:

$$\varphi_0 = \tau f_1(t_n, x_n, y_n)$$

$$\psi_0 = \tau f_2(t_n, x_n, y_n)$$

$$\varphi_1 = \tau f_1(t_n + \frac{\tau}{2}, x_n + \frac{\varphi_0}{2}, y_n + \frac{\psi_0}{2})$$

$$\psi_1 = \tau f_2(t_n + \frac{\tau}{2}, x_n + \frac{\varphi_0}{2}, y_n + \frac{\psi_0}{2})$$

$$\varphi_2 = \tau f_1(t_n + \frac{\tau}{2}, x_n + \frac{\varphi_2}{2}, y_n + \frac{\psi_2}{2})$$

$$\psi_2 = \tau f_2(t_n + \frac{\tau}{2}, x_n + \frac{\varphi_2}{2}, y_n + \frac{\psi_2}{2})$$

$$\varphi_3 = \tau f_1(t_n + \tau, x_n + \varphi_3, y_n + \psi_3)$$

$$\psi_3 = \tau f_2(t_n + \tau, x_n + \varphi_3, y_n + \psi_3)$$

$$x_{n+1} = x_n + \frac{1}{6}(\varphi_0 + 2\varphi_1 + 2\varphi_2 + \varphi_3)$$

$$y_{n+1} = y_n + \frac{1}{6}(\psi_0 + 2\psi_1 + 2\psi_2 + \psi_3),$$

n=0,1,2,……,N x_0, y_0,t_0 заданные величины.

6. Заключение

1. Изучены основные факторы влияющие для исследования сахарного диабета и проведен анализ дифференциальной модели сахарного диабета.
2. Дифференциальный модель сахарного диабета усовершенствован с учетом внешних источников, таки как потребляемая пища введение инсулина.
3. Получена задача Коши для системы обыкновенных дифференциальных уравнений.
4. Для численного моделирования усовершенствованный моделям сахарного диабета разработан алгоритм метода. Рунге-Кутты четвертого порядка точности.

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USE FEATURES IN THE NEWSPAPERS ON THE SEMANTIC COMBINATION OF THE PHRASE

Abstract: *The main purpose of this study is to highlight the importance of newspaper language in karakalpak linguistics and its role in the development of our literary language.*

The article deals with semantic combinations of phrases in the karakalpak language, their specific features and application in the language of online Newspapers. This expression, which is used in the text of the newspaper, has been mentioned that it can serve as an expression of a certain completed thought, in maintaining the subjectivity of thought, has been analyzed in a number of examples.

The author stated that the meanings of phrases are different depending on the overall meaning of the individual components in their composition. In linguistics, the study of expressions using the web separator and examples shows that it is of great importance. In a number of examples, we studied the relationship of individual components in the composition of O with the entire meaning of the expression in newspaper texts, with the General meaning. He also studied the semantic combination of phrases based on four forms. It: phraseological combination, phraseological units, phraseological and phraseological system of the word. Based on the theoretical essence of the phrase, it was interpreted by newspaper texts. In karakalpak linguistics, the study of the theoretical essence of the semantic combination of phrases is focused on the contradictory opinions expressed in scientific articles. It is based on a broad interpretation of the role and service of phrases and their modern activities in karakalpak linguistics by researchers. Basically, the meaning of the phrase, which is an alternative among scientists, is revealed. The need to study the semantic combination of phrases on the example of the newspaper language is also emphasized. The fact is that the language of the newspaper says that through the use of phraseological units with a consonant, the formed programs of our literary language will be preserved and will serve to make them even more polished.

Key words: *phraseology; semantic units; trade press; the press, the language of newspapers; the context.*

Language: *Russian*

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ОСОБЕННОСТИ УПОТРЕБЛЕНИЯ ФРАЗЕОЛОГИЗМОВ ПО СЕМАНТИЧЕСКОМУ СОЧЕТАНИЮ В ГАЗЕТНЫХ ТЕКСТАХ

Аннотация: *Основной целью данного исследования является раскрытие значения газетного языка в каракалпакском языкознании и его роли в совершенствовании нашего литературного языка.*

В статье изучаются вопросы семантических сочетаний фразеологизмов в каракалпакском языке, их специфические особенности и их употребление в отраслевых газетах. Фразеологизмы, которые употребляются в тексте газеты были проанализированы в ряде примеров, что они могут служить выражением некой завершенной мысли, играют ролью поддержании субъективности мысли.

Автор констатирует, что значения словосочетаний различны в зависимости от общего значения отдельных компонентов, имеющихся в их составе.Также автор указывает на то, что в языкознании

изучение фразеологизмов посредством разделения на виды иглубокийанализ с помощью примеров имеет большое значение. В ряде примеров была изучена взаимосвязь отдельных компонентовфразеологизмов в газетных текстах, в зависимости от общих значений. К тому же было изучена семантическое сочетание фразеологизмов на основе четырех форм. Это: фразеологическое спряжение, фразеологические единицы, фразеологические системы и фразеологические слова. Исходя из теоретического значения фразеологизмов, они были истолкованывгазетных текстах.Помимо этого в статье обращается внимание на то, чтовкаракалпакском языкознании изучение теоретического значения семантического сочетания фразеологизмов сосредоточено на противоречивых мнениях, высказанных в некоторыхнаучных статьях. Проанализировано широкое толкованиеисследователями роли и служения словосочетаний в каракалпакском языкознании и их современнаяинтерпретация. В основном раскрывается значение фразы, которая является альтернативой среди ученых. Подчеркивается также необходимость изучения семантического сочетания словосочетаний на примере языка газеты. Так как,посредствомпродуктивного использования фразеологизмовв языкесохраняются сформировавшиесятрадиции нашего литературного языка и они послужат тому, чтобы сделать их еще более отшлифованными.

Ключевые слова: *фразеологизм; семантические единицы; отраслевая пресса; пресса, язык газеты; контекст.*

Введение

УДК: 372.888.1:. 17.51

На сегодняшний день каракалпакская пресса выбрала свой путь развития на основе современных требований в системном виде. То есть ведутся работы по интерпретаций для широкий аудиторий значение и смысл праводимых реформ в стране.

К тому же, развивающийся в последнее время в республике пласт отраслевых газет имеет большое значение в плане освещение в развитим прессы. Поэтому от журналистов требуется большая концентрация внимания и мастерское использование возможностей язика.

На этой основе в газетном языке, раскрывается актуальность исследования и системное изучение фразем, обеспечивающих эмоциональную экспрессивность и конкретность.

Актуальность исследования связана с тем, что данное тематическое направление изучается и анализируется впервые в каракалпакском языкознании.

В тексте газеты употребление фразем имеет большое значение, широкое раскрытие выбранного события и представление аудитории откликов по этой теме. В данной статье мы обратили внимание на состояние освещения фразем в каракалпакских отраслевых газетах.

Основной целью исследования является анализ фразеологических текстов в материалах, опубликованных в каракалпакской отраслевой прессе и классификация фразем на основе их компонентов. А задача работы состоит в том, что использование фразем в газетном тексте является необходимым.

В каракалпакском языке проведены ряд научных исследований по особенностям семантических сочетаний фразем. В научных трудах Е. Бердимуратова(5, 127-161), Ж. Ешбаева (6), Г. Айназаровой(1) этот вопрос был изучен с разнообразных сторон. К тому же, на сегодняшний день внедрены фразеологические сочетания в научном аспекте: эти вопросы освещаются в статьях А. Абдиева “Употребление фразеологизмов в каракалпакских дастанах” (на примере дастана “Алпамыс”)(3, 123-125), А. Абдиеваи Ж. Танирбергенова “О двухкомпонентных фразеологизмах с глагольным значением в произведениях поэтов-классиков”(4, 107-109), Ж. Танирбергенова “О грамматических особенностях оглагольных фразеологизмов в произведениях Бердаха”(9, 144-147), Ш.Абдиназимоваи Г.Алламбергеновой “Некоторые вопросы исследования фразем”(2, 122-126), А. Пирниязовой “Особенности использования фразеологизмов в рассказе И.Юсупова “Калоши старика Сейдана” (8, 158-161).

Методы исследования. При анализе особенностей употребления в газетах семантических сочетаний фразем использованы классификационные, сопоставительные, обобщеные, семантико-методологические методы анализа.

Полученные результаты и выводы

В труде Е.Бердимуратова о семантическому сочетанию фразем в каракалпакском языке отмечается: “Фразеологизмы делятся на четыре вида, такие как: фразеологическое спряжение, фразеологические единицы, фразеологические системы, фразеологические слова” (5, 138–144). Семантическое сочетание фразеологизмов широко используются и на страницах отраслевых газет “Ғәрезсизлик ҳәм нызам” (“Независимость и закон”), “Устаз жолы”(“Путь наставника”), “Қарақалпақ әдебияты”(“Каракалпакская литература”), “Тынышлық сақшысы” (“Стражи порядка”).

1. Спряжение фразеологизмов. Их невозможно делить на разделы, компоненты в их составе это словосочетания, потерявшие свое основное лексическое значение (5, 138). Например: “Келисим менен исленген ислериниң

бәри *оңына шаўып киятырған пайытта*, Сапарды *шайтан жолдан аздырды* ма, ойын жаман қыял бийледи" (Когда все намеченные дела Сапара шли *как по маслу*, его, наверное *бес попутал*, им овладели плохие мысли)("Ғәрезсизлик ҳәм Нызам" газетаси. 2017.21.10 №30). "Сәтсиз адам деген усындай болады, қарап жүрип сүрнигеди, *түйениң үстинде баратырса да оны ийт қабады*". (Вот кого многие называт неудачливым человеком, спотыкается на ровном месте, его кусает собака даже на верблюде)("Устаз жолы" газетаси. 2012.26.04. №20).В этих примерах"*оңына шаўып киятырған пайытта-иси жүрисиў*" ("как по маслу" – везение), "*түйениң үстинде баратырса да оны ийт қабады – иси жүриспеў*"(кусает собака даже на верблюде - невезущий) основное значение словосочетаний идут как антоним по отношению друг к другу. Также, в контектсе правильно подобран в значении согласованности и обеспечивает выразительность и точность. Например: "Келин балаларын алып, "*өз қолым өз аўзыма жетти*" деп өзи жасаўға қарар етеди" (Невестка забрала детей и решила жить самостоятельно, *своими силами*) ("Устаз жолы" газетаси. 2012.26.04. №20). "*Май басып баратырған көзиңизди* ашыңқырап жүриңиз деймен" (Пошире откройтесвои*засаленные глаза*) ("Устаз жолы" газетаси. 2012.16.02. №8).Словосочетания в этих примерах "*өз қолым өз аўзыма жетти – өзин-өзи еплеў*" (своими силами – справиться в чем-то), "*май басып баратырған көз-қутырыў, ҳәддинен асыў, адам танымаў*"(засаленные глаза – возгордиться, переход определенной границы) использованы в раскрытии специфических качеств и характералюдей.

В газетных текстах встречаются такие процессы как три, четырекомпонентные фразеологическиеспряженияобозначающийся лишь однимсловом. Например: "Себеби, муғаллимниң қасында орта бойлы, асқабақтың гүлиндей сары, өлеси арық, жоқары курстағыларға сабақ беретуғын киси киятырғанын көрип, "Мен билмейтуғын не бар, *муртымды балта шаппайды*" деп көкирекке урып өзинше мардыйып жүрген өзимшиллер де еси-ақылынан айрыла жазлады" (Когда увидели рядом с учителем человека среднего роста, рыжего как цветок тыквы, худошевего преподавателя старших курсов, чуть не потеряли сознание те, которые смотрели "*с высоко*".("Устаз жолы" газетаси. 2006.12.06. №33)."Тап бир төрт бармақ жерде сүйек жатады. Аўзы тийейин-тийейин деп турады дағы, бирақ мурныныңушы тийгени болмаса, аўзы қурғыры жетпейди. Ал таза гөштиң ийиси болса, *мурнын жарып жибере жазлайды*" (Лежала кость на расстоянии в четыре пальца. Нос чуть-чуть касается, но до ртане датягивает. Но запах свежего мяса, *чуть не забивает нос*).("Устаз" газетаси. 2003.31.06. №30-31)."Онда қалай болады, *түйеден постын таслағандай* емес пе?" (Как же так получается, как *сбросить шкуру с верблюда*) ("Устаз" газетаси. 2003.01.05. №18). В этих примерах "*шайтан жолдан аздырды – алжасыў, жаңлысыў*"(бес попутать – ошибиться в жизни), "*муртымды балта шаппайды – аңсат*"(посмотрет высока– показать себя как все знающим), *мурнын жарып жибере жазлайды-жағымлы*(забивать нос –приятный запах), "*түйеден постын таслағандай* емес пе?-орынсыз, ретсиз, ерси"(сбросить шкуру с верблюда – неуместность, нек месту)– основное значение этих словосочетаний можно выразить одним словом. Поэтому мы уверены что фразеологизмы состоящие из трёх, четырёх компонентных слов, уместно использованы в контексте для передачи основного содержания.

В газетных текстах можно встретить примеры, обозначающие глагольные словосочетание компоненты из за фразеологического спряжения. Например: "Және үш-төрт дүканға кирдим "Иллюзия» *уштыкүйди жоқ*" (Зашел еще в три-четыре магазина – *испарилась* "Иллюзия") ("Қарақалпақ әдебияты" газетаси. 2019. №5, май). "Генжемурат аға аспирантурада оқып атырса да, поэзия ҳаққындағы сын мақалалары менен талайлардың *сирке суўына тийип*, сын тараўында әдеўир белгили болып қалған еди" (Генжемурат ага, уже учась в аспирантуре стал *неугодным из за* критическик статьей о поэзии, стал более менее известен в кругу критиков)("Устаз" газетаси. 2003.04.09. №36). В этих примерах "*уштыкүйди жоқбирден жоқ болыў, дерексиз жоғалыў, көрген-билген болмаў*" (испариться –исчезнуть), "*сирке суўына тийип-қапа етиў*" (нервирировать – обидеть)эти фразеологизмы выражают некоторыеслучаи социальной жизни.

2. Фразеологические единицы. В фразеологических единицах некоторые компоненты имеют общее значение. Выделяется их специфические качества и появляется второе значение в словосочетаниях (5, 140). Например: "Егиздей айырылмайтуғын әжапам екеўимизге анамның тапсырмасы *хат пенен қәлем*" (Нам с сестрой,которые как близняшки не отходят друг от друга, задание матери вроде *как указка*) ("Устаз жолы" газетаси. 2012.22.12. №51-52). "Елеге шекем меннен бурын қолына суў қуйғызбайды, *табаққа қол урмайды*, төрге шықпайды" (До сих пор смотрит на меня с опасной, не выходит вперед и *не протянет руку до еды*) ("Устаз жолы" газетаси. 2014.12.04. №16-17). В этих примерах: "*табаққа қол урмайды-аўқаттан алмайды"*(*не протянет руки до еды – не кушает*);"*хат пенен қәлем-орынланыўы шәрт"* (*как указка-задание, которое должно выполняться*)– основное значение этих словосочетаний можно отметить в

качественациональных традиций народа, как уважение и почет старших, использование фразеологизмов для выполнения поручений родителей, данные выраженияна языке народа широко используются и в наши дни. Например: “Еки аяғын сол жаққа таслап келгенинде *дад-пәряд салып*, аспанға шапшығанымыздың пайдасы болмады” (Было бесполезно все - наш плач,*наши причитания,* раз оставил он там обеих ног) (“Устаз жолы” газетаси. 2014.12.04. №16-17). “Жаслардың шаңарағы бийик болсын, ҳеш қашан ул-қызларыңыз *тири жетим* болып жыламасын” (Пусть жизнь молодых будет крепкой, пусть никогда ваши дети не останутся *сиротами*(“Устаз жолы” газетаси. 2012.26.04. №20). В этих строках*дад-пәряд салып-жылаў* (причитать – плакать)*, тири жетим-әкесиз (сиротство-остаться без отца)* – фразеологизмы использованы для передачи событий и фактов, происходящих в жизни людей. Следующий пример: “- Сен не, *тилиң шығып қалды ма*? Сен өзиңди маған теңеп атырсаң ба, жарамас гезенде?” (Что у тебя *появился язык*? Ты сравниваешь меня с собой, несчастный пройдоха) (“Қарақалпақ әдебияты” газетаси. 2013. №3). В этом примере фраза*тилиң шығып қалды ма-сөйлейтуғын болдыңба* (*сопротивляться*) – используется для изложения неприятных событий в жизни человека. Значит, фразеологические единицы в газетном языке по сравнению с другими семантическими сочетаниями используются реже иимеет неизменяемую форму. Посредством этогов определенный период времени переходит в фразеологическое спряжение.

3. Фразеологические системы. В составе каракалпакского языка виды словосочетаний, основное значение компонентов которыхв целом связаны с общим значением, и имеющих постоянное свойство называются фразеологическими системами (5, 135). Например: “Есжан бақсының *аяғына бас урып*, әпиў етиўди соранды” (*Поклонился в ноги* Есжан бахсы и просил извинения (“Устаз жолы” газетаси. 2012.26.04. №20). “Пәстеги *қара қурым адамлар* еле тобын бузбай тур” (Люди, те что стояли внизу *целой гурьбой*, еще не разошлись(“Устаз жолы” газетаси. 2012.26.04. №20).В этих примерах “*аяғына бас урып-кеширим сораў*” (просить извинения)*;* “*қара қурым адамлар-көп адамлар*” (людской поток) если рассмотреть подобные фразеологические системы внутри контекста, здесь посредством этих компонентов показаны дополнительное значение предложения и подобраны в согласованной форме по отношению друг к другу. Например: “Бир нәрселерди айтыўға тырысқан Машарипов *тилине келгенин ишине жутып*, ҳәўли есигине қарап қойды” (Машарипов, который намеревался что то сказать, но *проглотил*язык, когда посмотрел в дверь дома) (“Тынышлық сақшысы” газетаси. 2017.20.02. №5). “Машиналардан түсиўимизден қыз-жигитлердиң кең даланы жаңғыртып айтқан қосық-сазлары *кеўиллеримизди тастырып жиберди*” (Как только сошли с машины, мы услышали пение юношей и девушек, нас *овладевал прилив радости)*(“Қарақалпақ әдебияты” газетаси. 2019. №4). “Мени *иси ериғип жүр* дейсизлер ме? Зәрүр жумысым болғаны ушын кеткен едим” (Думаете, что я *бездельничаю*? Съездил по важным делам) (“Тынышлық сақшысы” газетаси. 2017.31.03. №9).В этих примерах “*тилине келгенин ишине жутып-сөйлемей*” (проглотить язык – ничего не сказать), “*кеўиллеримизди тастырып жиберди*-қуўаныў” (овладел прилив радости – веселиться), “*иси ериғип жүр-босқа, бийкарға*” (бездельничать – ничем не заниматься) фразеологические системы смогли придать экспрессивность в контексте.В основном эти фразеологические системы широко используются в устной речи каракалпакского народа, выражается в достоверной передачесобытий в действительности. Следующий пример: “Үйиме неге *көзлериңиздиң қырын салып* турмадыңыз?” (Почему за моим дом не приглядели хотя *краем глаз*) (“Тынышлық сақшысы” газетаси. 2017.31.03. №9). “Есимди жыйып жән-жағыма қарасам, *көз жетпес* сур дала-шөлистан үстиме дөнип турғандай қорқыныш бийледи” (Придя в себя оглянулся по сторонам, мной овладел страх, что на меня наступила бескрайний простор пустыни) (“Устаз жолы” газетаси. 2004.15.01. №3). “Мениңше, жынаятшы үй есигин гилт пенен ашып, ҳәўлиге, жатақханаға кирген, уйықлап жатырған Норматовтың басына өзиниң бюсти менен урып, сейфти тазалап, *көзден ғайып болған*” (Помоему, преступник зашел в спальню дома открыв своим ключом, ударил по голове спавшего Норматова своим бюстом, обчистил сейф и *испарился из глаз*) (“Тынышлық сақшысы” газетаси. 2017.21.01. №2). “Усы пайытта бизлер де Мүршийда апаның шарбағының есигин ашып жибергенимизде, аппақ гүлге оранған бағынан *көзимизди ала алмадық*” (Когда открывали дверь дома Муршийда апа, мы не смогли *отвести глаза* от её сада, одетого белыми цветами) (“Устаз жолы” газетаси. 2004.08.01. №2). Фразеологические системы в приведенных примерах хоть и связаны со словом “глаз”, но они отличаются друг от друга своим коренным значением: “*көзлериңиздиң қырын салып турмадыңыз-қарап турмадыңыз*” (краем глаза- не следили за моим домом)*;көз жетпес-узақ, алыс* (не дойдут глаза – очень далеко)*;көзден ғайып болған-қашып кетиў* (испариться из глаз – быт в далеко)*;* “*көзимизди ала алмадық-қарап тоймаў*” (не отвести глаза – любоваться) выражаются подобным образом. Основное значение фразеологических систем, связанных со

словом “глаз” означают словосчетания глагола и наречия. Значит, в газетном языке фразеологические системы шире используются по сравнению с фразеологическим спряжением и фразеологическими единицами.

4. Фразеологические слова. В ряд фразеологических слов можно отнести и пословицы и поговорки.В русском, узбекском языкознании пословицы и поговорки исследованы в ряде научных работ. Например:в диссертациях А.А.Константиновой«Комуникативно-прагматический потенциал пословиц и поговорк в современной англо-американской прессе» (2007),[1] Е.С.Сыщиковой «Пословицы и поговорки в испанской периодической печати» (2007)[2],в узбекском языкознаниив труде А.Бабаевой «Газета тили ҳаққында» (О газетном языке),[3]в статьях Ш.Каландарова «Мақолларнинг бадиий матндаги вазифалари»(Роль пословиц в художественном тексте),[4] М.Темировой «Урф-одатлар билан боғлик мақоллар» (Пословицы, связанные с обычаями и традициями),[5] Д.Тошевой «Ўзбек халқ мақолларидаги туя зооними» (Зооним верблюда в узбекских народных пословицах),[6] М.Шамсиевой«Ўзбек ва рус халқ мақолларидаги «бахт» ва «бахтсизлик» концептларининг қиёсий таҳлили»[7](Сопоставительный анализ концептов “счастье” и “несчастье” в узбексих и русских народных пословицах) приводятся анализстепени употребления пословиц и поговорок, их роли в контексте.

В каракалпакском языкознании этот вопрос изучен в трудах ученых Е. Бердимуратова и Г. Карлибаевой (7, 149). В приведенных трудах фразеологические слова по семантическому сочетанию анализируются, разделив их на четыре группы. А в труде Ж.Ешбаева, он о разделена на три группы (2, 8). Фразеологические слова можно встретить и на страницах газет. Например: “Әлбетте, ҳәр қандай қурылыс ислерин алып барғанымызда, *көрпеге қарап аяқ созыў кереклигин* де ядтан шығармаўымыз талап етиледи...” (Конечно, когда проводишь строительные работы, не стоит забывать, что надо свесить свой возможности в реальной ситуацией) (“Устаз жолы” газетаси. 2015.20.06. №26). “Халқымызда *жети өлшеп, бир кесиў* кереклиги ҳаққындағы ибараға сүйениў, мине усындай үлкен исти баслар ўақыттағы шешиўши қәдемди атлатыўда үлкен әҳмийетке ийе” (В народе поговоривают что “семь раз отмерь, один раз отрежь”, поговорка имеет важное значение на пути к намеченной цели) (“Устаз жолы” газетаси. 2015.20.06. №26). В этих примерах *көрпеге қарап аяқ созыў кереклигин-өз жағдайын билиў (свесить свой возможности с реальной ситуацией); жети өлшеп, бир кесиў-ойланып ис қылыў (семь раз отмерь – один раз отрежь – вести дело обдуманно)* фразеологические слова используется, когда прежде чем начать дело, надо глубоко обдумать все и стоит отметить, что в этих примерахони уместно использованы. Например:“-Ертең бул жерден көшип кетемиз, - дедиң. – Қаяққа? – Әжағаңның үй бетине. Бул жерде *аяқлыға жол, аўызлыға сөз болып* отырғаннан кеткенимиз жақсы” (Завтра переедем отсюда, - сказала мать. – Куда? – В дом брата. Лучше уехать отсюда, чем быть *притчей во языцо*) (“Қарақалпақ әдебияты” газетаси. 2018. №1). “Рахметли әкем балаларына, қызларына жети бабамызды атпа-ат айтып, олардың турмыс тәризин *соқырға таяқ услатқандай етип, қулағымызға қуйып кетти*” (Покойный отец своим сыновьям и дочерям своим рассказал о своих семи предках по отдельнеем, указал на их образ жизни как дать палку слепому) (“Устаз жолы” газетаси. 2016.03.12. №47). В этих двух примерах-приведенных фразеологических словах, рассказываетсяокружающая обстановка, испытания жизни, условия быта. Например: “Себеби, *қорыққанға кос көринип*, аяқ астынан бетер жән-жағымызға қараймыз деп, қазғанаққа ыңқылдап қулап та қаламыз” “Оглядываясь по сторонам от страха, *все кругом чудится и* мы упали в яму) (“Устаз жолы” газетаси. 2007.15.09. №38). “*Ымға түсинбеген дымға түсинбейди*. Сен әңгименің әҳмийетине түсинбедиң”(*Ты не понял намека*. Не понял важность нашего разговора. (“Қарақалпақ әдебияты” газетаси. 2013. №6). “Неге ғана сорадым, деп тилимди тисledим. Пайдасы жоқ, “*айтылған сөз – атылған оқ*” болып кетти” (Зачем только спросила. Бесполезно. Стало как “слово – пуля”) (“Қарақалпақ әдебияты” газетаси. 2013. №12). В примерах, полученных из газетных текстов, говорится о свойственной природе, характере людей, о силе человеческого слова.

Из страних газет можно выделить множество подобных примеров. Фразеологические словавзяты из пословиц и поговорок, они использованы в измененном виде в контекстеего

[1]https: // www.dissercat.com.content.
[2]Сыщикова Е.С. Пословицы и поговорки в испанской периодической печати. Автореф. на соискание ученой степени канд. фил.наук. Москва. 2007. С.23.
[3]Бабаева А. Газета тили ҳаққында. Тошкент: «ФАН», 1983.15-б.
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[7]ШамсиеваМ. Ўзбекварусхалқмақолларидаги «бахт» ва «бахтсизлик» концептлариингқиёсийтаҳлили. O’zbektilivaadabiyoti. 2019. №3. 115-117-б.

лексической особенности ив начале предложения, сдобавлением слова в конце. Но основное значение пословиц и поговорок сохранены. Они имеют важное значение в повышении эмоциональной экспрессивности газетного текста.

Заключение

В заключении можно отметить, что фразеологизмы, использующиеся в газетных текстах выражають законченности мысли, обеспечива сжатости мысли. В приведенных выше примерах использованы определенные формы фразеологических спряжений или сформировавшиеся традиции. А в фразеологических единицах, в раскрытии основного содержания фразем приводится особенная форма. Мы пришли к выводу что для придачи эмоциональности и экспрессивности мысли широко используется фразеологические системи. Фразеологические слова в основном опирается на пословицы и поговорки, наставление. Значит, эти соединения в газетном языке посредством продуктивного использования сохраняет сформировавшиеся традиции нашего литературного языка и помогает в их дальнейшей шлифовке.

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ISRA (India)	= 4.971	SIS (USA)	= 0.912	ICV (Poland)	= 6.630
ISI (Dubai, UAE)	= 0.829	РИНЦ (Russia)	= 0.126	PIF (India)	= 1.940
GIF (Australia)	= 0.564	ESJI (KZ)	= 8.716	IBI (India)	= 4.260
JIF	= 1.500	SJIF (Morocco)	= 5.667	OAJI (USA)	= 0.350

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GENDER AND ART IN THE XVII – XIX CENTURIES

Abstract: *The given article deals with the notion of gender, its role in art and the place of females in the works of famous authors of the New Age. The gender norms are being analyzed mainly in the masterpieces of such eminent philosophers and writers of their time as John Locke, Jean-Jacques Rousseau, Henrik Johan Ibsen, Charlotte Bronte, etc. The fact of women's exploitation as beings not having equal rights compared to men is evident. Even the unique ones had to suffer from the society's crushing their independence and strong will because of the gender stereotypes accepted throughout the world. These stereotypes were depicted by the males' attitude towards females and were supported by any family's regulations.*

Key words: *gender, inequality, art, stereotype, representation, the New Age, female education, dependence.*
Language: *English*
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Introduction

Overall, the notion of "gender" means the social behavior and roles, associated with the representatives of either males or females. Gender is created by society as a social model of men and women, determining their social status and role and social institutes (family, political structure, economics, culture, education, etc.). The synonym of this term is "biological gender". From social and psychological point of view, "gender" is a sexual identity and social roles related to either genders.

Although gender does not represent a linguistic category (socio-linguistics and partially psycholinguistics can be considered as exceptions), the analysis of language structures allows to get information about the role of gender in various cultures: what behavioral norms for men and women are fixed in different types of texts; how the conception of gender norms, masculinity and femininity are changes as time goes by; which stylistic features may be correlated to mainly female or male ones; what way manliness and effeminacy are comprehended in diverse languages and cultures; how pertaining to either genders influences on language acquisition; what fragments and thematic branches of world language state it is connected to [2, p. 87-88].

Material and methods

Gender researches of cultural factors of femininity and masculinity forming are based on the central concept of "gender stereotype" and representations. The notion of representation is a key-notion for the paradigm of "gender cultural investigations". At the same time, it is one of the most problematic issues in the field of the terms' definition. Representation has two basic meanings: 1) as "speaking instead of somebody", representing one's interests in politics; 2) representation in art and philosophy (as representation of something existing with the help of other means). It is possible to define representation as a process, by means of which cultural subjects use their language (any system of signs) for meaning production. The objects of representation do not obtain any sense themselves: it is born during the process of interpretation and communication, coding and decoding of texts, it depends on cultural context [7].

Initially researches dealt with the images exploited by culture, constructing a particular image of femininity and masculinity. The results of these investigations brought to that modern cultural production and representations ignore, except, marginalize and trivialize women and their interests.

That is to say, either women are excluded, or they are represented in a stereotypical way, i.e. as a sexual object or as a housewife. If it goes about single women, they are usually given the jobs of traditional "womanish" type, such as secretary, nurse, flight attendant, etc. As a rule, they are young and pretty, but not well-educated. At the same time, men are represented in the diversity of their social roles and occupations. As a result, if a man is a doctor, then a woman is a nurse; if he is a lawyer, then she is a secretary, if he is a businessman, then she is a shop assistant. That is why mass culture serves for the purpose of firming traditional (patriarchal) female roles as a wife, a mother, and a housewife [6].

Genuinely gender analysis of representation began when instead of "female images" investigators referred to studying "women as images". Gradually the understanding of stereotypes' "nature" has changed to complicating their interpretation. Their actions are based on that society divides particular purposes which are usually characterized as a "common sense". The stereotypes have deep roots in the spheres of oppression and governing, they become the behavioral rules to follow and the ways of social control [1, p. 54-55].

Thus, the representation of gender is not a simple reflection of social stereotypes of mannishness and womanishness; it is more like an active process of selection and performing, structuring and forming, it is a process of giving sense to something [8].

Normative aesthetics of the XVIII century and canonical opinions of art critics of the XIX century form the theoretical frame which is still being used by many modern art investigators who frequently continue using traditional interpretational models and an archaic language in order to analyze not only classical art, but also modern one. During the period the growth of capitalistic industry was followed by a rapid increase of science, natural sciences were developing intensively, especially mechanics, physics, and astronomy. The development of rational thinking furthered the critical reinterpretation and the enhancement of all the spheres of social life: economics, the forms of government; the development of nations, national cultures and national states; the interrelations between the state, society and personalities; the appearance of new social classes; the role of a family, etc.

These changes had to deal with gender interrelations as well. Labor separation between a woman and a man, women's active participation in social and internal family processes, setting the problem of human rights and civil liberties in general course of processes and events, activation of philosophical attitude to the matters of assignment, specific features and gender interaction, the approach to womanliness and manliness [9].

In the epoch of the New Age all of these problems are subjected to critical analysis and particular changes. Nevertheless, it should be mentioned that despite its progressive character the culture of the epoch did not bring revolutionary changes into the existing system of gender relations and stereotypes, it did not cardinally changed in general gender state in society. As well as in previous epochs in the culture of the New Age there existed a tradition according to which a woman was treated to like something of the second value after a man, because of her biologic abilities and assignment as an inferior being compared with a man.

Forming by the beginning of the New Age the concept of female education and bringing up, in fact, did not differ from the previous concepts very much on the main principle, i.e. narrowness and concrete direction of women's exploitation: becoming a good wife for a man. The educational system still includes only the things considered as functional from men's points of view. Demands, tastes were being changed, however, until the XIX and even until the XX century it had been the same range of "home sciences". Actually all the traditional systems of female education and upbringing, known in history in spite of the variety of methods and approaches, were similar in one sphere: they were aimed not at the development of all sufficient personality, not at giving a woman an opportunity to occupy a deserved, and, by means of will and appropriate skills, a high post in social life. Almost always women's education was perceived as a collection of some skills and developing programs, stimulating natural female qualities and being able to give women a chance to put their personal life in order. Their benefit to society is in that a woman, who got a deserved up-to-date education, could become a good spouse.

Results and Discussion

Creators and philosophers of all epochs strived for defining the dissimilarities between males and females, tried to create ideals of women's behavior and representation. Their thoughts and ideas were reflected in their scientific and philosophical treatises, works of art, religious literature. Those authors' ideas which were considered as supreme and unquestionable authorities, not only imprinted on minds and consciousness of most people, who did not have an opportunity to form and immortalize their own ideas, but also served as a basis for gender norms, regulating behavior. These authorship lines had already been regarded as an indisputable fact or religious truth, especially in cases when behavioral and gender relations' norms gleaned by them led women's actions into the frames, which corresponded to diverging notions of males.

Thus, a great philosopher J. Locke pointed that natural inequality of genders and superiority of men over women are the results of women's destiny to give birth, i.e. the only significant female role is a reproductive function. In his work "Two Treatises of

Government" he narrated about a person's emancipation, but the person is only a man.

J. Locke, asserting citizens' rights on property and struggling against the claims of absolute monarchy, writes that the right of appropriating property is given to person on the basis of his labor, spent on product of industry. However, women do not belong to the group of people who have the right to use the products of their labor, as it is only men's prerogative. A female has right to use the only property, her dowry.

The representative of the Enlightenment J.J. Rousseau touched upon the problem of gender interrelations in his works as well. In the work "Emile ou de l'education" (1762) he determines the principles of upbringing of a free personality for the both genders' representatives: for Emile (in tome 1-4) and for Sophie (tome 5). Besides, the process of the two genders' upbringing is opposite. Rousseau narrates that a perfect man and a perfect woman should differ spiritually in the same way as they differ externally [3, p. 78-81]. That is why the more separated their life if, the better it is for both of them; as to modern convergence and trans-gendering process, besides gender equality, are the evidence of occurring collapse. It is typical that postulating the principles of male upbringing, Rousseau advises juveniles to be a personality, obtaining inner liberty, self-sufficiency, to defend the independence of their mind and soul, to think independently. However, describing girls' upbringing program, the author offers totally different principles: obedience, patience, dependence on a husband, recognition of their own weakness. In order to compensate her weaknesses a female should try to make her husband like her, to please him [10].

The fact that a woman, trying to find the ways of getting money, occurs in total dependence on her husband, and it deprives her of all her rights and independence. As a pure example of this may be H. Ibsen's play "A Doll's House" (1879) in which the main character Nora begs money for housekeeping from her husband like a slave [4, p. 3-5].

She tries to look nice, to be attractive for her husband in order to make him stay with her, not to abandon her. Meek, always lively Nora, a tender mother and wife, is always taken care by her husband, but in fact, she remains a doll, a toy for him. She is not allowed to have her own opinion, judgments, tastes; her husband never talks with her about anything serious.

As Rousseau does not provide self-determination for a female, because her life goes by in various orientations on her spouse, her "master"; he supports everything that points that this orientation "on others" is biologically programmed in women and it needs to be developed. Almost everything depends on whether a female will be able to please a man, anticipate his wishes, obey his will: her own existence, unity and happiness in her family, prosperity of the whole society. Thus, the process of a girl's upbringing should be totally directed to making her kind, gentle, caring and utterly and completely obeying her husband's will [5].

One of the exceptions of the abovementioned women characters is Jane Eyre, an intelligent, passionate English orphan, depicted by Charlotte Bronte. Through all the difficulties of her life in orphanage, Jane remains strong and can oppose a cruel world, not letting anyone to overwhelm her independence and the strength of her will. The masterpiece goes about a female looking for freedom and pure love. Working as a governess of an eight-year-old girl, Adele Varens, a ward of an aristocrat, Edward Fairfax Rochester, Jane managed to achieve her goal. She proves that women can have the same right as men.

Another exception is Scarlett O'Hara, a figure of the famous books written by Margaret Mitchell and Alexandra Ripley, who was a unique representative of her epoch (the XIX century), able to work, govern her estate (Tara) and to become a mistress of her ancestors' land (Ballihara). Abandoned by her spouse, she managed to do all her best to run her business, to achieve her goals alone and became one of the richest women in the United Kingdom. She could be an idol for women of her time, but most of them disliked her, despised and judged her for her behavior, they simply envied her. Scarlet could behave the way she considered right, ignoring the society's opinion on this point. The character was described by the authors-representatives of the XX century: Margaret Mitchell and Alexandra Ripley, perhaps, that is why she had such extraordinary qualities as no other female of her epoch could have.

Conclusion

Taking all the above mentioned into account, we can conclude that the majority of typical female representatives of the New Age epoch was dependent on their spouses and had to learn to be perfect wives for their husbands from the very childhood. These women could not even imagine the equality in rights with men as they "were satisfied" by any status of theirs. This was caused by gender stereotypes supported in almost every family of the described epoch. Each of the abovementioned authors had their own unique points of view on gender interrelation. The writers' opinions were based on their environment, state of living and, of course, on the society they were surrounded by. However, all of the philosophers agreed in the main point, i.e.: women should obey men's will. Therefore, from the very childhood girls were taught how to behave being a wife. In spite of generally accepted "rule" there were outstanding female representatives who managed to prove that women should not be expected to accomplish housewives' duties, that they have some greater destiny.

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MODERN EQUIPMENT OF LABORATORY ROOMS ON THE SUBJECT OF TECHNOLOGY

Abstract: *Given that today almost every specialist and business entity understands that the future development of Uzbekistan and the world economy depends mainly on investment, today the wider attraction of investment in the economy of the republic depends on their effective implementation of economic reforms in our country. It is not difficult to understand that it has become an important basis for supply. Investment, including foreign investment, plays an important role in the social, economic and political development of the country.*

Key words: *world economy, economic reforms, social, economic and political development of the country.*
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Introduction

It is known that any state cannot develop in isolation from the world without studying the world experience and accepting the achievements of the world's leading countries in the field of science and technology. How crucial is it to attract foreign investment to boost the country's economy, build and reconstruct new enterprises equipped with modern machinery and technology. This will, first of all, solve the most important social problems, such as employment, increase in wages and incomes. Therefore, one of the most important issues is the economic stimulation of enterprises attracting foreign investment to our country and the creation of the necessary conditions. The main categories of the investment process are its essence, the impact of the world market on the investment process, the principles of attracting foreign investment, the main stages, the promotion of foreign investment, information on investment activities, the mechanism of attracting foreign investment and the main directions, insurance of foreign investments, leasing and franchising, determination of economic efficiency of foreign investments.

II.Literature review

Our country is on the path of transition to a market economy. The importance of investment policy in this direction is very high. Because investments stimulate structural changes in the economy, technical and technological innovations, reconstruction of enterprises, increase the country's export potential. In this regard, the state of Uzbekistan is pursuing its structural investment policy. Structural investment policy consists of regional, sectoral and enterprise investment policies, which are interrelated. Corporate investment policy is a set of measures that allows you to operate effectively, taking into account the interests of the enterprise, population, region and investor. The investment policy of the enterprise, in turn, provides for the development of the enterprise, the export of products, the organization of import-substituting production, the acquisition of new, modern equipment and technologies. Important strategies will be developed in the conduct of enterprise investment policy. Attracting foreign investment is important in the implementation of these strategies. Political stability in our country, a very favorable investment climate are the basis for the development of long-term investment projects with foreign investors. In addition, conditions are being created for the provision of guarantees for foreign

investment and loans, tax and customs benefits, subsidies for loans and interest rates, dozens of legal acts are in force. It is gratifying that many of the products of the chemical industry and technology of our republic, which occupy the type of the world market, are among the benefits of independence. The products of a number of enterprises of the Uzkimyosanoat state joint-stock company are being successfully exported. These enterprises operate in Navoi, Almalyk, Samarkand, Fergana, Kokand, Chirchik, Kungrad and Yangiyul, and the products of chemical and chemical processing bring significant benefits to the state economy and its banking and financial system.

III.Analysis

During 2009, 690 investment projects were implemented under the investment program and technical modernization programs. 303 of them were successfully completed. A total of 22 large production facilities have been commissioned in the country, including 8 in the oil and gas, chemical and metallurgical industries, 9 in the engineering industry and 5 in the construction industry. From the first days of independence, great attention has been paid to the education of the younger generation and the creation of the necessary conditions for their future. Special attention is paid to the education system. On the basis of international cooperation, in most secondary schools, academic lyceums and professional colleges, laboratory equipment and facilities imported from foreign countries (Korea, Japan, etc.) are used very effectively in educational and scientific activities. In the laboratories of chemical and physical sciences, modern devices and equipment are introduced into the educational process. There are branches of prestigious educational institutions of developed countries in Uzbekistan. Today, 77 higher education institutions and research institutes are working together to make a significant contribution to the development of science. It is no exaggeration to say that every product, item and commodity used in our industry and daily needs is a product of the achievements of chemical science. As a result of further improving the use of investments, the number of chemical production facilities, new, modern equipment and technologies, modern laboratories meeting world standards will increase.

Decree of the President of the Republic of Uzbekistan dated January 17, 2019 "On the State Program for the implementation of the Action Strategy for the five priority areas of development of the Republic of Uzbekistan in 2017-2021" in the "Year of Active Investment and Social Development" and November 26, 2019 In order to ensure the implementation of the resolution "On measures for the organization of educational institutions" standards for the necessary equipment and facilities for general secondary education have been developed. In accordance with this principle, in order to widely introduce information and communication technologies in educational institutions, it is planned to provide each classroom with computer equipment and electronic interactive whiteboards for teachers. In particular, it is planned to equip the teachers' room with modern technical equipment. Classrooms for music, drawing, fine arts and painting, mathematics and technology were replenished with additional teaching aids, equipment and musical instruments. There is an opportunity to organize virtual laboratory classes by equipping the laboratories of physics, chemistry and biology with modern information and communication technologies. The library will be equipped with computer equipment, a wi-fi router, barcode and QR code readers, a color printer, fiction and textbooks. It is also planned to equip secondary schools that do not have gyms with sports equipment and gym locker rooms for regular sports.

In addition, in order to improve the quality of education, STEAM standards for educational equipment are being established for secondary schools. This standard of equipment will create favorable conditions for teachers and students of secondary schools, improve the quality of education and the widespread use of information and communication technologies in educational institutions. Training and laboratory rooms are organized in special rooms equipped with the necessary equipment. When the classroom is equipped, it should fully cover the content of the subject. There is a board in front of the cabinet, a TV set on the right and a computer on the left. On the left side of the board is a plant or animal cell stand or model, on the right is the evolution of the organic world, on the side of the window are room flowers, on the back are cabinets for biology departments, and on these cabinets are the equipment belonging to each department. 'yish should. At the top of the cabinet are portraits of scientists who have made significant contributions to biology, including E.P. Karovin, I.A. Raykova, T.Z. Zohidov, A.A. Muzaffarov, Y.H. Turakulov, B.O. Toshmuhammedov, J.A. Musaev, A. Abdullaev. Science room equipment should be placed in a separate system that meets the requirements of each biological science separately.

IV.Discussion

The equipment for the experiment must be at the level of the latest scientific and technical achievements, meet the requirements of technical aesthetics, safety, occupational hygiene.

Therefore, there are general requirements for the use of teaching equipment in classrooms and laboratories.

1. Pedagogical requirements: Classrooms and laboratories, their equipment and tools are designed to illuminate the content of the topic studied in the lesson, to help students to fully understand the

structure of objects, to help memorize and apply knowledge in practice, in the process of biological education. implementation of the principle of exhibition, as well as the use of advanced pedagogical and information techniques to help students to master the basics of biology, to structure their teaching and practical skills, to prepare them for independent living and career choices should give.

2. Safety and hygiene requirements for the laboratory room: All teaching equipment in the room must meet the requirements of technical means of education and occupational hygiene and safety. The classroom should have reminders (notes) on the rules of use and storage of equipment. Strict observance of safety and hygiene requirements is a reliable guarantee of prevention of accidents and various diseases.

3. Aesthetic requirements: Every piece of equipment placed in the room, as well as their elements and general appearance, must meet the laws of beauty, nurture the artistic taste of students, create a sense of satisfaction in both the student and the teacher.

Visual resources in the room: Optical instruments - Biology classes use more optical instruments, such as microscopes and magnifiers. They are used to study the anatomical and morphological features of invisible animals and plants, as well as the structure of microorganisms. Visual aids used in biology classes are divided into natural and visual weapons.

Naturally prepared weapons include: botanicals - herbariums, herbarium tables and handouts made from dried plant organs for practical work; from zoology - collections of insects and fixed representatives of invertebrate species, wet preparations showing the development of animals, tulup (chuchela) and skeletons of various systematic groups of vertebrates, handouts - parts of animals, fish bones, coins, bird feathers and others; human anatomy, physiology and hygiene - human skeleton, some bones include micropreparations and others.

Visual aids: charts and pictures for each course; human body and model and individual organ systems, which are divided into parts for the course of human anatomy, physiology and hygiene; for a general biology course, monkey skulls and brain models include slides and micropreparations. Tables - Particular attention should be paid to the storage of study schedules. It is convenient to store the tables hanging on the wire hooks in the cabinet. All the equipment of the biology room should be adapted to conduct experiments during the lesson, practical observations, timely presentation of tables, videos, slides, distribution and collection of materials and tools for practical work. Keeping textbooks in a system allows you to quickly find and prepare them for use in the classroom. Proper and beautiful placement of all items in the biology room helps to cultivate aesthetic feelings in students.

V.Conclusion

The teaching aids that should always be in the classroom include:

1) materials distributed to each student: a sample of various minerals, chemical raw materials, a collection of various minerals, alloys of metals, a sample of rubber, coal and petroleum products, aluminum, steel collection, chemical fiber collection;

2) visual aids: atomic crystal lattice, atomic model, tables representing various chemical production processes;

3) reagents required for the experiment: oxides, acids, salts, indicators, alcohols, aldehydes, aromatic hydrocarbons, organic acids, carbohydrates;

4) experimental equipment: ozonator, electrolyzer for testing solutions, water electrolysis device, voltmeter, limestone kiln, muffle furnace, drying cabinet, distiller, technical scales and other devices. Teacher's workplace lighting with artificial lighting should be at least 300 lk, classroom board 500 lk. Only when the chemistry classroom is fully equipped with them, the lessons will be of high quality. In any laboratory, of course, there is a specialist working as a laboratory assistant. Duties and responsibilities of each laboratory assistant are defined based on the specifics of the institution in which he works.

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THE USE OF INNOVATIVE TECHNOLOGIES IN TEACHING SEWING

Abstract: *The reforms being carried out in the education system of our country, all the plans and tasks are aimed at training highly qualified, highly spiritual, competitive specialists at the level of developed countries. The introduction of a system of continuing education in our country and the recognition of secondary special, vocational education as a separate link in it has created ample opportunities for the training of workers and junior specialists required for industrial enterprises.*

Key words: *education system, highly qualified, highly spiritual, competitive specialists, vocational education, ample opportunities, industrial enterprises.*

Language: *English*

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Introduction

At the stage of development of education, special attention is paid to secondary special vocational education. This is due to the fact that increasing the professional orientation of young people, the development of sufficient knowledge, practical skills and abilities in a profession is carried out in vocational colleges. The practical knowledge of junior specialists with a certain qualification category, the development of the ability to solve problems independently - ensures the quality and competitiveness of products manufactured in manufacturing enterprises [3,8]. After independence, along with all other sectors, it is necessary to develop the activities of light industry enterprises, to launch the production of quality, modern, competitive products, to process local raw materials in the country and to increase the share of finished products. The most modern equipment and technologies developed in Germany, Japan, Korea and the United States were delivered to light industry enterprises in Germany, Japan, Korea and the United States. Uzbekistan has the opportunity to supply a wide range of products to the domestic and world markets [11].

II.Literature review

It is known that the effectiveness of production depends on the potential of specialists and the knowledge and skills of workers directly involved in the development of the product. Only a worker who has mastered the secrets of sewing in a vocational college, who has sufficient practical skills and abilities in the technology of making products, can contribute to the production of quality products. The results of the study and observation of the activities of colleges show that the provision of vocational education in accordance with modern requirements and the need of manufacturing enterprises for junior specialists is not sufficiently established and the tasks to be done in this regard are poor. shows the plic [8]. In order to meet the modern requirements of future junior specialists, it is necessary to improve the effectiveness of teaching special subjects in professional colleges, to develop and implement projects based on modern pedagogical technologies, effective use of information technology and teaching aids. tasks.

Nowadays, in order to increase the effectiveness of teaching special subjects, to develop the cognitive abilities and creative abilities of each student, which creates great opportunities for independent, planned learning and self-development of students as a subject of educational activities. The importance of modular teaching methods is great [6].

The subject of "Technology of sewing production" is one of the special disciplines in the field of "Technology of light industry products", the

study of which acquires knowledge about the stages of the sewing process, sewing and sewing techniques. The process of making garments consists of several stages, which are interconnected in a certain sequence, and each practical activity involves the process of processing a piece of a product. The student will be able to sew technologically correct stitches only if he / she practices the method of making each piece practically independently. As a result of studying the practical lessons in modules, the student performs the task in the order specified in the module, self-examination and evaluation, re-examines the module with the teacher's instructions, realizing his mistakes if he is not satisfied with the result inconsistency will be present. It is known that the light industry serves to meet the needs of the population in consumer goods. To meet the needs of our people in consumer goods: clothing, leather, footwear, knitwear, it is necessary to develop beautiful, modern and competitive products. To do this, experts in the field are required to conduct research to improve the process of garment manufacturing, the use of advanced methods of attaching garment parts in technological processes, such as gluing and welding, wet-heat treatment and finishing [11]. The subject of "Technology of sewing production" is one of the special disciplines taught in professional colleges in the field of "Technology of light industry products". The purpose of the subject "Technology of garment production" - in light industry enterprises, including garment enterprises, from the state of raw materials to the finished product: - acceptance of fabrics; - tailoring; - sewing; - wet - heat treatment; - study of all technological processes, methods of technological operations, features used in the stages of decoration, training of conscious, highly cultured, qualified, skilled, able to use modern equipment and technology.

The subject is designed to train skilled workers in the garment industry and the domestic sewing industry, as well as a wide range of men's, women's and children's clothing tailors in vocational colleges. The subject of "Sewing Production Technology" contains all the information related to the sewing process of a wide range of men's, women's and children's clothing produced in the garment industry. This course covers the basics of sewing technology in the training of workers in the garment industry and consumer services, from hand and machine work to the preparation of clothing, calculation of technological processes, product quality control. caught in the act. In addition, there are methods of wet-heat treatment of clothing and the elimination of defects. The use of normative documents and DSTs used in the processing of garments is specified, as well as the preparation of garments and decorative parts, the creation of a technological map and technological sequence in the manufacture of garments and the manufacture of the product on its basis. The data are summarized in [5].

In the process of studying the science, it is planned to introduce national traditions, gold embroidery and embroidery techniques. The main processes of sewing production are:

- creation of clothing models;
- construction;
- determination of the cost of fabrics;
- acceptance of raw materials;
- fabrics, their preparation for sewing.

The technological processes of acceptance of the tested and calculated fabrics in the sewing department, laying and sewing, as well as transfer of the cuttings to the sewing process are shown. In turn, the sewing base department will indicate the methods of sewing, quality control, final wet-heat treatment, warehousing or sale of the finished product on the basis of the relevant technological documentation and explanatory map with the relevant regulations. The fact that the methods of processing presented in this discipline are suitable for both mass production and individual production, prepares the student to work in any field of production.

Based on the requirements of today's market economy, the importance of entrepreneurship, the knowledge imparted for the development of the garment industry, the student should have the following skills:

- Preparation of equipment for work.
- Start the computer system.
- Know the classification of clothes and the requirements for clothes.
- To be able to read the normative documents for the organization of sewing production and to organize work on this basis.
- Ability to prepare workplaces, tools and equipment for the creation of hand and machine seams.
- To be able to organize the method of wet heat treatment.
- Hand, machine stitching and naming.
- Formation of adhesive, welded joints.
- Manufacture of small pieces of clothing and processing of large pieces.
- Study the process of making light and outerwear;
- Work in the testing base; model making, template construction, fabric cost determination.
- Acceptance of fabrics in the preparation department, quality and quantity control, accounting and transfer to the sewing department.
- In the sewing department, the fabric is laid, transferred to the sewing and sewing department, the normative documents are filled out.
- Organization of the technological process in the sewing department.
-Ability to embroider and embroider according to national traditions, etc.

IV.Discussion

Stages of designing lessons on the basis of modern pedagogical technology. Qualitative training of future specialists can be achieved first of all by providing them with specific knowledge, professional skills and competencies, training them to use them effectively in their future activities. Therefore, from the point of view of the activity of the theory of education, it is necessary to transfer all educational work in the direction of "pedagogical technology", to seriously justify each element of it voluntarily in school practice[15,23]. Learning technology involves many operations in three stages: design, implementation, monitoring, and evaluation.

I. DESIGN is the definition of a set of goals and methods and means to achieve them. Another factor in the successful use of pedagogical technologies in education is the preliminary design of a specific, integrated educational process, the diagnosis of the level of theoretical and practical knowledge, skills and abilities acquired by students, and the success of the educational goal. is to be able to predict the outcome. The design of a particular learning process consists of the following steps.

Step 1. The first stage of the design of the educational process is the study of sources on the content of the subject or activity in the content of the subject, such as the collection of materials and acquaintance with their idea (essence), generalization, categorization of ideas and rounding.

Step 2. The second stage should be the identification of specific goals for the subject (content of activity), which can be solved in small sections (items) within a single, common goal, in order to achieve the educational goal. focused on the development of the desired tasks.

Step 3. The third stage in designing the learning process is to develop the content of the learning process based on the goals and objectives of the learning process. The educational process allows you to express a set of theoretical and practical knowledge on a particular topic (content of activity), which serves to illuminate the content of the educational material.

Step 4. The fourth stage, which is the most important stage in the design of the educational process, is the selection of the form, methods and tools of the training. The importance of this stage is that the form, methods and tools of training will ensure the success of the educational process.

Step 5. At this stage, the amount of time determined by students as sufficient for the acquisition of knowledge, skills and abilities, that is, how long the interval between students in a particular concept, skill and competence on a particular topic (content of activity)? can be assimilated in Step 6. In the sixth stage, a system of exercises (assignments) will be developed. The main condition of this stage is the need to pay special attention to the effectiveness of the system of exercises (assignments) developed as a result of the stage. It is advisable to divide the system of exercises developed at this stage into the following groups.

a) exercises that need to be solved by students during the lesson;

b) extracurricular activities (homework).

Step 7. In the seventh stage of the design of the educational process, tasks such as monitoring the general activities of students and the development of a test system are carried out. The development of a theoretically and practically accurate test system allows students to master certain concepts on the topic (content of activities), as well as to accurately and objectively determine the level of ability to form practical skills and competencies.

Step 8. The final stage of the design of the educational process is the implementation of the created project (template) in the educational process, which ends with the study of the final level (effectiveness) of the educational process. At this stage, the general state of the educational process, the achievements and shortcomings, the reasons for their occurrence are analyzed, and measures to prevent shortcomings in the next training session are identified. Achieving careful implementation of each situation in the design of the educational process leads to the success of practical activities (learning process).

Practical on the subject "Technology of sewing production" The lessons teach students how to sew formation of practical skills and abilities in the specialty and plays an important role in strengthening.

The organization of special disciplines on the basis of modern active methods is small formation of practical skills and abilities in specialists and is the main criterion of consolidation.

V.Conclusion

As a result of the use of modular teaching methods in practical training:

-Each student spends most of his or her time independently to work, to study on purpose, to plan, organize, supervise work conditions are created for making and checking;

- Each student will have a clear idea of their level of knowledge, understands shortcomings in knowledge and skills;

- Individual communication between teacher and student or module-based;

- The teacher conducts students' learning activities through modules or direct control is possible;

- Independent acquisition of a certain amount of knowledge by students, self-control, independent use of literature and handouts skills, such as self-criticism, the desire to correct mistakes adjectives are formed.

In short, improving the efficiency of the educational process, education strong practical knowledge, activities, skills and competencies of the recipients formation, practical to ensure that they

become professional skills use of modular technology in training meets the requirements of the labor market, lays the groundwork for the training of independent inquisitive and creative junior specialists.

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AVOIDING TRAFFIC ACCIDENTS

Abstract: *Road transport (accident) is an incident that occurred during the movement of mechanical vehicles and resulted in the death or bodily injury of people, damage to vehicles, goods or other material damage. Each participant in the road traffic, especially drivers of power-driven vehicles, must have an idea of the types of traffic accidents, their causes and the mechanism of the development of the normal mode of movement of the vehicle in emergency. Traffic accidents are divided into groups depending on the severity of the consequences, the nature of the accident, the scene of the accident and other signs. According to the severity of the consequences of accidents are divided into three groups: fatal, bodily harm to people and property damage.*

Key words: *accident, damage, damage, nature, scene, signs, movement, transport.*

Language: *English*

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Introduction

Traffic accidents are divided into collisions, rollovers, collisions with obstacles, collisions with pedestrians, collisions with cyclists, collisions with stationary vehicles, collisions with horse-drawn vehicles, collisions with animals, falling passengers, other incidents [4].

They are briefly defined as follows:

• a collision is an incident in which moving power-driven vehicles collided with each other or with rolling stock on a railway;

• rollover - an incident in which a power-driven vehicle has lost stability and capsized. These incidents do not include rollovers caused by a collision of power-driven vehicles or collisions with stationary objects;

• collision with an obstacle - an incident in which a power-driven vehicle collides or hits a stationary object;

• pedestrian collision - an incident in which a power-driven vehicle collided with a person or he came across a moving vehicle and was injured;

• collision with a cyclist - an incident in which a power-driven vehicle collided with a person riding a bicycle or a cyclist came across a moving vehicle and was injured;

• collision with a standing vehicle - an incident in which a power-driven vehicle collides with a collision with a standing vehicle;

• horse-drawn carriage - an incident in which a power-driven vehicle ran into draft, pack or riding animals or into carts transported by these animals;

• animal collision - an incident in which a power-driven vehicle ran into birds, wild animals or domestic animals (excluding horse-drawn vehicles), as a result of which people were injured or material damage was caused;

• other incidents - all incidents not related to those listed above. These include tram rails; falling of the transported cargo or dropping of an object by a wheel of a vehicle onto a person, animal, other vehicle; run over persons who are not participants in the movement, or at a sudden obstacle; the fall of passengers from a moving vehicle or in the cabin of this vehicle as a result of a sharp change in speed or trajectory, etc. [8].

Classification of accidents according to the severity of the consequences. Depending on the severity of the consequences of an accident, they are

divided into the following: material damage, light bodily harm, moderate and severe bodily injury, death of the victim, especially grave consequences (4 or more died or 15 or more were injured) [2].

Material damage from an accident can, for example, consist of the cost of repair and restoration work in case of damage to a vehicle, cargo, road and other structures; costs of performing the functions of law enforcement agencies; the provision of medical care; loss from stopping traffic.

The severity of the damage to health. A forensic medical examination establishes the nature of the bodily injuries of the participants in an accident and the causes of death, the causes of bodily injuries and their relationship with an accident.

1. By causing minor harm to health should be understood a short-term health disorder or a slight permanent loss of overall disability.

2. By causing moderate severity of harm to health, one should understand a long-term health disorder that is not life-threatening or a significant permanent loss of general disability by less than one third [5].

Qualifying signs of the severity of harm to health are: the danger of harm to health for human life; duration of a health disorder; persistent loss of general disability; the loss of an organ or the loss by an organ of its functions; loss of vision, speech, hearing; complete loss of professional ability to work; abortion; indelible disfigurement of a face (establishing indelible disfigurement of a face is not the competence of a forensic medical expert, since this concept is not medical); mental disorder. To establish the severity of harm to health, one of the qualifying features is sufficient. If there are several qualifying signs, the severity of the health damage is determined by the sign that corresponds to the greater severity of the health damage [6].

What is a persistent loss of overall performance? From the forensic medical point of view, the loss of general disability should be considered stable either with a definite outcome, or with a duration of a health disorder of more than 120 days. Light bodily injuries. Mild harm to health should be understood as a short-term health disorder or a slight permanent loss of overall working capacity. Physical injuries of moderate severity By causing moderate severity of harm to health, one should understand a long-term health disorder that is not life-threatening or a significant permanent loss of less than one third of the total disability. Signs of moderate harm to health are: lack of danger to life; long-term health disorder (more than 21 days); significant persistent loss of overall disability by less than one third (from 10% to 30% inclusive) [3].

Severe bodily injury. The harm caused to health is considered serious if it is: life-threatening harm to health; loss of vision, speech, hearing; loss of any organ or loss by an organ of its functions; indelible disfigurement of the face; health disorder combined with persistent loss of general disability by at least one third (more than 33%); complete loss of professional ability to work; abortion; mental disorder.

Life-threatening is a health hazard causing a life-threatening condition that could result in death. Prevention of death as a result of the provision of medical care does not change the assessment of health damage as life-threatening. Practice has shown that the basis for avoiding accidents is the knowledge and observance of the Rules of the road - the law of the road. Any deviation from the Rules creates a difficult, and sometimes emergency situation.

At the same time, the driver may get into an emergency not through his fault, but because of an error of another participant in the movement or as a result of unforeseen circumstances. In any case, the experience and skill of the driver will play a decisive role in the successful outcome of this difficult critical traffic situation. The most frequent violation leading to an accident is an overspeed, in particular not the high speed itself, but the discrepancy between the selected speed and the specific driving conditions.

The rules of the road do not regulate the speed for all occasions; they provide the driver with the right to make the best calculation himself and choose the necessary speed depending on the specific situation. But you must remember that the wrong speed creates a threat to the occurrence of an incident

Often the emergency behavior of other participants in the movement leads to an emergency. It is very important to be guided by a poor rule - you should not hope that another driver will take the necessary safety measures, but first of all do it yourself. Of course, it is impossible to see a violator in every driver, but if the actions of another driver are indecisive or, on the contrary, overly aggressive, you need to be prepared for any surprises and it is better to prevent an emergency than to get out of it.

A reliable driver from the point of view of traffic safety is a driver that really compares its capabilities and capabilities of a controlled car in conjunction with the current situation, due to the actions of other road users, road and weather conditions. Based on statistical data, the likelihood of an accident is largely dependent on the age and length of service of the driver. The greatest hazard indicator is characteristic for drivers aged 18 to 25 years. This can be explained by little experience driving a car and reassessing their professional capabilities. A noticeable increase in the hazard indicator for road accidents is observed among drivers older than 50 years, most of whom have significant driving experience, but are characterized by a deterioration in a number of functions important from the point of view of safe driving: visual acuity, especially at dusk; when blinded by headlights of oncoming vehicles.

The average visual acuity at the age of 20 is taken as 100%, by the age of 40 it decreases to 90%,

by 60 - by 74%, by 80 - by 47%. Studies of the sensorimotor performance of drivers of various ages indicate a decrease in the performance of drivers at the age of 45 years on such aspects of functioning as visual orientation, speed of reaction, ability to concentrate attention and review in situations with a limited field of view.

However, regardless of age and traffic accident, the correctness and safety of the driver's actions is due to such factors: whether he received all the necessary information about traffic accident, whether he correctly evaluated it, whether he made the right decisions, and whether he correctly performed the actions to drive the car [9].

We list four main functions performed by the driver in the process of driving:

• perception of traffic accident (traffic situation) - the correct and timely detection of significant from the point of view of traffic safety of all participants of traffic accident, objects and events of the road traffic situation;

• traffic accident assessment - an assessment of the road transport parameters that are significant from the point of view of traffic safety of all traffic accident participants situation and forecasting of possible directions of dangerous development of traffic accident;

• decision-making identifying possible actions in the traffic accident for driving a vehicle and choosing from the best combination in terms of ensuring the safety of all traffic accident participants;

• performance of actions - implementation of selected actions for driving a vehicle [7].

When the above functions are correctly performed by all traffic accident participants, a traffic accident does not occur. If one or more traffic accident participants make mistakes, then there is a danger of an accident, and whether it will happen or not depends on the success of the actions taken by the traffic accident participants [1].

Consider the typical traffic accident arising in the normal operation of cars, and the recommended actions of the driver [10]. When a car is moving behind you in the right direction, try to maintain a constant speed and often look in the rearview mirror. Especially watch overtaking vehicles that signal a lane change in preparation for overtaking. Do not forget to signal the next car behind that you intend to change lane, reduce speed or stop. Remember that premature signaling can be misleading for a driver moving behind, but signaling with a delay will leave him too little time to react to your maneuver.

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PROBLEM ASPECTS OF USE OF AUTOTECHNICAL (ROAD-TRANSPORT) EXPERTISE

Abstract: *The author examines the law enforcement practice in the investigation of road accidents of the Law of the Kyrgyz Republic «On forensic activity» [1], the strengths and weaknesses of its system and structure. An individual characteristic feature of the accident investigation methodology is the need for many forensic examinations aimed at resolving the tasks of the investigation as a result of a constantly changing investigative situation. Since the problem of consistency or its absence within the structural components that form the interconnection of all traffic accident participants without exception is associated with a clear implementation of their practical actions, then in case of failure to function properly due to the lack of enforcement opportunities or the absence of appropriate competence, the investigator or expert has difficulties regarding accident investigation. Moreover, these problems have clearly expressed objective and subjective reasons.*

Key words: *forensic examination, investigation, investigation, problem, participants, competence of the investigator.*

Language: *English*

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Introduction

The author through analysis and logical conclusion concludes (containing the problem). That technical expertise does not have to be experts even with a high degree of competence, but not having an official status of «state expert» of the respective specialty of higher education, not owning the relevant examination techniques, and practice of their application and admission to the examination.

The author's analysis of the practical application of the provisions of the law «On judicial-expert activity» has established the fact that in the southern regions of Kyrgyzstan, Osh, Jalal-Abad currently has developed a problematic situation. In 40% of cases (100 of examinations) experts of the center of forensic examination do not possess the relevant powers or professional expertise in the resolution of issues put before them. But, despite this, conduct a scheduled examination, the conclusion, which in the future are challenged by lawyers on the basis of their procedure of insolvency and evidence obtained in violation of procedural requirements.

The number of examinations, expert departments of internal Affairs of Jalal-Abad and Osh oblasts for 2018 - 2019. is 5067. While conducted autotechnical examinations - 189, investigative expertise - 62, of which 58 cases of outside experts for production of these examinations did not meet the requirements indicated by the law «On judicial expertise» and most importantly relevant professional competence. Which clearly confirms the previously submitted figures.

The author, examining the theoretical and practical challenges in the organization of investigation of accidents that occur at the investigator, body of inquiry, an expert for the appointment and autotechnical examinations associated with insufficient organization and planning of the investigation in the production of urgent investigative actions have identified the main ones

which significantly complicate the course of the investigation:

1) the Surface inspection of the scene, the lack of timely permanent actions when inspection of the scene

2) Reverse vehicle inspection

3) A clear statement of the questions put to the expert of the investigators

4) Lack of understanding of the expertise of the

5) Lack of collected source material for forensic investigations.

The applicant notes that the extent and boundaries of the expert examination the expert avtotehnika to identify the causes and effects of the accident of their subjective and objective component depends only on the complex analysis of the events of the accident with the maximum use of scientific and applied knowledge. And the final conclusions of the investigation is the responsibility of the subject conducting the investigation and trial. The establishment of individual conditions and reasons for linking the accident with specific vehicles is the direct responsibility of the authorized expert and competent in the production of auto-technical expertise. This is due primarily to the necessity of application of special knowledge and professional authority. In the potential expert with relevant experience and expertise includes answers to questions about the impact of a particular subjective or objective conditions on the fact of accident, and most importantly determine the origin of the event.

The author claims in his study that the low quality of the roadway, it does not meet state standards for road maintenance and is the most common condition affecting the event of an accident.

For maximum accuracy in understanding all terms related to causes of accidents. Competent research and perform the necessary calculations using available advanced technologies and advanced scientific achievements. The examiner should maximize the use of the right, reasonable expert initiatives within the framework provided by the criminal procedural legislation and the law «On judicial-expert activity». When planning and organizing the investigation of accidents and crimes related to them the investigator must turn to the recommendations offered by forensic science in the context of technical and forensic support of the production of the investigation.

In theory of criminology has developed a huge theoretical and practical potential for the effective use of special knowledge in investigation of crimes related to the accident. In this case the author has in mind the use of a whole range of technical possibilities (road transport) examination based on related forensic science modern scientific knowledge. The investigator in the organization of investigation of accidents are constantly faced with technical issues concerning the technical characteristics of the transport features, degree of wear and possible consequences associated with this wear. In order to answer these questions requires the use of special knowledge in almost all fields of science and technology, and this knowledge and their practical application to answer questions provide opportunities for special expertise. Who are competent in the field of not only law, but also psychology, physics, mathematics, medicine, construction, automotive. Modern advances in related science with forensic science knowledge is actively used in the various species, direction, and purpose of the auto-technical expertise. For the purpose of collecting, fixing and research necessary corollary of significant information for the case under investigation. Basic scientific knowledge in the field of operation of vehicles, physics, theory of strength of materials, medicine has formed a kind of special expertise as «technical expertise». We especially emphasize that this is the kind of scientific knowledge and research which is applied to criminology, and therefore is governed by the rules of criminal procedure and civil rights. G. P. Arinushkin on this issue in their research suggested that «the Totality of these Sciences is implemented with the methods of expert studies designed to improve the ability of expertise to improve the scientific validity of the conclusions of the expert-cars» [2].

The main purpose of autotechnical expert appraisal is the search for answers to questions arising in relation to the technical capabilities, characteristics, data, road transport is the subject of an accident. The author, based on his experience, offers to share the questions and answers that gives this kind of examination into the following groups:

1) The issues contributing to the elucidation of the mechanism of formation of traces accident;

a) The direction and speed of the vehicle, a pedestrian at the time of the situational road traffic events

b) Establishing possible causes of drift, and the conditions contributing to this

C) The possible objective and subjective reasons of the rollover of the vehicle

d) Identifying the causes and relationships, as car malfunction and directly fatal accident

d) Possible correlation of technical parameters with the subjective causes of accidents.

2) Matters relating to individual assessment of the actions of the driver directly in the context of compliance with traffic regulations.

a) Logic of sequence of actions of the driver of the car to prevent accident and its consequences

b) Psycho-physiological condition of the driver and the possible impact of this condition on the event of an accident

C) The seniority and level of professional competence the driver of the vehicle

g) The state of the engineering and traffic communications and their possible impact on the fact of the event of an accident.

3) Questions about the possible causes and effects in the context of actions of participants dorozhno-transport incident and the ensuing events and consequences.

In his scientific work of Gordeeva A. K. exploring the same questions, their findings confirm the correctness of the position of the author regarding the significance and prospects «transportation» expertise. «Currently created theoretical foundations of this branch of knowledge that enables its further development in the development of new methods for improving the technical question of the ability to prevent a driver of the vehicle collision (the collision) by emergency braking» [3].

The modern theory of criminology has developed considerable experience in investigative practice techniques intended to identify potential opportunities for making a detour through the maneuver stationary obstacles. Using situational simulation, which developed expert program.

It should be noted that while not intense work is underway in the field of psychophysiology of the driver to determine the temporal parameters of the driver in various stressful situations in a traffic accident. Recent work in this direction was carried out by the staff of VNIISI of the Russian Federation, Suvorov Y. T., Gordeeva A. K., Konstantinova N. L. [4]. In the Soviet Union prior to 1988, the driver's reaction time was taken to be equal to 0.8 sec. that is not consistent with actual physiological data of the driver in various situations. The scientific and methodical Council on judicial autotechnical examination, VNIISI from January 1, 1988, the USSR had introduced the differentiated experimental and calculated values of the reaction time of the driver [5]. Based on the opinion of his colleagues, the author believes that the regular use of differentiated values with many probabilistic variables in the expert practice, in one case confirms the conclusions about the loyalty of such decisions in other cases States the need of the necessity of specification and clarification of the actual values. Since the use of differents Based on the opinion of his colleagues, the author believes that the regular use of differentiated values with many probabilistic variables in the expert practice, in one case confirms the conclusions about the loyalty of such decisions in other cases States the need of the necessity of specification and clarification of the actual values. As the use of differentiated values of the absolute greatest probability of change in the reaction of the driver in the expert practice improvement in the reliability and objectivity itself autotechnical examination.

Multiple psychological tests and expert studies have concluded the fact that on an interim rate of reaction of the driver of the vehicle is influenced by many factors:

1) The psychophysiological condition of the driver, experience, practical skills;

2) Designed the technical characteristics of transport, its technical condition, physical wear and tear;

3) Condition of road surface, total estimated road condition;

4) Status of engineering and technical communications;

5) Time of year, day, weather condition, a manifestation of human events.

In practical expert activity when conducting settlement indicators, experts tend to use averages to estimate the individual response of the driver of the vehicle. Of course, all agree with the fact that the data thus obtained may not correspond to the principle of absolute certainty and objectivity. During the expert evaluation of the presented indicators are important only to determine the likelihood or lack thereof to avoid making a collision with a pedestrian, collision with or by braking. But in practice, the courts and investigators, presented an expert opinion which are highly averaged and generalized indicators are perceived as sound scientific evidence, not subject to doubt and criticism. Meanwhile, the expert time estimates with respect to the reaction of the driver to operate a vehicle absent reasonable basic standards, and whether it is possible to develop such average standards, if all the people of the psychophysiological features of an organism is an individual. However, despite the fact that the rate of reaction speed «of the driver of» no corresponding GOST, a guideline of VNIISI of the USSR developed in 1988 and used in the EurAsEC member States, which may not have objective significance, since studies in this area were not carried out experimentally, but was calculated in the laboratory of the Institute. Given the characteristics of different road surfaces, road conditions, terrain, time of year, weather, etc. are based on the calculation of optimal driving conditions and the operation of motor vehicles. Modern discoveries and achievements in various branches of scientific knowledge used in forensics allow you to change the approach to use special knowledge during the investigation of the accident. Seems to be a promising the formation of private methods of expert analysis in relation to accidents, stimulating the development of the theory of forensic examination in cases of road accidents as an independent scientific direction, based on the results of the integration of forensic, engineering and other fields of scientific knowledge. Forensic expertise in criminal proceedings is made in the manner prescribed by the criminal procedure law, which is an essential guarantee of the truth of expert opinion and the possibility of use as judicial evidence. The law defines only General guidance about the grounds for an

examination, therefore there is a need to concretize the purpose of examination of each kind (species) within existing methods of investigating certain types of crimes. Since the order of the examination is realized in the form of legal relations, which are between participants of the examination, procedural issues arising during its production, in respect of the rights and obligations of the individual participants expertise. In judicial and investigative practice according to the law, examination of cases of accidents are appointed on the basis of a reasoned decision, in real conditions of examination is very often received initiative under letters of stakeholders, leading the investigation, judges, lawyers. The work of the author in investigative and legal records suggests that the violations are not motivated purpose autotechnical examination was massive and continued to the present time. And this automatically leads to the denial and restriction of the rights and freedoms of the accused guaranteed by the Constitution. Not to mention the fact that you ignored the stated principles of the norms of the criminal process "the principle of implementation of criminal proceedings on the basis of equality and competition of parties» [6]. The content of the provisions for the mandatory appointment of the examination may be interpreted differently as to address specific issues. From this position we can conclude that in some cases, the issue of examination can be solved by the subject of the inquiry, the investigator, the court roofing only on the desire without the motivation of definition and justification. However, this desire can be construed as subjective or individually willed completely or partially ignoring the circumstances of the case, goals and objectives of the process of proof. We believe that the question of the need for expertise on a specific event must occur by a cumulative assessment of the degree of proof of the event, evaluation of collected evidence to corroborate the fact of it, with the likely possibility of studying at the hearing. R. E. Ovchinnikov considers that the conduct of the technical examination for each criminal case of an accident necessary, he opposes G. M. Nadgorny [7] speaking out against it for each accident separately, on the grounds that it is not based on law, and does not account for the lack of special technical issues in a number of cases in this category. We believe that application of special scientific knowledge in case of accident is a very important element of the examination, but is always and everywhere. The opinion of the author on this point. It consists in the fact that in complex cases, an accident can not do without carrying out technical examinations and attract competent specialists in certain branches of scientific knowledge. Capable at high professional level with use of modern technologies to answer their questions, and in cases where violations of traffic rules is indisputable, it is possible to do conclusions of the expert. R. S. Belkin [7] specifies the information obtained by the expert, by which he is guided in the objectives of the study, defines its methodology and provides a set of necessary tools and techniques differencial these sources on the process and not procedure. In the powers of the expert to use in their research only the data from criminal case materials, which were evaluated and selected by the investigator and specified in the resolution on the appointment of expertise. Independently select the source data from the case (records of interrogations, confrontations, etc.), the expert has no right. Ignoring expert set out the rules of application of the initial data gives the basis for the appointment of additional expertise [8]. The problem is the question of personalization of primary data in case of an accident. Currently in the expert practice are widely used, first, the tabular data are averaged, and secondly, the approximate parameters of the Protocol inspection of the accident (the data of inspection of the accident scene, including road conditions, these inspection vehicles). In the first and second cases, the right to determine the original data are actually provided to the expert. As an example we can cite the following. Focusing on the averaged indicators table cloth paving, an expert in his studies again determines the average, and most importantly, the estimated table values of parameters of the braking path of the vehicle. It is very approximately set temporary rates of reaction of the driver of the vehicle, (without taking into account individual psychophysiological data), deriving in turn from the table of the average obtained by laboratory method. In this example, according to the author, is a clear violation of procedural rules in the aspect of clear division of procedural functions. It is necessary to consider that the construction of the system of the criminal process to ensure the achievement of truth involves multiple recipients of proving the truth and is not confined to gaining knowledge, even a fairly complete and accurate, any one subject, which in this case is actually the expert. The practice has spread, when experts in the conduct autotechnical examination choose the tabular source data for calculations on the principle of "doubts in favor of the accused", we consider unacceptable. I. Y. Shaparev surely have noticed that such actions of the expert are an invasion of the sphere of law [9]. According to some authors, in cases where the use of limits of tabular data in the calculation of technical possibility to avoid road accident yields positive results and experimentally to clarify the required value is not possible, the examiner should inform the entity that appointed the expert examination, about the impossibility of giving an opinion. The author comes to the conclusion that it is time to reconsider the situation with the order of appointment and carrying out technical examination, use and interpretation of the results obtained in the investigation of the accident. Which requires the use of modern scientific and methodological developments, competences

obtained in allied industries of knowledge and have already gained theoretical and practical experience available in the works of scientists devoted to the problems of the methodology of science, the investigation of the accident.

When deciding in the legal field tasks associated with personifications of the obtained data, it is important to stay in the position that the authority for their establishment should be the subject of proceedings or investigation by a specialist, or expert [10]. Moreover, it should be noted that significant specific features are inherent not only in the process of appointment of expertise in cases of traffic accidents, but also in the assessment of their results. To understand and evaluate the results obtained, not only experts and experts, but also an investigator should possess special theoretical knowledge in the sciences related to forensic science.

And another important moment characterizing the relative chaos and causing controversy among theorists and practitioners. The definition of "expert opinion" is commented by the legislator, and, accordingly, it is applied in two meanings:

1) As the concept of a final and unambiguous result on the question posed, that is, "conclusion";

2) As a real procedural document in the form of a conclusion, in which the process and the final results of the expert are recorded.

But in practical activities, the expert opinion consists of three parts;

a) introductory (describing);

b) analytical (research);

c) conclusions (presented conclusions).

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EXTERNAL ACCOUNTABILITY OF POLICE SERVICES AS PART OF REFORMS

Abstract: *This article discusses the concept of external accountability of police services as part of ongoing reforms in many countries of the world. The necessity of this concept to prevent abuse of police powers, as well as conclusions and recommendations for its implementation.*

Key words: *accountability, police service, police organization, police management, public administration.*
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О ВНЕШНЕЙ ПОДОТЧЕТНОСТИ ПОЛИЦЕЙСКИХ СЛУЖБ КАК ЧАСТЬ РЕФОРМ

Аннотация: *В данной статье рассмотрено понятие внешней подотчетности полицейских служб как часть проводимых реформ проводимых во многих странах мира. Необходимость данного понятия для предотвращения злоупотреблений полномочиями полиции, а также даны выводы и рекомендации для ее реализации.*

Ключевые слова: *подотчетность, полицейская служба, организация полицией, управление полицией, государственное управление.*

Введение

На повестке дня последних лет под разными названиями стоят такие понятия как реформа, реструктуризация, изменение государственного управления, в которой подотчетность является одним из важных понятий. Подотчетность является фундаментальным принципом, направленное на предотвращение злоупотреблений государственными полномочиями, которые сосредоточенны в одних руках. Для обеспечения гарантии соблюдения правовых норм и правильного использования общественных ресурсов администрацией в соответствии с пожеланиями и ожиданиями граждан. Таким образом, может быть повышено чувство доверия граждан к государству. Развитие информационных коммуникационных технологий, переход к управлению производительностью, облегчения доступа граждан к публичной информации и документам также повышает подотчетность [9].

Политический контроль над полицией всегда имеет угрозу подхода злоупотребления и использования полиции. Поэтому самостоятельность полицейских управлений с точки зрения политической подотчетности очень важна. Когда они свободно могут действовать на законных основаниях, при отсутствии несправедливого и предвзятого политического давления. Согласно высказывания Андертона (1981), необходимо избегать политического контроля над полицией любой ценой. Поскольку это очень деликатный вопрос с точки зрения политического контроля над полицией, он должен быть в стиле «пояснения и сотрудничества», а не «подчиненный и послушный» [8].

Постмодернистские концептуализации, неолиберальные подходы и “третья волна демократии” (Хантингтон, 1999) привели к серьезному развитию понимания государственного управления. Предположение того что централизованные бюрократические организационные модели Вебера не могут удовлетворить требования современной экономики на корпоративном уровне выдвинуло необходимость реструктуризации государственной бюрократии в рамках понятия подотчетности [15].

Подотчетность является способностью должностных лиц в учреждении ответить соответствующим лицам за реализацию возложенных на них полномочий, действовать с учетом требований и критики. А также необходимость брать на себя ответственность в случае неудач или недостатков по ним [14]. Подотчетность является важным условием для создания и поддержания понимания верховенства права. Применение законов посредством демократических процессов и подотчетность государственных органов усиливает верховенство права [12]. Подотчетность - это сложный и динамичный процесс для достижения организационных целей, в котором сотрудники и организации несут ответственность за свои действия, за создание миссии и ценностей своих организаций, деятельность которых является открытой [7].

В этом контексте Неухолд определяет концепцию подотчетности двумя различными способами: «Во-первых, подотчетность означает, что человек находится на руководящей должности и поэтому может быть вызван для ответа на вопросы о действиях или принятых решениях. Одним из предпосылок для этого является определенная степень открытости и прозрачности в процессе принятия решений. Выбор и обсуждение того или иного решения должно быть представлено таким образом, чтобы граждане могли понять и оценить правильность принятых решений. Во-вторых, подотчетность означает возможность общественного осуждения, и быть уволенным [13].

Подотчетность является основным управленческим принципом организаций, и если отдельные лица, по крайней мере, в определенной степени не несут ответственности, учреждения не могут эффективно работать. Подотчетность особенно важна благодаря ее связи с основными организационными переменными, такими как мотивация и производительность. Системы, лишенные подотчетности, приводят к увеличению незаконного поведения [11].

Существует два определения подотчетности в узком и широком смысле. В узком смысле подотчетность подразумевает иерархическую систему отчетности, бюрократические процедуры и правовые нормы. В широком смысле подотчетность определяется как ожидания граждан и других субъектов на основе «общественного блага». Рассмотрение подотчетности его во втором значении, также требует ее оценки в качестве метода (механизма). Подотчетность являясь методом информирования общественности и контроля государственной власти, используется при осуществлении эффективного, действенного и экономического управления [10].

Ответственность за подотчетность лежит в основе феномена управления и является посредническим понятием примиряющим демократию с бюрократией. Эта концепция, находится на повестке дня в течение последних двух десятилетий, направленная на то, чтобы государственное управление действовала в соответствии с предпочтениями общественности и снова восстановила сниженное доверие общественности [3].

Учреждения, осуществляющие деятельность по обеспечению внутренней безопасности в современных странах, всегда открыты для публичной критики. Более того правоохранительные органы открыты для исследований и критики собственных проблем со стороны гражданских исследователей, а также финансируют эти исследования. В демократических странах не могут быть институты, которые запрещены для исследований и критики. Каждое учреждение, чьи расходы покрываются общественностью, и вместе с тем утверждается, что оно находится на службе народа, должно быть открыто для публичной критики и надзора. В латинской пословице говорится «обувь лучше всех может сделать сапожник, однако где она натирает (удобна или нет) знает только тот, кто ее носит». Осуществлять правоохранительные функции наилучшим образом обязанность соответствующих служб, однако критиковать ее недостатки естественное право граждан [6].

Постмодернистское понимание государства и принципы нового государственного управления выдвинули на повестку дня реформы государственного управления. Основная цель этих усилий по реформированию состоит в том, чтобы приблизить организацию государственных служб к гражданам, пользующимся их услугами, и обеспечить осуществление их деятельности ориентированную на человека. Однако изменение указанного понимания является более сложным и болезненным процессом в области правоохранительной деятельности который организованы в более традиционном понимании, по сравнению с другими государственными службами. Обеспечение безопасности является основной функцией государства, а организация деятельности правоохранительных органов, которые берут на себя эту задачу в русле подотчетности перед обществом и осуществления функций в контексте этого принципа, является одним из важнейших условий легитимности государства [2].

Подотчетность возникает при определенных условиях, их можно перечислить следующим образом: Во-первых, подотчётность является внешним, другими словами подотчетность осуществляется по отношению к другому внешнему органу. Во-вторых, она предполагает социальное взаимодействие и взаимность, то есть этот внешний орган может требовать ответа и исправления ошибок, а другая сторона, реагирует на эти запросы и принимает меры к исправлению недостатков, таким образом, включает в себя социальное взаимодействие и взаимность. В-третьих, означает принятие прав власти этого органа, то есть охватывает права высших должностных лиц над своими подчиненными [4].

Подотчетность также относится к социальным отношениям. Сторонами этих отношений являются подотчетный (субъект) и тот кому отчитываются (форум). Подотчетным может быть как отдельное лицо, такие как должностные лица или организация, такие как государственные учреждения и организации. В качестве форума могут выступать как физические лица, такие как руководитель, министр или журналист, так и организации, к ним можно отнести государственную администрацию, парламент, суд и наблюдательный совет [10].

На сегодня подход к безопасности человека, поддерживаемые организациями, действующими под эгидой Организации Объединенных Наций, также привело к переосмыслению служб безопасности. Юридически установлено, что субъекты, предоставляющие услуги безопасности, уполномочены применять силу, отдавать приказы о применении силы или угрозу применения силы. В демократическом обществе деятельность различных субъектов сектора безопасности контролируется гражданскими политическими субъектами. Таким образом, подотчетность может регулярно осуществляться в рамках принципов прозрачности [5].

В целом, рассматриваются различные методы управления для развития подотчетности в правоохранительных органах и развития культуры подотчетности перед обществом. Методами обеспечения эффективного управления и подотчетности перед обществом в правоохранительных органах являются следующими [1]:

- эффективный контроль сотрудников правоохранительных органов при выполнении ими своих обязанностей в особенности если они применяют силу при преследовании и задержании.
- учитывание обратной связи граждан и неправительственных организаций о правоохранительных органах.
- создание программ гражданских надзорных комиссий и агенств а также механизмов участия граждан, в развитии правоохранительных органов.
- внедрение систем управления информацией включая системы раннего предупреждения [2].

Подводя итоги можно сделать выводы о том, что в последние годы идет активная тенденция к реформированию полицейских служб во многих странах мира нацеленных на достижение демократических ценностей. Одним из важных элементов реформ составляет внешняя подотчетность полиции, в целях предотвращения злоупотреблений полномочиями с их стороны. Тем самым повысив доверие граждан, как к полицейским службам, так и в целом государственному механизму управления. Также для создания и поддержания понимания верховенства права внешняя подотчетность является необходимым условием.

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OPENNESS AND TRANSPARENCY IN THE ACTIVITIES OF INTERNAL AFFAIRS AGENCIES OF THE KYRGYZ REPUBLIC AS A FACTOR OF INCREASING THE LEVEL OF PUBLIC CONFIDENCE

Abstract: *This article discusses the concepts of openness and transparency in the activities of internal Affairs agencies, the need for these concepts and the legislative framework of the Kyrgyz Republic, as well as conclusions and recommendations on the differentiation of the part of the internal Affairs Department that should be open and transparent.*

Key words: *openness, transparency, internal Affairs bodies, the level of public confidence, the activities of the internal Affairs Department, the state body, effective activities.*

Language: *Russian*

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ОТКРЫТОСТЬ И ПРОЗРАЧНОСТЬ В ДЕЯТЕЛЬНОСТИ ОВД КЫРГЫЗСКОЙ РЕСПУБЛИКИ КАК ФАКТОР ПОВЫШЕНИЯ УРОВНЯ ДОВЕРИЯ НАСЕЛЕНИЯ

Аннотация: *В данной статье рассмотрены понятия открытости и прозрачности в деятельности органов внутренних дел, появления необходимости данных понятий и законодательная база Кыргызской Республики, а также даны выводы и рекомендации о разграничении той часть деятельности ОВД которая должна быть открытой и прозрачной.*

Ключевые слова: *открытость, прозрачность, органы внутренних дел, уровень доверия населения, деятельность ОВД, государственный орган, эффективная деятельность.*

Введение

Современная тенденция от представительной демократии к демократии участия постепенно отбрасывает такое понятие как «секретность» являющейся одной из основных составляющих традиционного управления. Таким образом, вторая половина двадцатого и начало двадцать первого столетий вместо понятия «секретность» ввели в административные системы понятия «открытость» и «прозрачность», предусматривающие более демократичное управление [9].

Укрепление демократических ценностей в мире и изменение парадигмы в государственном управлении требуют от государственных учреждений быть более прозрачными не только в отношении политики, но и для общественности. В современном мире понятия прозрачности и подотчетности в управлении имеют важную форму [4]. В развитых западных странах деятельность полиции максимально прозрачна и для решения проблем в данной сфере широко привлекается общественность для того, чтобы заинтересованные могли давать свои рекомендации для решения тех или иных вопросов улучшения качества жизни населения. Эта тенденция естественным образом повлияло и на Кыргызстан как части мирового сообщества.

Понятия открытости и прозрачности в органах внутренних дел

Концепция демократизации ОВД для обеспечения гражданского надзора и демократического контроля основана на представлении, что данная система управления повышает эффективность государственного органа. Поскольку росту доверия населения способствует открытость, прозрачность работы ОВД, которая, в свою очередь, ведет к повышению легитимности правоохранительного органа [3].

При этом всегда есть риск того, что правоохранительные органы могут превышать свои полномочия в большинстве демократических странах и уделяют большое внимание тому, чтобы они эффективно контролировались как со стороны государства, так и гражданскими институтами. Для этого применение таких критериев как открытость, прозрачность, внутренний контроль, внешний контроль и подотчетность является необходимым условием. Таким образом, демократизация ОВД подразумевает установление гражданского контроля [5].

Движение за прозрачность выступает как нарастающее явление современного мира. Право на доступ к информации изначально представлялась как неотъемлемая часть права на свободу выражения мнения и с развитием этого права были определены позитивные обязательства государства по обеспечению доступа к информации для граждан. С развитием технологий и средств коммуникаций сохранение значительной части секретов и тайн становится невозможным, а глобальные угрозы вынуждают государства к сотрудничеству и информационному обмену [26]. Принцип открытости подразумевает, что какая-либо информация может быть предоставлена любому, кто ее запрашивает, и что трансграничный обмен информацией может осуществляться без юридических барьеров.

Имеются ли различия между понятиями открытости и прозрачности? По определению Буньяна (2002), несмотря на то, что понятия открытости и прозрачности часто используются взаимозаменяемо, они по существу указывают на разные значения. Понятие прозрачности, используется в рамках прозрачности процесса принятия решений, связанных с определением того, кем, когда и где принято решение. Открытость подразумевает права граждан на доступ к документам [11]. Так, например, информация о принятом решении одним из должностных лиц органа внутренних дел о проведении профилактики правонарушений или обеспечения общественного порядка, затрагивающее интересы граждан, относится к понятию прозрачности в ОВД. Так как событие касается права доступа к информации, затрагивающие интересы граждан. В обществах с развитой демократией чаще всего эта информация освещается в медиа пространстве. А право доступа к документам о принятом решении должностного лица ОВД касается понятия открытости правоохранительного органа для того, чтобы в случае если кто-либо посчитает, что этим решением ущемлены его права, то он может обратиться в соответствующий орган для защиты его интересов.

Предпосылки появления понятий открытости и прозрачности в ОВД Кыргызстана

После объявления независимости Кыргызстана в 1991 году встал вопрос демократизации органов государственной власти в Кыргызстане. Органы внутренних дел Кыргызской Республики как правопреемник правоохранительного органа времен СССР являлись одним из самых закрытых учреждений деятельность, которых освещались перед населением только в нужном для партии свете, а о результатах своей работы отчитывались только перед вышестоящим руководством. В отличие от западных стран с более развитой демократией приоритетным считалось государственная безопасность.

В соответствии с кратким анализом текущей ситуации указанных в прилагаемых мерах утвержденного Постановлением Правительства Кыргызской Республики от 30 апреля 2013 года за №220 «О мерах по реформированию органов внутренних дел Кыргызской Республики» наблюдается разрыв между общественными ожиданиями и состоянием правоохранительной деятельности. Отсутствие прозрачности в деятельности милиции приводит к ее неудовлетворительной работе по обеспечению безопасности и снижению доверия населения к органам внутренних дел [10].

Сотрудники ОВД Кыргызстана на протяжении более десяти лет получали оборудование и участвовали в обучающих

семинарах проводимых ОБСЕ. Тем не менее, перемены, касающиеся повышения прозрачности и защиты прав человека, шли очень медленно и некоторые НПО указывали об отсутствии приемлемого уровня прозрачности. После того как представители парламента и гражданского общества стали принимать участие в разработке реформ, МВД начало выражать готовность к структурным изменениям.

Независимый эксперт по вопросам безопасности Равшан Абдукаримов назвал главные причины непрозрачности правоохранительных органов. В числе которых он назвал организация работы милиции по армейской модели, то есть ориентация на службу государству, а не гражданам, в результате которого сотрудники действуют в основном по приказу не исключая и преступные как, например, Аксыйские события 2002 года и военизированную иерархию должностей и званий, которая не стимулирует проявления инициативы. Построение системы МВД Кыргызстана по военному образцу неизбежно приводит ведомство в закрытую от общества структуру. Обособленность данной службы от общества препятствует запуску процесса трансформации «милиции», деятельность которой ориентирована на службу государству, в «полицию», защищающей интересы, прежде всего, человека и гражданина. В странах с устоявшейся демократией полиция является гражданской службой, которая открыта и подотчетна обществу, что свидетельствует о необходимости демилитаризации правоохранительных органов Кыргызстана [12].

В любом государстве сфера правоохранительных органов представляет наибольшую трудность для осуществления гражданского контроля. Эта сфера обладая наибольшей потенциальной возможностью посягательств на гражданские права и свободы далека от публичных консультаций и внешнего контроля даже в развитых демократических условиях. Здесь основную трудность представляет принцип секретности и ограничения к доступу информации о деятельности. Также, в силу специфики и особых условий деятельности спецслужб, они наделяются дискреционными полномочиями по ограничению доступа общественности к информации об их деятельности. Данная особенность правоохранительных органов влияет на то, что эти службы остаются для граждан Кыргызстана менее открытыми [16].

К примеру, в феврале 2012 года на заседании Жогорку кеңеша Кыргызской Республики министр внутренних дел З. Рысалиев высказал о необходимости увеличения бюджета данного ведомства для повышения заработной платы сотрудников ОВД. На вопрос депутатов о штатной численности глава ведомства ответил, что данная информация является секретной [24], так как в соответствии с Постановлением Правительства Кыргызской Республики № 267/9 от 7.07.1995 г. доступ к информации, содержащей структуру, штатную численность и финансирование МВД КР ограничен. Данное обстоятельство становится препятствием в осуществлении гражданского контроля над деятельностью органов внутренних дел. Отсутствие прозрачности в деятельности органов внутренних дел, ограничивает возможности гражданского общества в отслеживании положения дел и выработки рекомендаций на основе текущей ситуации [19].

Согласно исследовательскому отчету Агентства SIAR Research and Consulting, подготовленному для ОБСЕ в 2012 году, текущая ситуация в ОВД Кыргызстана не соответствует современным критериям и требует коренных преобразований. Прозрачность должна стать одним из ключевых критериев деятельности ОВД. Этот принцип был установлен в Концепции реформирования ОВД КР 2005 года в качестве направления повышения прозрачности ведомства для установления доверительных отношений с гражданским обществом. Прозрачность является предпосылкой для установления подотчетности перед обществом. При этом она становится предпосылкой уменьшения вероятности, что милиция будет использоваться не как инструмент политических деятелей, находящиеся у власти для их собственной выгоды, а для того, чтобы служить в интересах всего общества [25].

Один из основных причин низкого уровня общественного доверия к милиции констатируется в мерах по реформированию органов внутренних дел, утвержденного Постановлением Правительства Кыргызской Республики от 30.04.2013 года за №220, как отсутствие прозрачности в деятельности милиции [10]. При реализации данных мер ожидается достижение прозрачности и подотчетности населению в деятельности органов внутренних дел [20].

Увеличению прозрачности и доверия населения к ОВД Кыргызстана может способствовать использование разнообразных способов отчета милиции. Так одним из действенных способов отчетности милиции может служить организация периодических отчетных собраний перед жителями, например, села, улицы или микрорайона. Другим способам отчетности милиции можно отнести распространение среди жителей местности информационных публикаций, подготовленных местных подразделений органов внутренних дел [6].

После приобретения независимости Кыргызстана в 1991 году настала необходимость

изменения приоритетов ОВД от защиты государства к защите интересов человека и гражданина. Но отсутствие прозрачности и открытости в ее деятельности является препятствием для этих изменений.

Законодательство Кыргызстана

Впервые для изменения вышеуказанной ситуации в Кыргызстане указом Президента Кыргызской Республики от 18 марта 2005 года была утверждена «Концепция реформирования ОВД КР на период до 2010 года». В данном документе одним из важнейших направлений реформирования органов внутренних дел была определена обеспечение прозрачности и расширение внешней подотчетности в деятельности ОВД [14].

В этот период проводилась работа по изучению вопросов связанных с основными направлениями реформирования ОВД Кыргызской Республики. Согласно результатам социологического исследования общественного мнения жителей некоторых районов города Бишкек в 2006 году, одним из основных причин недостатков в работе милиции указывается, в первую очередь, коррупция в ОВД, непрофессионализм, недостатки в подборе кадров. В этом же в списке основных недостатков отмечается отсутствие гласности, прозрачности для СМИ и населения. Вместе с тем, данные факторы рассматривались как менее существенные [17, 18]. На самом деле отсутствие прозрачности не является менее существенным фактором, так как способствует проявлению и укреплению таких негативных явлений как коррупция, непрофессионализм, недостатки в подборе кадров в ОВД.

Президент Кыргызской Республики в своем выступлении по поводу «Курса на обновление страны» от 24 марта 2009 года определил основные направления стратегического развития страны на ближайшие 10 лет, где изложил свои предложения по реформированию правоохранительных органов, среди которых указал на необходимость повышения открытости и установления партнерства с гражданским обществом [2].

Постановлением Правительства Кыргызской Республики от 24 февраля 2015 года за №81 было утверждено «Положение об основах комплексной оценки деятельности органов внутренних дел Кыргызской Республики». Данное положение определило принцип прозрачности процедур оценки и доступности информации о деятельности ОВД для государственных органов и гражданского общества [22]. В этом же году 30 июля Постановлением Правительства Кыргызской Республики за №547 было утверждено «Положение о механизмах взаимодействия органов внутренних дел Кыргызской Республики с институтами гражданского общества». Целью данного положения является повышение уровня доверия населения к органам внутренних дел путем создания эффективного механизма взаимодействия ОВД и гражданского общества по профилактике правонарушений. Одним из задач положения является повышение прозрачности деятельности ОВД. [23].

Конституция Кыргызской Республики определила, что государственная власть в республике основывается на принципах открытости и ответственности государственных органов, органов местного самоуправления перед народом и должны осуществлять свои полномочия в интересах народа [13]. Открытость и прозрачность являются неотъемлемой частью демократического общества. Органы внутренних дел как часть органов государственной власти не являются исключением и должны максимально открыто и прозрачно осуществлять свою деятельность.

Согласно статьи 33 Конституции КР, каждый имеет право на доступ к информации находящееся в ведении государства (Ст. 33), в том числе информации касающейся о расходуемых средствах из бюджета (Ст. 52). Ограничения вводимые Конституцией и законами в интересах национальной безопасности, общественного порядка, здоровья и нравственности, защиты прав и свобод других должны быть соразмерными указанным целям [13].

Указанные в Конституции отношения регулируется Законом КР «О доступе к информации, находящейся в ведении государственных органов и органов местного самоуправления Кыргызской Республики». Этот закон также нацелен на достижение максимальной информационной открытости, гласности и прозрачности в деятельности как государственных органов, так и органов местного самоуправления [7]. Несмотря на то, что данный закон должен регулировать отношения, связанные с предоставлением информации, доступ к которой ограничен, пункт 3 статьи 2 Закона выводит вопросы ограничений права на доступ к информации за пределы действия данного закона. Так в соответствии с текстом указанного закона, действие закона не распространяется «на отношения, связанные с предоставлением информации, доступ к которой ограничен в соответствии с законами Кыргызской Республики» [26].

Статья 8 Закона КР «О защите государственных секретов Кыргызской Республики» определяет принцип «обоснованности» как «целесообразность засекречивания информации путем экспертной оценки в интересах государства и граждан» [8].

Данная норма позволяет гражданам требовать экспертной оценки целесообразности засекречивания в случае отказа государственных органов в предоставлении информации [26].

Выводы и рекомендации

Как наблюдаем сегодня современное управление, постепенно заменяет понятие «секретность» как устаревшее более демократичными понятиями управления как «открытость» и «прозрачность». Эти понятия стали необходимостью в государственном управлении особенно касается органов внутренних дел, деятельность которой очень тесно связана с правами и свободами человека. В большинстве демократических странах уделяется пристальное внимание для контроля, как со стороны государства, так и гражданского общества. Понятия открытости и прозрачности в ОВД Кыргызстана относительно новое и не совсем понятное с точки зрения практического применения. Поэтому для выработки рекомендаций по улучшению ситуации касающихся данных понятий и повышения доверия населения к правоохранительному органу требуется проведение разносторонних исследований и детального изучения деятельности и функций в ОВД. Необходимо конкретно разграничить ту часть деятельности ОВД которая должна быть открытой и прозрачной.

Преобразования, направленные на повышение открытости и прозрачности в милиции службы являющейся милитаризованной системой, которая имеет целью, прежде всего защиту интересов государства, могут стать одним из основных факторов к становлению как гражданская служба «полиция» ориентированная, прежде всего на защиту прав человека и гражданина. Так как открытая и прозрачная служба может быть подотчетна обществу и иметь больший потенциал стать еще эффективнее.

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THE SEMANTIC-STRUCTURAL DESCRIPTION OF SEGMENTED CONSTRUCTIONS OF THE UZBEK LANGUAGE AND THE PROBLEMS OF THEIR STUDY

Abstract: *The article reveals the study of segmental constructions in the Uzbek linguistics. The segmented constructions are considered to be the expressive construction that consist of two parts: segmental and main. segmented constructions were first studied by Sh.Bally, who defined that it supplies expressiveness on the contrary to the simple related sentences. In the Uzbek linguistics the author of the first work about segmented construction is A.Ahmedov. D.Khudoyberganova in her first works approached to the segmented constructions as a means of text formation, later she considered these constructions as a definite kind of precedent units. In the segmental part of segmented sentences is usually characterized by literary vocabulary, therefore, sentences with such construction convey a pathos spirit, a peculiar intonation. The peculiar form of the segment is the noun in the nominative case, substantiated words and the name of the action. Words in the nominative case, in contrast to words in other cases, directly name the subject, do not require links with other words, are considered relatively independent. Segmented constructions are divided into two according to their structure: unextended and extended segmental parts. Unextended segmental part consists of one word. Extended segmental parts consist of several words, in this kind of sentences there are a number of propositions that serve complexation of the text content.*

Key words: *segment, segmented construction, correlate, emphasis, pause, emotionality, expressive syntax.*
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Introduction

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Since the 60-s of the twentieth century, the term "expressive syntax" has appeared in linguistics. The main task of expressive constructions is not only to transmit information, but also to attract the attention of the addressee to certain events and phenomena, objects, to keep his attention on these things, to isolate him, to distinguish among others. One of the expressive constructions is a segmented structure consisting of two parts - segmented and main. The term segment, meaning "part, department." The transmission of expression by segmenting a message that can be transmitted in one sentence has led to the appearance in linguistics of a concept denoted by the term “segmentation”. Segmented constructs were first studied by Sh. Bally, who contrasts such constructs with expressiveness with conventional related sentences [3.70]. G.N. Akimova in several stages highlights the relationship of expressive syntax with written and oral forms of the literary language [1.237]. Segmented constructions are widespread in European linguistics, in particular in Russian linguistics. In Russian linguistics, such constructions were first studied by A. M. Peshkovsky [4.405].

Most linguists who have studied segmented designs distinguish between two types - reprise and anticipation. Kh. Gofurov evaluates such units, denoted by the term anticipation in Russian linguistics, as nominative sentences, the main members of which are expressed by pronouns [9.8]. I.Rasulov notes that the substantive nature of nominative sentences determines their lexico-morphological nature, when transmitting them with

pronouns, adds the words *ana*, *mana* [5.197]. A. Gulomov claims that "in constructions of the Hunar type. *Hunardan unar*, before setting out the idea of a certain subject-phenomenon, first this item is mentioned (*hunar* in the above example), a certain idea is given, then information about it is given "[1.142]

In Uzbek linguistics, the author of the first work on segmented constructions is A. Akhmedov. Such constructions are considered by him in the article "On one construction inherent to the expressive syntax of the Uzbek language". The scientist evaluates such constructions as combined syntactic constructions and calls them the term theme nomi constructions (nominative topic design) [2.35]. The author claims that it is impossible to consider a nominative topic as a member of the next sentence, such sentences differ sharply from the following sentences in intonation, there is no syntactic link between pronouns pointing to a nominative topic, there is no grammatical tool to provide this connection [2.36]

If D. Khudoyberganova in her first works considers segmented constructions as a means of forming a text, [11.72; 12.43-45; 13.65-66] then in recent works such constructions are like a certain type of precedent units [14.65-68]. The researcher, arguing about segmented texts, argues that such texts are a kind of linked text, sentences in their composition are interconnected in meaning, all these parts serve to interpret the meaning of one of the members isolated from the text [15.156]. In the segment part of segmented sentences book vocabulary prevails, therefore, sentences with such a design convey a pathos spirit, a peculiar intonation. The segment is the noun in the nominative case, substantiated words and the name of the action. Words in the nominative case, in contrast to words in other cases, directly call the subject, do not require communication with other words, are considered relatively independent.

By structure, segmented structures can be divided into two parts: non-common and common segmented parts. Non-distributed segmented parts consist of one word.

Muhabbat! Bu eski narsa, lekin har bir yurak uni yangilaydi (Khodi Toktosh).

Ayol! ... Bu toshlarni mumdek ezguchi (Y.Eshbek).

In the above examples, the words muxbbat, ayol are distinguished as segmented parts, in an unexpanded form they are associated with the pronoun bu in the next sentence.

Common segmented parts consist of several words, in these sentences several propositions are expressed, which serves to complicate the content of the text: *Salondagi jami qiz-juvonning ko'zi shunda. Ko'pchilikka sevimli yosh aktor Baxtiyor Azizov! Uni barcha taniydi. Butun O'zbekiston!* (E. Azam). In the given example, the segmented part is the Baxhtiyor Azizov actor, who expressed the propositions "Baxtiyor Azizov yosh", "uni ko'pchilik sevadi".

A. Akhmedov, depending on the direction, divides the "nominative topic" into two groups - the nominative topic of objectivity and the nominative topic of literature [2.36]. The author claims that in the first form the listener's attention is drawn to a certain subject or concept, as an example, the scientist cites "*Devorlar ... Nelar yo'q ular ortida* (Omon Matjon). *Toshkentim metrosi*! *Aslida qurmoqda uni ... - butun vatanim* "(E. Oxunova). Speaking about the nominative topic, he states that such a nominative topic "draws the listener's attention to a word or words consisting of a certain complex of sounds. For example: *Budapest! Endilikda hammaning og'zidan shu so'z tushmas edi* (O. Gonchar)"[2.35]

It seems that such a division does not justify itself. It is known that any word consists of a complex of sounds. The same can be said of the words expressing the name of a concept or subject. Segmented constructions in form resemble word conversions and vocative sentences. All three linguistic phenomena are in the form of nominative case, focused on attracting the attention of the listener, which unites them. The main difference is that in sentences with segmented constructions, the third person's personal pronoun or demonstrative pronoun is involved in the main sentence, and the meaning of the second person is expressed in vocative sentences. B. Urinboyev claims that the nominative case of a noun is multifaceted, in compound sentences both the sentence and the predicate can fulfill the function of a separate part. The following suggestions given by the author can be an example of segmented designs: 1. *Hazil, hazilning tagi zil*. 2. *Ko'kka uchish! Epchillik! Mardlik! Qaynab-toshar bizning bu yoshlik* [8.28]. The first example given is identical to the construction of the "Hunar. Hunardan unar", cited by A. Gulomov. B. Urinboyev also notes the identity of the above two sentences, which differ from each other only in their function. All three of these phenomena can be compared in the following examples.

Muhabbat ... Uning rangi, tusi, ta'mi qanday-bilmayman (E. Azamov).

In the above example, muxbbat is a segment; in the main sentence, it is associated with a personal pronoun. The proposal can be built anew in a non-segmented form: *Muhabbatning rangi, tusi, ta'mi qanday - bilmayman*. The word *muhabbat* has a vocative form, it can be pronounced with incentive intonation, while the speech is directed to another person.

Muhabbat! *Sening ranging, tusing, ta'ming qanday - bilmayman.*

This proposal can be constructed as follows. *Muhabbat, ranging, tusing, taming qanday - bilmayman.* In this case, *muhabbat* performs the function of circulation. Therefore, depending on the

diversity of purpose, intent in speech, different designs can be chosen.

Segmented constructions should be distinguished from simple sentences, predicates of which are expressed by a noun, without linking verbs.

Soat bu - tўhtamas diydoru firoқ,

Tinimsiz shijoat - shahd vaqti boʻldi (M.Abdulhakim).

In the above example, the phrase "*soat- bu*" resembles a segmented design in form, but still is not. In form, it seems as if coat is involved in the sentence and the pronoun is correlated, however, the absence of emphatic stress after the word coat and punctuation marks after the word coat does not allow identifying this unit as a segmented structure.

In shape, segmented structures resemble parcel and attached structures. A common feature of segmentation and parcellation is that in both constructions, what the speaker considers important is separate. In contrast to parcellation in segmentation, a separate segmented part is advanced. *Moʻjiza! U insonni tark etgan lahzadan eʼtiboran aql bovar qilmas halokat boshlanadi. Faqat jarayon alomatisiz kasallik singari botinda kechadi, kun kelib esa insonni mahv etadi* ... (U. Hamdam). According to the actual division, segmentation is always consistent with the topic, and parcellation is parcellative. *Yaqin besh- oʻn yil mobaynida birov bu atrofda u kishining qorasini koʻrmagan - shahar chetidagi chorbogʻida istiqomat qiladi. Qishin-yozin. Yolgʻiz. Kampiri oʻlgan*. Ie, darvoqe, nega yolgʻiz deyapmiz - anovi saf-saf "Sabo"lar-chi? Mayli, keyin, keyin (E. Azam). In segmentation, one concept, isolated as a segment, can be reused in the base part, this is not observed in the parcel. In the segmentation in the base part, the pronoun words mainly act as a segment correlate, sometimes its synonym or this concept itself is repeated as a correlate. In the base part, sometimes the correlate of a segment is not involved, but its place is logically recognized. In segmentation, the correlate of the segmented part is located in the base part in the position of the nominal predicate, subject, addition, definition, circumstance, and the segment always has the form of a nominative case. In parcels, parcels can be represented by different members of the proposal, its place in the base proposal is empty, parcels can easily be returned to their place.

A.M. Peshkovsky states that a separate member is brought in order to attract attention, then to state the main idea associated with it, this in most cases is formed according to the speaker's goal [4.405]. Yu.M. Skrebnev estimates such phenomena as extralinguistic factors providing expressivity in the syntactic tier [7.146]. M.Saparniyazova, stating the uniqueness of the expression of nominative representations in folk riddles, writes that they mainly have a common form, distribution is often realized due to circumstances, after nominative representations do not use two-part sentences, such sentences are used in single, sequential and repeated forms [6.17].

Based on the analysis of the Uzbek language material, the following types of nominative representations can be differentiated:

1. Nominative representations expressed by a noun in the nominative case. Apart from common nouns in the nominative case, nominative representations can also include proper names, modal words, interjections can be used as part of a segmented member: *Voqean, Arofat ... Ishga oʻtish-qaytishda tutingan singil sifatida, hojatbaror bir tanish saifatida, uyiga kelib-ketib turardi* (E. Azam). *Oydin! ... Oʻsha xayoldek yiroq xotiradagi qizcha* (E. Azam).

2. Nominative representations in the form of phrases with a subordinate connection: *Hamisha mehribon Gulya Lagutina! Bir toʻp sersoqolu "besoqol" ulfatlari bilan davra qurib oʻtiribdi. Aftidan, davraboshi ham, onaboshi ham oʻzi. Boʻyniyu bilaklaridagi behisob қoʻngʻiroqchalarini shaldiratib kelib u Farhodni quchoqladi, oʻpdi, oʻptirdi* (E.Azam).

3. The verbal chain of lexemes, homogeneous members connected by intonation. *Osmonda oq bulut, oppoq bulut ... Bulut emas, zar, zar, zar. Axir zar bilan ter bir narsa-ku* (A. Ibodinov).

CONCLUSION.

Segmentation is a phenomenon characteristic of expressive syntax, depending on the communicative goal of the speaker, the underlined member is separated from the composition of the sentence and placed in front of the sentence. Segmented constructions in their form resemble words of appeal, vocabulary sentences, separate members of a sentence, incentive sentences, sentences with homogeneous members, and parcel. In sentences with segmented constructions, the third person's personal and demonstrative pronouns are involved in the sentence associated with it, and second-person personal pronouns are involved in word-addresses, vocative sentences. Segmentation is different from parcellation. Parcellation in terms of actual division corresponds to the mode, and segmentation - to the topic. Segmented constructions are mainly used in monologic speech, and parcellation - both in dialogic and in monologue. Parcellets can be freely restored in their place, and in the segmentation the place of the segmented member is taken by its correlate. A segmented member may be common or non-common. Depending on the participation of the correlate, segmented structures can be divided into correlated, correlative-free. Nominative sentences can be classified as nominative sentences formed as a result of segmentation and not related to segmentation. The correlate of nominative sentences as part of a sentence specifying it can fulfill the function of a nominal predicate, subject, complement, definition in the genitive case, the circumstances of the place. The

most common types of segmented structures are nominative representations and nominative topics; these two phenomena are functionally different from each other. In nominative representations, a high degree of expressiveness, poetry, and psychologism is observed, while in nominative topics, the main feature is the attention of the listener to the message being reported. Segmented constructions are based on the correlation of narrative in a substantive form. In the subsequent part they are replaced by a word of a substantive nature or a pronoun. The value of a segmented member can be specified using one or more sentences. In this regard, segmented members are considered a means of constructing text.

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THE CORRECT ACCEPTANCE OF THE INVESTMENT DECISION IS A FACTOR OF SUCCESS OF IMPLEMENTATION OF THE PROCESS

Abstract: *This article analyzes the state regulation of investment activities and ensuring the maximum efficiency of investment in market conditions. Direct and indirect methods of state regulation of investment activity are determined.*

Key words: *investment, politics, sectors of economy, foreign experience, investor, benefits*
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ПРАВИЛЬНОЕ ПРИНЯТИЕ ИНВЕСТИЦИОННОГО РЕШЕНИЯ - ФАКТОР УСПЕХА ОСУЩЕСТВЛЕНИЯ ПРОЦЕССА

Аннотация: *В данном статье анализировано государственное регулирование инвестирования деятельности и обеспечение максимальной эффективности инвестиционных вложений в условиях рыночных отношений. Определено прямые и косвенные методы государственного регулирования инвестиционной деятельности.*

Ключевые слова: *инвестиции, решение, политика, отрасли экономики, инвестор, льготы, принципы.*

Введение

Инвестиционное решение – это окончательное мнение инвестора, которое касается существующих преимуществ и недостатков вкладывания финансовых средств в объект инвестирования. Основными критериями принятия решения выступает исторический опыт, потенциальная доходность и риск.

Решение принимает (в зависимости от размаха инвестиционного проекта) вся инвестиционная группа или один человек, но последнее слово всегда остается за инвестором. Принятие инвестиционного решения невозможно без учета следующих факторов: вид инвестиции, стоимость инвестиционного проекта, ограниченность финансовых ресурсов, доступных для инвестирования, риск, связанных с принятием того или иного решения.

Необходимо чтобы принятые решения соответствовали стратегическим целям и объективным возможностям инвестора. Профессиональный инвестор никогда не станет действовать наобум. При проведении анализа объекта инвестиций он всегда опирается на несколько базовых концепций.

Основными принципами принятия инвестиционных решений является:

- рентабельность вложенных средств;
- минимизация потенциальных рисков;
- приемлемость сроков достижения цели.

Основные критерии эффективности инвестиционного решения лежат в основе его окупаемости или рентабельности. Чем выше рентабельность конкретных инвестиций, тем более успешным считается инвестиционный проект и более эффективным принятое решение. Очень важно при прогнозировании окупаемости

вложений принимать во внимание процесс инфляции. Не бывает инвестиций без рисков. Инвестиционная деятельность всегда осуществляется в условиях неопределенности, степень которой может значительно варьировать. Так, в момент приобретения новых основных средств никогда нельзя точно предсказать экономический эффект этой операции. Поэтому нередко решения принимаются на интуитивной основе.

Оценка позволяет обезопасить капиталовложения от риска потери и помогает прогнозировать размеры компенсации и прибыли для всех участников процесса.

Объектом анализа выступает не сам проект, а связанные с ним денежные потоки. Реализация проекта — сложный и многоплановый процесс, и просчитать, спрогнозировать варианты развития событий в деталях очень сложно. Для анализа используются экономико-математические модели, экспертные методы сбора информации.

Любые инвестиционные решения принимаются в несколько последовательных взаимосвязанных этапов.

1. Выявление соответствующий ситуации, в которой вложение денег будет максимально целесообразным. Неправильно выбранное направление инвестирование может повлечь за собой серьезные финансовые потери.

2. Проведение глубокого и всестороннего анализа инвестиционного решения. Тут огромное значение имеет полнота и достоверность собранной аналитиками информации.

3. На основании информации и конкретных выводах, которые сделали аналитики, принимается однозначное решение инвесторами.

Некоторые авторы указывают реализацию решения и дальнейшую оценку его эффективности как два дополнительных этапа. Однако мы считаем это неправильным подходом к проблематике. Скорее уместно говорить о них, как о дальнейших стадиях инвестиционного процесса, не имеющего непосредственного отношения к формированию и принятию соответствующего решения. Принятие решений инвестиционного характера основывается на использовании различных формализованных и неформализованных методов. Степень их сочетания определяется разными обстоятельствами, в том числе тем, насколько менеджмент знаком с имеющимся аппаратом, применимым в том или ином конкретном случае. В отечественной и зарубежной практике известен целый ряд формализованных методов, расчеты с помощью которых могут служить основой для принятия решений в области инвестиционной политики предприятия. Универсального механизма, пригодного для принятия верного решения во всех случаях, не существует. Каждый конкретный инвестиционный проект чаще всего требует индивидуальной оценки и расчета системы формализованных показателей, на основе которых возможно принимать окончательные решения.

Экономической науке существует следующие методы обоснования и принятия инвестиционных решений:

- методика дисконтирования капитала и доходности;
- расчет чистого приведенного эффекта;
- расчет индекса рентабельности инвестиций;
- расчет нормы рентабельности инвестиций;
- определения сроков окупаемости вложений;
- расчет коэффициента эффективности инвестирования.

Инвестиционные решения неоднородны. Для более четкого понимания этих явлений была разработана общепринятая классификация. В соответствии с ней решения по вложению денежных средств бывают:

- обязательными;
- совершенными в целях минимизации производственных издержек;
- направленными на расширение предприятии;
- направленными на покупку инвестиционных активов.

При принятии инвестиционных решений финансисты выделяют несколько аспектов.

1. Перспективность объекта инвестиций или его потенциальная выгодность. Для ее определения инвестору следует обращать внимание текущие тенденции развития финансовых рынков. Это позволит сформировать общее представление их состояния в долгосрочной перспективе.

2. Одним из главных факторов, осложняющих принятие правильного решения, является нестабильная политическая и экономическая ситуация в стране. В таких условиях трудно безошибочно определять уровень риска.

3. Достаточность финансовых средств, которые инвестор готов вложить в рассматриваемый проект. Зачастую именно от объема финансирования может напрямую зависеть рентабельность выбранного проекта. При этом ориентироваться стоит на собственные внутренние источники инвестирования. Ведь каким бы привлекательным ни казался инвестиционный актив, привлекать для реализации проекта заемный капитал следует в исключительных случаях. То есть в тех ситуациях, когда инвестор на сто процент уверен в успешности выбранного направления движения.

Для принятия эффективного решения нужно ответить на следующие вопросы:

насколько перспективна идея и какую прибыль она принесет?

насколько значимым является грамотный и своевременный подбор персонала?

планируется ли увеличение фонда оплаты труда?

как будет вестись управление инвестициями?

выдержит ли компания предстоящую конкуренцию на рынке услуг и товаров?

планируется ли вливание средств в нематериальные активы?

будут ли проводиться научные разработки?

позволяют ли начальные инвестиции принять меры по оптимизации производства и внедрению в производство научных и технических решений?

Оптимальным считается решение, когда учитываются следующие критерии и показатели:

- рентабельность проекта удовлетворяет заданным ожиданиям
- инвестиции в проект не превышают установленного лимита
- риски минимизированы или диверсифицированы
- срок окупаемости и исполнения проекта максимальной краткий
- достаточный уровень финансирования в течении определенного периода
- более выгодные альтернативные решения отсутствуют.

Для расчета прибыльности проекта используются следующие математические величины:

- норма и индекс рентабельности проекта
- чистый приведенный эффект
- дисконтированные величины капитала и доходности
- сроки реализации проекта
- коэффициент эффективности инвестирования.

Принятие эффективного инвестиционного решения невозможно без использования финансового анализа и стратегического планирования. Процедура финансового анализа поможет определить источники финансирования, а стратегическое планирование согласует новые направления развития с теми, которые уже используются.

Если инвестиционное решение не решает стоящие перед инвестором задачи, предлагаются альтернативные решения и проекты, которые более доходны и безопасны, отличаются большей эффективностью.

Принятие решений осложняется ограниченностью материальных и денежных ресурсов, наличием рисков и сложившейся экономической ситуацией на рынке.

Чтобы разграничить инвестиционные решения по степени важности, их условно делят на 4 группы:

- обязательные
- совершаемые для минимизации издержек
- совершаемые для расширения компании
- направленные на приобретение инвестиционных активов.

Эффективным решение считается когда отвечает следующим критериям:

- вложения должны быть осуществлены в случае, когда потенциальный доход выше дохода, предлагаемого банковскими депозитами
- инвестировать нужно тогда, когда доход за отчетный период превышают уровень инфляции
- использовать правило сбалансированности рисков (самые рисковые вложения предприятие финансирует за счет собственных средств)
- приоритет отдается проектам и активам с максимальной доходностью
- новые вложения не должны идти в разрез со стратегией развития предприятия, а наоборот должны её усиливать.

Чтобы предприятие могло успешно функционировать, повышать качество продукции, снижать издержки, расширять производственные мощности, повышать конкурентоспособность своей продукции на рынке, оно должно вкладывать капитал с выгодой. Поэтому необходимо тщательно разрабатывать инвестиционную стратегию и постоянно совершенствовать ее для достижения этой цели.

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