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Table of Contents

Medical Sciences

Philological Sciences

Historical Sciences

Political Studies

Economic Science

Philosophical Sciences

Legal Sciences

Literature

Chemical Sciences

Sociological Sciences

Pedagogical Sciences

THE ROLE OF DIGITAL TECHNOLOGIES IN PRESCHOOL EDUCATION

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In the Republic of Kazakhstan preschool education is considered as a component of the social infrastructure of society and is one of the priority areas of innovative development of the country. Preschool education is an integral part and the first link in a unified system of continuous education, where the formation of the foundations of personality occurs. In accordance with the generally accepted age periodization of human development, preschool childhood covers the period from birth to 6 years, when the active formation of the motor, sensory and intellectual spheres of the child, the development of speech and basic mental processes, abilities and socially significant qualities occur. The high intensity of the process of personality formation during preschool childhood makes it possible to especially effectively carry out pedagogical interaction with the child and solve the problems of development, education and training.
At the present stage of development in the Republic of Kazakhstan, deep socio-economic and innovative transformations are taking place, which require new approaches to the preschool education system and a search for new effective forms of organizing the educational process .
Purpose of preschool education is to create conditions for the maximum development of a child’s individual age-related potential; it is necessary to create conditions for the development of a functionally literate personality - a person capable of solving any life problems, using the knowledge, skills and abilities acquired throughout the life and while remaining human. The child must receive the right to become the subject of his own life, to see their potential, to believe in their own strength, and to learn to be successful in their activities. This will greatly facilitate the child’s transition from kindergarten to school and will maintain interest in learning in school setting[1].
Significant changes are taking place in the preschool education system associated with updating the methodological base of education and training. One of the important conditions for renewal is the use of digital technologies.
Applicationdigital technologies in the educational process in a preschool educational institution is one of the most pressing problems in domestic preschool pedagogy. The specificity of introducing digital technologies into the process of educating preschoolers in Kazakhstan is that digital technologies are first used in the family, then in kindergarten - in conditions of collective education. Using a computer as a means of educating and developing a child’s creative abilities, shaping his personality, and enriching the intellectual sphere of a preschooler allows him to expand the capabilities of the teacher and creates the basis for introducing children to digital technologies.

Nowadays, almost from birth, a child sees various digital tools around him; they are very attractive to the child. Society lives in a world of constant multiplication of information flows, the constant invention of new digital devices for processing this information. A computer helps a person solve practical problems. The future of today's children is the civilization of societies. And the child must be psychologically prepared for life in a digital society.

Digital literacy is now becoming necessary for every person. Cultivating the right attitude towards digital devices, first of all, falls on the shoulders of parents, but it also places qualitatively new demands on preschool education - the first link of lifelong education. The success of implementing positive changes for society is associated with the use of digital technologies in preschool institutions.

In the context of digitalization of society, teachers and parents must be prepared for the fact that when entering school, a child will be faced with the use of digital and computer technology. Therefore, it is necessary to prepare the child in advance for the upcoming interaction with digital educational technologies at school.

The effectiveness of digitalization of education in a preschool organization depends both on the quality of the software used and, on the ability, to rationally and skillfully use them in the educational process. Particular attention should be paid to interactive learning technologies, with the help of which new forms of cooperation can be implemented, opening up wide opportunities for the teacher and the child, for their joint creativity and personal growth.

Digital technologies have now become firmly established in the arsenal of teaching methods. Today It is already clear that the solution to the problem of improving quality, increasing activity, and ensuring individualization of learning is achievable only on the basis of organic the use of digital technologies in the educational process along with traditional methods of pedagogy. Digital capabilities and speed of modern technologies open up unlimited scope for pedagogical creativity of teachers, allowing to modernize old and introduce new technologies and forms of teaching.

And use Digital technologies can transform the teaching of traditional academic subjects, rationalizing child labor, optimizing the processes of understanding and memorizing educational material, and most importantly, raising children's interest in learning to a consistently higher level. In this regard, qualitatively new requirements are being imposed on the preschool level. However, digital technologies cannot be mechanically transferred to the educational environment of a preschool institution, despite the fact that the computer must become part of the developmental environment, a factor in enriching the intellectual development of pre -school children. In practice, the question arises of how to introduce a computer into work with preschool children without violating the integrity of their developmental system and taking into account the leading activities of this age.

Currently, a large number of computer programs for children under school age have been developed on the market. The analysis showed that these are mainly entertainment- type programs developed for commercial purposes and not focused on the development of the child and solving psychological and pedagogical problems. Moreover, these programs can be potentially harmful, since they often actualize competitive motives, promote aggressiveness, cultivate a sense of excitement and a state of euphoria through vivid animation and sound effects, high- quality graphics, reward systems, etc.

Research shows that the effective use of a computer in classes with preschoolers can only occur within the framework of specially developed methods.

We have developed the "Picture Coloring" technique using the Paint graphic editor.

Paint is a drawing tool that you can use to create simple or complex designs. These drawings can be made in black and white or color and saved as files.

Graphic editor Paint is used to work with bitmaps. On the main screen of the graphic editor there is a working area to which you can transfer any elements and perform various actions with them:

change color, reduce or increase size; turn right and left;change the location relative to the vertical axis of symmetry; delete.
In addition, the screen has a menu panel for the teacher with the ability to change the difficulty level, save the work done or print it, open an album with saved works or blanks. Figure 1 shows a fragment from a coloring picture.

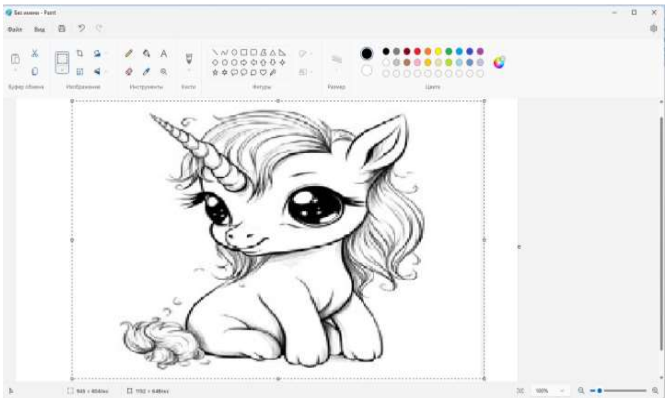
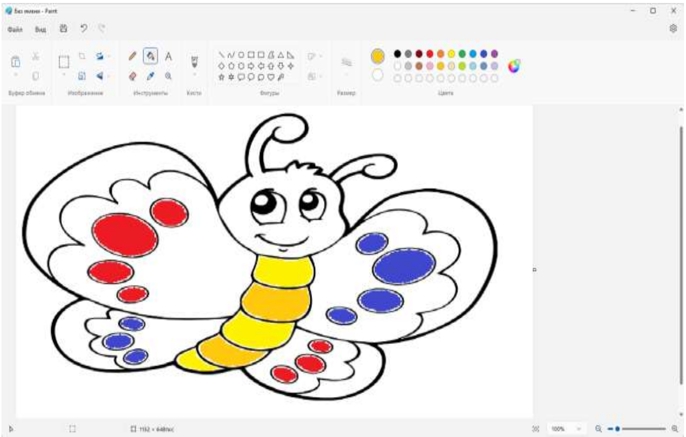


Figure 1. Fragments from the "Coloring Pictures" technique

Using the graphic editor Paint You can implement various techniques for preschoolers. For example, the "Smart Coloring" method. This exercise is aimed at developing spatial thinking. In it you need to color certain objects on the screen in accordance with given conditions. For example, paint a butterfly in different colors using the Fill tool, which is shown in Figure 2.



Drawing 2. Method "Smart coloring"

We have compiled and described a training methodology using the developed computer program. The methodology is based on principles focused on the development of the child's leading mental abilities and the conditions for their formation: development of imaginative thinking, skills of mental manipulation of objects; the formation of modeling thinking actions that involve the child performing an analysis of objects and their characteristics, comparisons, generalizations, and carrying out search activities; development of skills for identifying essential features of objects and abstracting from non-essential ones; organizing joint activities of children with the teacher and children among themselves.
Thus, the use of various teaching methods creates conditions for the formation and consolidation of knowledge, skills and abilities in children; create conditions for the development of the ability to think independently, navigate a new situation, find your own approaches to solving problems, and also have a great influence on preparing children for school.

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Yaş dövrlərinə görə mütəhərrik oyunların tədrisi

Çobanova Nərgiz Məhəmməd qızı
ADPU-nun nəzdində Azərbaycan Dövlət Pedaqoji Kollecinin müəllimi

Xülasə.Uşaq oyunu inkişaf üçün böyük əhəmiyyət kəsb edir. Uşaq nə qədər çox oynayarsa, dərketmə, yetkinləşmə, həyata pozitiv münasibət bir o qədər yüksək olar.

Oyunlar uşağın əmək fəaliyyətini əks etdirir. Uşaq oyunu o vaxtadək oynayır ki ,onun sadə əmək prosesinin icrasını öyrənir .İ.M.Seçenov belə hesab edirdi ki, körpə uşaqlarda oyunların rüşeyimi xaricdən (Məsələn parlaq rənglənmiş əşyadan, zınqırovun səsində) aldığı elementar zövq, hissiyyat, xarici aləmin başa düşməsinə can atmasının təməlində qoyulur . Bütün xarici qıcıqlanmanı qavrama hissiyyat kiçik yaşlı uşaqlarda oyunlara qarşı özlərinə xoş olan rəngarəng arzu və meyllər yaradır. Uşaqlarda kifayət qədər hərəkət olmadıqda yorğunluq hissi yaranır və əzginlik hiss edilir. Düşüncə, fikir yürütmə qabiliyyətinin inkişafı üçün əzələlərin hərəkət etməsinin böyük əhəmiyyəti vardır.

Açar sözlər:oyun,uşaq,mütəhərrik,keyfiyyət,qabiliyyət,halqa,bayraq.

Abstract. Children's play is of great importance for development. The more a child plays, the higher the understanding, maturity, and positive attitude towards life.

Games reflect the labor activity of the child. A child plays a game until he learns to perform a simple labor process. I.M. Sechenov believed that the origin of games in babies is the elementary taste, feeling, and desire to understand the outside world, which he receives from the outside (for example, from a brightly colored object, the sound of a bell). is laid in the foundation. The sense of perception of all external irritation creates in young children a variety of desires and inclinations that are pleasant to them. When children do not have enough movement, they feel tired and depressed. Movement of muscles is of great importance for the development of thinking and reasoning ability.

Keywords: game, child, dynamic, quality, ability, ring, flag.

Uşaq oyunu inkişaf üçün böyük əhəmiyyət kəsb edir. Uşaq nə qədər çox oynayarsa, dərketmə, yetkinləşmə, həyata pozitiv münasibət bir o qədər yüksək olar.

Oyunlar uşağın əmək fəaliyyətini əks etdirir. Uşaq oyunu o vaxtadək oynayır ki ,onun sadə əmək prosesinin icrasını öyrənir .İ.M.Seçenov belə hesab edirdi ki, körpə uşaqlarda oyunların rüşeyimi xaricdən (Məsələn parlaq rənglənmiş əşyadan, zınqırovun səsində) aldığı elementar zövq, hissiyyat, xarici aləmin başa düşməsinə can atmasının təməlində qoyulur . Bütün xarici qıcıqlanmanı qavrama hissiyyat kiçik yaşlı uşaqlarda oyunlara qarşı özlərinə xoş olan rəngarəng arzu və meyllər yaradır. Uşaqlarda kifayət qədər hərəkət olmadıqda yorğunluq hissi yaranır və əzginlik hiss edilir. Düşüncə, fikir yürütmə qabiliyyətinin inkişafı üçün əzələlərin hərəkət etməsinin böyük əhəmiyyəti vardır.

1-3 –cü siniflərdə, xüsusilə də 1-2-ci siniflərdə bədən tərbiyə dərslərində mütəhərrik oyunlar mühüm yerlərdən birini tutur. Bu, kiçik məktəb yaşlı uşaqlara xas olan hərəkətlərin böyük tələbatla yerinə yetirmə vacibliyi ilə izah olunur .Uşaqlarda boy artır, orqanizmin mühüm funksiya və sistemləri inkişaf edir .Qaçış, dırmanma, müvazinət, sürünmələr, ritmik yeriş , tullanmalar kimi hərəkətləri uşaqlar oyun zamanı tez qavrayırlar, onlar hərəkətlərə tez və asan yiyələnirlər. Bu yaşda uşaqlarda hərəkət təcrübəsi az olduğundan ilin əvvəlində onlara sadə quruluşlu və elementar qaydalara malik oyunlar vermək məsləhətdir. Sadə oyunlardan mürəkkəb oyunlara keçərkən hər bir oyun iştirakçılarının təşəbbüs göstərməyini, onların nizam-intizamını tədricən artırmaq lazımdır Birinci sinifdə tədris ilinin əvvəlində komandalı oyun keçirmək məsləhət deyil .Gələcəkdə isə iştirakçılarla bir neçə qrupa bölünməklə müxtəlif sadə tapşırıqlarla estafet tipli yarışlar keçirmək olar. 1-3 siniflərdə bir çox oyunların keçirilməsi üçün inventar və vəsaitlər lazımdır .Görmə reseptoru zəif olan uşaqların diqqətləri cəmlənmiş halda olmur. Onlar üçün inventar hazırlayarkən çalışmaq lazımdır ki, bunlar rəngarəng olsun. Bu, görməni asanlaşdırır. İnventarların uşaqların fiziki imkanlarına müvafiq olması mühüm şərtlərdən biridir . O, yüngül həllinə görə rahat olmalıdır .1-3 siniflərində oyunların keçirilməsi üçün yaxşı olar ki aşağıdakı inventarlardan istifadə olunsun.

Müxtəlif rəngli çox da böyük olmayan bayraqcıqlar ,40 kiçik top,4 böyük toplar (voleybol tipli), 4 obruç (halqa),40 qısa iplər ,2 uzun iplər ,içərisi torpaqla doldurulmuş 6 kisəciklər ,kağızdan düzəldilmiş 6-8 silindrvari papaq və gözləri bağlamaq üçün 6-8 sarğı . I-IV sinif şagirdlərinin məşğələlərinin əsasını mütəhərrik oyunlar təşkil etməlidir. Bu oyunların içərisində dərsdən uşaqlara tanış olan və onların daha həvəslə oynadıqları oyunların olması məqsədəuyğundur. Tərbiyəvi xarakterli oyunlara xüsusi diqqət yetirmək lazımdır.

Oyun uşağın sağlamlığını, orqanizmin həyat fəaliyyətini artıran mühüm vasitələrdəndir. Oyun fiziki hazırlıqla yanaşı, uşağın estetik zövqünün yaranmasına, hisslərin inkişafına, müsbət təsir göstərir. O, eləcə də uşağın əhval-ruhiyyəsini yaxşılaşdırır, emosionallığını artırır. Görkəmli pedaqoq A.S.Makarenko vaxtilə oyuna yüksək qiymət verərək yazmışdı ki, yaşlı adamın həyatında iş, fəaliyyət, qulluq nə kimi əhəmiyyətə malikdirsə, uşağın da həyatında oyun o qədər vacib və əhəmiyyətlidir. Bundan əlavə, oyun uşaqlarda kollektivçilik, dostluq, təşəbbüskarlıq, qoçaqlıq, dözümlülük, beynəlmiləlçilik və vətənpərvərlik kimi ən yüksək əxlaqi keyfiyyətləri aşılayır. Oyun müəllimin rəhbərliyi altında keçirildikdə, o daha faydalı olur. Oyunun keçirilməsi uşaqlar üçün cansıxıcı olmamalıdır. Müəllim məzmunlu, rəngarəng oyun seçməkdə, oyunları səmərəli, düzgün keçməkdə və ona rəhbərlikdə yüksək pedaqoji ustalıq nümayiş etdirməlidir. Oyun vaxtı şagirdlər arasında vəzifə bölgüsü apararkən onların fərdi xüsusiyyətlərini, hərəkət və təşkilatçılıq qabiliyyətini nəzərə almalıdır. Təkcə qüvvətli uşaqlar deyil, həmçinin zəif uşaqlar da oyuna fəal cəlb olunmalıdır.10-11 yaşlı uşaqların orqanizmi böyük dayanıqlığı ilə xarakterizə olunur. Burada bütün proseslər 7-9 yaşlara nisbətən sakit axır, müvafiq olaraq boy artma çəkinin artması ləngiyir Sümük-bax aparatı kifayət qədər elastik ,plastik olur .Əzələlər tədricən çoxalır qüvvə göstəriciləri o qədər də çox olmur .Orqanizm fiziki gərginliyə bir tərəfli yükə kifayət qədər hazır olmur .Ürəyin və damarın dayanıqsız fəaliyyət hamarlanır yumşalır . Buna görə də oyunlara qısa müddətli qaçış və tullanmaların qollarla, ayaqlarla, gövdə ilə müxtəlif kəskin hərəkətlər daxil edilir və beləliklə bu yaşda normal fiziki inkişafına kömək edir. Oyunlarla gimnastika ilə məşğul olmaqla uşaqlar iradi gərginlik tələb edən məşğələlərdən bir çox hərəkətlərə yiyələnirlər. 10-11 yaşlı uşaqların oyunları 7-9 yaşlı uşaqlara nisbətən uzun müddətli ola bilər . Mütəhərrik oyunlarda uşaqların fəaliyyəti dəqiq və yiğcamdır 10-11 yaşlı uşaqların oyunu adətən süjetli olur. Süjetli oyunlar digər oyunlar arasında mühüm yerlərdən birini tutur ,buna görə də uşaqların təfəkkürünü müvafiq olaraq yüksəlir. Vahid məqsədə nail olmağa çalışan 10-11 yaşlı qız və oğlanları yalnız oyunlar cəlb edir. (Gözə görünməyənlər, Tülküləri təqib etmək) Bu yaşda uşaqların oyununda uşaqlar arasında mürəkkəb qarşılıqli münasibət və qarşılıqlı fəaliyyət xüsusi yer tutur.   Uşaqlar oyunlar zamanı qruplara bölünməklə oynanılan oyunlara daha çox üstünlük verirlər. Hər biri müəyyən vəzifələr daşıyırlar, oyunda qalib gəlmək, digər qrupun üzərində üstünlüyə malik olmaq istəyirlər.

Hərəkətin xarakterinə və növlərinə görə uşaqların mütəhərrik oyunları rəngarəngdir .Oyunların böyük qrupunu qaçmaqla, bir-birini ötməklə, atmalarla, tullanmalarla, uzağa və hədəfə atmalarla olan hərəkətlər təşkil edir.

10-11 yaşlı oğlan və qızların oyunlarında bir sıra xüsusiyyətlər mövcuddur. Oğlanların qızlara nisbətən üstün cəhətləri vardır. Belə ki, onlar güləş elementləri (müqavimət göstərmək), oyun zamanı sürətlə qaçmaq, eyni zamanda kiçik topları hədəfə və uzağa ata bilirlər. Mahnı oxumaqla , ritmik hərəkətlərlə keçirilən oyunlarda isə üstünlük qızlarda olur. Qızların fiziki inkişafı üçün gövdə ilə edilən hərəkətlərin və müvazinət elementlərinin böyük əhəmiyyəti vardır. Dəqiq koordinasiyalı hərəkətlərlə keçirilən oyunlar həm qızlar həm də oğlanlar üçün əlverişlidir.

Orta məktəb yaşlı uşaqlar bu dövrün sonuna yaxın müəyyən bacarıq tələb edən oyunlarla maraqlanırlar. Belə ki, 4-cü sinif şagirdləri sadə atma, tutma üsullarının texnikasını müvəffəqiyyətlə qavrayırlar. Onlar “Topu aparıcıya vermə”, Müdafiəni möhkəmlətmək”” kimi oyunları maraqla oynayır. Burada uşaqların dəqiqliyi və çevikliyi tələb olunur.

Yayda üzə bilməyən uşaqlar dayaz yerdə durub müxtəlif oyunlar oynayırlar. Bu onlara üzməyi tez öyrənməyə təkan verir.

12-14 yaşlı (6-8 siniflər) oğlan və qızların orqanizmi boy atma tempinin sürətlə artması ilə xarakterizə olunur. Sümük sistemi inadla artır, daxili orqanların inkişafı davam edir.

Yeniyetmələrlə keçirilən mütəhərrik oyunlarda tədricilik, ardıcıllıq və hərtərəflilik prinsiplərinə riayət etmək vacib məsələlərdən biridir.

Təşkilinə görə mürəkkəb qarşılıqlı fəaliyyət, (ikitərəfli oyun) yeniyetmələrdə şücaətliyə , igidliyə ,sərbəstliyə, təşəbbüskarlığa, öz kollektivinin və öz komandasının idman şərəfi uğrunda mübarizə aparmağa maraq göstərirlər.

Yeniyetmələrin bir çox oyunları oyunçular arasında mürəkkəb qarşılıqlı münasibət üzərində qurulur .Bu , əsasən kollektivin iki qrupa (komandaya) bölünməsi ilə keçirilən oyunlarda özünü biruzə verir.

Yeniyetmələrdə idman oyunları sadələşdirilmiş qaydada, kiçildilmiş meydançada, yüngül inventarlarla, oyun vaxtını azaltmaqla keçirilməlidir.

Yeniyetmə- qızlar uzunmüddətli qüvvə gərginliyi, mühüm dərəcədə hərəkət cəldliyi (“Cərgələrdə hoppanmalar”,”Komanda ilə qaçış”) tələb edən oyunlarda oğlanlardan bir qədər geri qalırlar.ona görə də komandalara bölünüb oğlanlarla oynamaq onlar üçün maraqsız olur. Onlar musiqi sədaları altında icra etdikləri rəqs elementləri ilə müqayisə olunan hərəkətlərdə ritmik xarakterli sadə oyunlarda iştirak etməyi sevirlər. Belə oyunlar müəllim və ya iştirakçılar tərəfindən tərtib olunur (“Musiqili çərpələnglər”) .

Bu yaşda qızlara orqanizmini bütövlükdə möhkəmləndirən , qolların dəqiq ,çevik hərəkətlərini ,bütün bədənin elastikliyini tələb edən oyunlar verilir (topun atib və tutması ilə qaçış və hoppanmaların müqayisəsi olan oyunlar).

Yuxarı məktəb yaşlı uşaqlarla keçirilən mütəhərrik oyunlardan xüsusi idman hazırlığını və ümumi fiziki hazırlıq vəzifələrini müvəffəqiyyətlə həll etməyə şərait yaratmaq üçün istifadə olunur.

15-17 yaşlarında (9-10-cu siniflər) orqanizmin inkişafı və boyatması, skletin sümükləşməsi , əzələ qüvvəsinin və daxili orqanlarının tamamlanma prosesi davam edir. Sinir və ürək- damar sisteminin fəaliyyətində bir sıra qeyri- tarazlıq, yüksək qıcıqlanma yaranır.15-17 yaşlı gənc oğlan və qızlarda böyüklərə nisbətən dözümlülük az olur.

Yuxarı məktəb yaşlı gənclərdə təfəkkürə, hadisələrin təhlilinə ,tərəf müqabilinin fəaliyyətinə münasibət və iradənin möhkəmlənməsi qabiliyyəti artır. Bir çox gənc oğlan və qızlarda bu və ya digər idman növü ilə məşğul olmaq marağı müəyyənləşir .Bununla əlaqədar seçdikləri idman növünün təkmilləşməsi üçün mütəhərrik oyunlardan istifadə etməsinə cəlb olunur. Müntəzəm təşkil olunmuş mütəhərrik oyunlar fiziki inkişafa və məşğul olanların hərəki qabiliyyətinin təkmilləşməsinə müsbət təsir göstərir.

Nəzərə almaq lazımdır ki, bu yaşda sümük- əzələ aparatının inkişafı hələ tamamlanmayıb, oyunlarda uzun müddət birtərəfli qüvvə gərginliyi ilə hərəkətlər vermək olmaz. Həddindən artıq yüksək yük vermək - qaçış, tullanma, yenidən tullanma. Həddindən artıq məşq etmək sinir və ürək-damar sisteminə pis təsir edər.Lakin ÜFH və hərəki vərdişlərin təkmilləşməsi uzun müddət ərzində iştirakçıların fəallığına çoxsaylı təkrarlamalara yer verilir.

15-17 yaşlı gənclərlə keçirilən mütəhərrik oyunlar idman gimnastikası, atletika, idman oyunları üzrə keçirilən məşğələlərdə həll olunan vəzifələrlə sıx əlaqədardır.

Rəngarəng fəal hərəkətli oyunlarda iştirak edənlər öz hərəkətlərini qaçışla tullanmalarla və atmalarla uyğunlaşdırır .Bu da öz növbəsində gənc gimnastların, atletlərin və digər idmançıların fiziki hazırlığının yüksəlməsinə imkan verir.

THE ROLE OF TEACHING COMPLEX SENTENCES WITHOUT SUBORDINATE IN STUDENTS' SPEECH DEVELOPMENT

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According to the new subject curriculum, students of the 9th grade must demonstrate that they understand the idea they are listening to during the learning process, they must be able to ask research-type questions to determine the speaker's attitude to the topic, they must be able to express their opinion on the ideas they have heard, they must be able to demonstrate oral speech skills, and the language must be unified. He should have the ability to build texts of various forms by using them purposefully, build different types of communicative speech patterns, harmonize his speech and expression style in the speech process, and achieve the ability to present generalized ideas in a concise manner.

In order to fulfill the set requirements, first of all, the subject teacher must know exactly the grammatical and stylistic possibilities of the Azerbaijani language and be able to apply it. Among the grammatical categories, the issue of sentence, complex sentence and its types should be kept in mind. In this sense, the teaching of complex sentences is of particular importance in the speech development of students. One of the ways to achieve students' speech development during the teaching of complex sentences is the formation of students' speaking skills. It can be stated with certainty that students who hear their own speech well, who are able to imitate the intonation of their teacher's or fellow students' speech as it is, and who are able to be critical in terms of intonation during their own and others' speech, achieve the ability to pronounce the text and phrases within the text in a more correct form during reading. they will be

It is stated in the main and sub-standards on the content lines that students should be able to reconcile the choice of voice in the speech process, that is, the tone of the voice, the loudness of the voice, with the poses, gestures and facial expressions they take with the manners of expression. It is known that speech should be accompanied by expressive actions. The goal here is to increase the meaning capacity of the thought, to strengthen expressiveness, to give expressiveness to the meaning, to make it more effective. Since facial expressions are one of the forms of manifestation of human feelings and moods, they help the understanding of thoughts by increasing the impact of words and sentences. If one of the students pays attention to these features when necessary while reading the presented text, the other students will better understand the images in the text, have a more complete idea of their features, and have the ability to think about the text when necessary. This, in turn, will affect the formation of students' communication skills. By the way, one of the requirements for students' speech development is the issue of developing their communication skills. In the main and sub-standards on the content lines, this issue is expressed in the listening and understanding and speaking and writing content lines. These content lines indicate that students should (1.2.2.) construct different types of communicative speech examples, (3.1) demonstrate that they have mastered communicative writing habits, (3.1.1) use different types (figurative, descriptive, judgmental) and material (essay, essay, story) should be able to write texts. (1. p. 6.) There are some conditions that are important for building a communicative speech. In order to build a coherent speech, students should pay attention to the fact that the speech is full of content, to master the subject of the speech well, and to have a correct and comprehensive understanding of hadiths or abstracts.

Students must follow a certain logical sequence when constructing any coherent text, and present the sequence of ideas logically correctly. If this factor is not paid attention to, communication in the speech is interrupted, the idea is difficult to understand and is not remembered. At the same time, students should know that in order to build a coherent speech, the main and secondary issues should be separated when expressing an idea.

Summarizing the requirements for students' speech development, it is possible to closely monitor the role of teaching subordinate complex sentences in students' speech development.

Based on our observation, let's pay attention to the progress of a lesson related to the 3rd section of the 9th grade textbook in order to determine the role of the students in the speech development during the teaching of the subordinate complex sentence:

As the topic of the lesson, we choose the topic "The owner of extraordinary intelligence - Robert Oppenheimer". (2. p. 85). We use the following content standards according to the subject of the lesson:

"3.1. Demonstrates mastery of communicative writing skills."

"3.1.1. Writes texts of various types (narrative, description, judgment) and form (essay, essay, story) according to the given topic."

"3.1.2. He justifies his formed ideas and opinions by connecting them with life events. "3.1.3. Improves own and other's writing by anticipating connections between parts of text, paragraphs and sentences.”

"4.1. It demonstrates mastery of the rules of the language."

"4.1.1. Differentiates the types of complex sentences." (1. p. 7)

It is possible to set the following goals:

1. To ensure that students ask research questions.

2. To ensure that students construct texts based on the use of complex sentences.

3. To improve writing by anticipating connections between parts of a text, paragraphs and sentences.

Integration can be provided in various ways, including:

"Life knowledge - 2.2.1. International law of basic human rights
justifies that it is established in the norms."

"Physics - 3.2.2. He makes presentations on the role of physical science in the development of various physical phenomena.

"Chemistry - 4.3.1. He collects information about prominent scientists in the field of inorganic chemistry and makes presentations." ”(1. p. 104)

The form of work can be organized in the form of group and individual work.

It is possible to use brainstorming, debate, critical reading as a working method.

As a resource, information about Robert Oppenheimer and Marie Curie, photographs, tragic facts about Hiroshima and Nagasaki can be used, provided they do not affect the psyche of the students.

Before describing the course of the lesson, it would be appropriate to give some explanations. We would like to note that the standard "demonstrates mastery of communicative writing skills" that we have chosen for the content line includes the development of written speech. This means, first of all, the development of the student's speech. Among the set goals, the student's asking research questions is related to the formation of oral speech in parallel with written speech. If the teacher achieves this goal in the course of the lesson, then a certain success will be achieved in the speech development of the participants of the lesson, that is, the students. At the same time, the standard "Justifies formed ideas and opinions by connecting them with life events" is to ensure communication in written speech, therefore, among the goals is "Ensure that students construct texts based on complex sentences", if students do not develop communicative speech, the text will not be built, it will turn into a set of words, not the text they wrote.

Course of the lesson:

Motivation: At this stage, we show the students photographs and video clips of the cities of Aghdam and Jabrayil, which were destroyed by Armenian vandals after the First Karabakh War and freed from occupation in the 44-day Second Karabakh War. He says that this tragedy has been seen in the history of other countries, and we are investigating the reason. We reveal the names of the causes in a comparative way, we read based on the critical reading of the text. We formulate a research question according to the topic.

As a research question, "In what ways can people commit such tragedies?" we ask the question.

During the research phase, we divide the students into 3 groups and give all three groups tasks 1, 2, 3, 4 and 5 of the same textbook (2. p. 84). Our goal here is to check the students' approach to the same topic and their ability to grasp the paragraphs. Let's get acquainted with the solution of the 1st task from the tasks we gave to the groups of students in the lesson:

The condition of task 1 says to construct a coherent text using facts. Observe the correct construction of connections between sentences. Expand the text.

The presented text is about the life and activities of Robert Oppenheimer, the creator of the atomic weapon, the leader of the atomic bomb development project in the United States in 1943-1945. According to the 2nd task given in the textbook, the students should construct the text comprehensibly, and the last sentence of the text they will construct is connected with the second part of the text given in the textbook. Looking at the text written by the students, it is clear that the text is written in simple, understandable language. The last sentence of the text "It will not be long before Robert will become the author of the main works on quantum mechanics, as well as the physics of the atomic nucleus and cosmic radiation, the theory of isotopes and neutron particle separation." It should be noted that the second part of the text given in the textbook is related to the scientific activity of Robert Oppenheimer

In the 3rd task from the tasks presented to the groups, it is mentioned that the students should ask research questions based on the text they have compiled. Based on the text, some of the students formulated the following questions:

1. Why doesn't Robert Oppenheimer continue his work as a teacher?
2. Why does he return to the United States again?
3. What was the purpose of Robert's scientific research?

In task 4, it is mentioned that students should use complex sentences in the text. If you look carefully at the text, you can find a complex sentence without a subordinate clause. For example: "Later, Robert Rutherford's management works in the Cavendish laboratory, and the famous physicist Max Born from Germany sends him an offer to work together, Robert accepts this offer and goes to work at the University of Göttingen in Germany" consists of three grammatical bases:

"Robert is working", "Max Bourne sends an offer to work", "Robert is going" Here, as a result of the logical sequence after the first grammatical base, there is a need to create a second, and in the same way, a third grammatical base after the second grammatical base.

Task 5 consists of the materials given to the students in connection with the construction of the text, so that we can see that the students use those materials correctly in the text.

We listen to the presentations of the groups, discuss them, and clarify the best group work. The reasons for the good work are discussed together with the students.

Information exchange and discussion: In this phase, we compare the contributions of Robert Oppenheimer and Marie Curie to science.

As an argument for the debate, we choose the fact that Marie Curie, as a scientist, wrote the name of her country, which gave the name of her country to the metal she discovered, in the history of science. But Robert's discovery, on the contrary, led to the death of thousands of people.

Conclusion: So people can cause the destruction of mankind if they do not use science properly. The success achieved by human intelligence can save people, ensure their good life and comfort, lead them to a happy future, or on the contrary, it can destroy the world, cause the death of millions, the destruction of nature, and the destruction of the material and spiritual blessings achieved over thousands of years of creation. can Therefore, the son of man should spend his knowledge and skills on good deeds and beautification of the world.

It is interesting that the author of the text, B.Yusifoglu, called this text "The Man Who Destroys the World". Some of the students may have different opinions about the naming of the text, and the teacher should try to justify their different opinions.

As homework, we ask students to write a one-page essay on the tragedies caused by the Atomic bomb. We use self-assessment during assessment.

At the end of the lesson, students achieve speech development, mainly using subordinate complex sentences. In the course of the lesson, we can clearly observe that students express their thoughts more often with subordinate complex sentences, and they succeed in constructing subordinate complex sentences both in their written speech and in their oral speech. Here, the language knowledge they have acquired regarding the subordinate complex sentence also plays a big role.

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ON THE INTEGRATIVE TEACHING OF ORTHOGRAPHY AND SPELLING

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The Azerbaijani language has a certain system and internal connection mechanisms, like some specific subjects. In the Azerbaijani language, it is impossible to fully understand the word without learning the sound, the combination without understanding the word, the sentence without forming the combination, and the text without forming the sentence. That is, there is a chain connection between the subjects and topics of language teaching, content lines, linguistic conditions that explain one another.

Without taking into account this connection, it is impossible to deeply master any linguistic concept and language rule. Taking this into account, it is necessary to clarify concepts such as integration and integrability before teaching orthography and orthography in integration.

Methodist researchers understand integration as the integration of separate parts, and see integrativeness as a strategic direction that integrates learning outcomes. Integration can take place not in isolation, but within an existing system, or within a new system to be built.

The principle of integration implies the interaction of all components of the training process, all elements of the system, and the connection between systems. The main goal here is to expect unity in determining the content, form and methods of training.

The integrative approach ensures the integrity and consistency of the pedagogical process and improves the quality of training by studying the individual elements of the system in unity, and ensures the completeness of the training result. Linguistic phenomena are processes that exist in spoken language, but are not legitimized in literary language. One of the main tasks of methodological research is to give and apply a linguistic interpretation of these processes. The process of speech formation and gradual improvement in accordance with literary language norms continues from the elementary education level until the end, that is, until the last grade of full secondary education.

Therefore, it is necessary to learn the phonetic phenomena and laws, paradigms of the literary language, and the language materials taught. At first glance, it is necessary to observe that these are processes or events.

The words sa:t, oğlannar, shahrrar, atamnan, etc. in oral speech. pronounced as, this is not a process, but a phonetic phenomenon. The explanation of this saying becomes clear when the underlying essence, i.e. why it is said like that, is resolved.

In this saying, the first thing that attracts us is the event, and then let's learn and explain its essence with linguistic evidence. We say that if a word has a double vowel of the same character and gender, one vowel is dropped in pronunciation, and the other is called long (jama:t).

Literary language studies both of this process, both orthoepic norms and orthographic rules. Phonetic phenomena themselves create the orthoepic norms of the literary language.

It should not be forgotten that the students' active vocabulary is enriched due to the things and events they observe, see, hear, and name, and becomes an element of speech. They submit these words included in the vocabulary to grammatical laws, build sentences, create a syntactic text and, most importantly, convey their thoughts.

The unified use of this grammatical structure and vocabulary helps them to understand the opinion of others, enter into a dialogue, and understand. Therefore, starting from the 5th grade, in addition to working on listening comprehension and speaking, reading, and writing standards, work on language rules should be taken seriously.

In the course of the training process, the student learns that some words are pronounced as they are, some are different from what they are said, some are adjacent, some are hyphenated, etc. is written. Or, although not all synonyms are close in meaning, they do not have the same stylistic function in the sentence, and one is not always equivalent to the other. For example, in teaching phonetics, phonetic events and laws should be mastered in a certain sequence and with certain systematic applied materials so that the student has a complete understanding of correct writing and correct pronunciation. If the student will be informed about the phenomenon of numbness (assimilation), random numbness and permanent numbness, complete numbness and incomplete numbness, forward numbness and backward numbness should be assimilated in integration. The student should get used to observing this phenomenon in the pronunciation of words such as "yazsa-yassa", "tapmag-tappax", "anglamak-annamax", "getse-gessae".

Of course, since the issue of speech development is at the forefront in modern education, language rules are not taught in their entirety, but certain theoretical information is given in accordance with the nature of the mistakes made in text work and writing work.

Integration between writing and reading means, first of all, to make a constant, systematic comparison of the spelling and pronunciation of the word, to rely on it. When making these comparisons, the teacher should take into account the image ratio of orthographic and orthographic images at the initial stage of acquisition. The teacher should not systematically say that there is a discrepancy between voice and writing. Attempts to separate pronunciation from writing prevent the formation of the student's speech skills. He may slow down in both written and oral speech and lose self-confidence under the thought of how to say and how to spell. Therefore, at the beginning, the teacher should give priority to the phonetic principle, and strengthen the teaching and promotion of words that are pronounced and written the same.

Orthoepic teaching in primary classes, in turn, requires orthoepic movements and pronunciation. On the one hand, the student should be accustomed to correct writing, and on the other hand, he should be inclined to correct pronunciation. The student who acquires these skills in unity will build his oral speech according to the rules of literary pronunciation and will also strengthen his writing intelligence. Spelling habits should be formed in integration with orthographic exercises.

Just as spelling supports orthoepic pronunciation while reading the text, the return of the heard word to the written expression also supports spelling and correct spelling. The acquired knowledge about orthography starting from the elementary education level allows the student to apply some of the pronunciations that he brought to school as they are, and some of them in writing by changing them based on the rules he learned.

A teacher who teaches children the basics of spelling must, first of all, understand the essence of the Azerbaijani written language as a subject of study and know the ways and methods of how to convey this essence to his students. In addition, when organizing the methodical work related to orthography, the age characteristics and individual aspects of the students should be taken into account.

The teacher should look at orthography not as an ordinary language rule, but as the result of research and applied activities carried out by individual linguists and researchers over the years. The orthographic rule should be considered as a writing tradition, an attribute of statehood.

Currently, there are three ways for students to master spelling, the first of which is to understand the sound and meaning of the letter correctly and match them in writing. This is one of the easiest and most convenient training methods.

The second way in spelling training is to memorize the "look" of the word, that is, the graphic composition. Here, visual, auditory and mental abilities are developed on the basis of sound-letter analysis. A firmly memorized word is stored in the memory for a long time, and it is possible to use such words that are consolidated in the memory card at all stages.

The third way to master spelling is to achieve the application of the rules by using different types of writing and work on the mistakes made. It is mostly used when certain topics and rules on phonetics and morphology are completed. These can also be called phonetic verification and morphological verification. The phonetic check is mostly done on letters, and the morphological check is done according to the root-former, the structure of the word. Checking spellings, phrases and essays is more effective if both types of checks are combined. We can also call this process the process of applying spelling. The applied process tests students' spelling vigilance and determines how well they follow the rules. In this process, the teacher ensures that the student acquires spelling habits and forms a systematic spelling education. Sound-letter analysis of the word, oral spelling explanations, lines drawn under the mistakes made in the writing allow the student to determine the state of his writing and help prevent future mistakes.

Education of children's orthoepic pronunciation in live speech and reading is one of the main tasks of general education. Failure to pay attention to the pronunciation side of the conversation weakens the students' orthoepic culture and prevents them from mastering the norms of literary pronunciation in the later stages, causing considerable difficulties.

At this stage, dialect and dialect pronunciations should also be avoided. By constantly paying attention to the correctness of the student's oral speech, by conducting systematic and consistent work on pronunciation, it is possible to strengthen and shape their culture of literary pronunciation.

Thus, the relationship between reading and writing, integrativeness is expressed in the following forms at the initial stages of teaching the Azerbaijani language:

a) Knowing the meaning and grammatical form of words, pronouncing them in literary language;

b) Investigate and apply systematic comparison of spelling and orthography of the language;

c) To conduct orthoepic exercises with visual support (the pronunciation corresponds to the writing and vice versa) as a methodological tool to increase the student's orthoepic literacy (4,6).

Based on the results of systematic orthography and spelling exercises, students develop the ability to pronounce and write difficult words correctly, and in the upper grades they get to know the intricacies of the language more closely, and have the ability to express their thoughts independently.

Of course, work related to spelling and orthography continues throughout the education period, we would even say that these issues remain on the agenda even in the continuous education phase. However, the system of rules related to orthography and orthography is mainly learned in the V-VII classes while mastering the language rules related to phonetics and morphology, and the most necessary applied writing is also done at that stage. At this stage of the research, we would like to touch upon the issues of spelling and orthography and their interrelationship in the process of mastering language rules related to phonetics.

Types of vowels, types of consonants, the law of harmony, long pronunciation of vowels, pronunciation of the vowel "o" as "a", pronunciation of jingled consonants at the end of the word, pronunciation and spelling of the consonant "k", pronunciation and spelling of the consonant "q" , monosyllabic words ending in a double consonant, the pronunciation of double consonant words is learned and concluded with a repetition of language rules.

Of course, we are not interested in all the rules, but in the orthographic-orphoepic landscape that these rules reveal. With some of them, students are still knowledgeable at the level of primary education. Here, we would first like to dwell on the law of harmony, which forms a certain orthographic and orthoepic norm. This law shows its strong side more in word creation and morphology section.

Lexical and grammatical suffixes attached to the word root create certain pronunciation and writing conditions according to the nature of this law. We will talk about this in detail when we talk about morphological spelling (morphemes). First of all, let's say that phonetics training begins with speech sounds and their characteristics, and first of all, the essence of sound and letter as a speech element is determined. As a rule, the teaching of both vowels and consonants is carried out in integration with spelling and orthography, reinforced by exercises in the textbook. The texts in the modern textbook also allow us to be sensitive to this problem in the work on the text, to control the appropriateness of the student's reading to the pronunciation.

"It is advisable to systematically and consistently use flashcards to strengthen the theoretical knowledge of the spelling and orthography of vowels, to turn them into skills and to intensify the lesson."

One of the spelling rules taught in phonetics is words ending in q and k. These rules are studied as a language rule in the work on the text "Kheyirkhah Ali" and "Urgent blood is wanted" in class V. When mastering this rule, the teacher should keep the following points in mind:

1. To understand the difference between the pronunciation and spelling of the consonant Q;
2. The correct spelling of the letter q pronounced in the middle of the word:
3. Deafness of one of the double consonant q used in the middle of the word;
4. Pronunciation and spelling of the consonant q at the end of the word;
5. At the end of the word, writing the consonant q between two vowels as ğ;
6. Saying ğ in the middle of a word and writing it as q;
7. Writing the consonant K as y between two vowels.

In order to strengthen this rule, the teacher can use educational spelling types and ensure better mastery of the rule by asking to use words such as dig, run, branch, hole, decoration, work, strawberry, barrel, angel, shirt in sentences.

Accent is the selection of a syllable from a word in spoken speech and its pronunciation in a stronger, different tone. If stress is related to differentiating the syllable, then its elements such as quantity, dynamism, and melody are also present.

Of course, in words such as sugar, debt, expense, troll, tempo, the stress falls on the only available syllable vowel. Words like Azerbaijan, success, and defeat have 4-5 syllables, and the accent falls on the syllable at the end of the word. The teacher can determine the main point of stress by pronouncing several syllable words under different accents.

At this point, one cannot fail to notice a quantitative change. In both cases, the stress falls on the last syllable and confirms that it is a characteristic place for our language. But in our language, there are words taken from other languages, where the place of stress is variable. There are even particles that join our own words and do not receive stress. In these words, the melodiousness of the accent is also different, and the syllable is revealed by the change of tone.

If the dynamic accent in Russian is connected with the quantitative accent, i.e. displacement, in Azerbaijani this dynamic is manifested only in parts that do not receive accent.

In the Azerbaijani language, the place of stress is usually fixed. In Russian, on the contrary, it is variable, and the change of accent leads to a change of meaning. In Russian, such as ugol, the shifting of the accent creates the meanings of coal and corner. In our case, this happens only in some cases due to the nature of the suffix attached to the root. For example, stress on a word like bride leads to a verb and a noun.

Of course, the teaching of accent and its types serves literary pronunciation norms, that is, orthoepic norms, but its pronunciation also serves to clarify the lexical-semantic meaning of the word.

Although the students know that the accent is on the last syllable of the word, it is possible to explain to them that the place of the accent changes by providing them with certain examples and working on the tasks, that is, there are also particles that do not receive an accent in our language. For example, teacher-teacher(s), parents-parents, did you look, cover, cover (as a verb), energy - energy, etc.

It is necessary to use regular expressive reading and grammar studies so that unaccented particles are well understood. The teacher should know that without correctly mastering the accent, it is impossible to expect the norms of literary pronunciation and to organize a speech that fully satisfies the listener.

In the phonetic analysis, the information about the accent must be reflected, the student must tell which syllable the accent falls on, identify the parts that are not accented and use words with different meanings in sentences by changing the accent.

Syllables are one of the subjects to be taught in phonetics training in order to master spelling and pronunciation correctly. Because the transition from line to line, which is one of the most necessary rules of spelling, is done based on syllables. In the matter of stress, which we have just mentioned, the syllable is also involved as a necessary component.

Unfortunately, in class V, the rules of syllabic and word-by-line transfer are almost not touched, only the information given in the primary class is enough.

But this does not mean that these rules are not being worked on. Of course, all proofreading and creative writings are monitored to ensure compliance with these rules. Information about these rules is also provided in the "School Spelling Dictionary".

While teaching these rules, the teacher should bring to the students' attention that it is advisable to write the content of any text, the main idea, in one line as a whole. This makes it possible to understand the idea faster and read the sentence more accurately.

"Comprehensive study of the syllable in terms of being a phonetic part of speech, a part of a word and a phonetic unit has both theoretical and practical importance."

We consider it necessary to introduce some of the rules for transferring the word from line to line: A syllable consisting of one vowel cannot be kept at the end of the line (a-na, o-ba);

a) Each consonant in double-consonant words of the same gender must be connected to one syllable, they cannot be written at the end or beginning of the line in a double case (doq-guz-doqq(uz), do-qq(uz);

b) The suffixes cannot be separated from the number in the quantity numbers written with numbers (6th, 10 km, 9 ha);

c) It is wrong to place the initials next to the first and last name at the end of the line (in words such as N.Ganjavi, M.A. Sabir, the abbreviations N and M.A. cannot be placed at the end of the line).

d) Complex abbreviations (BDU, ANAS, ADPU) cannot be divided and transferred line by line;

e) It is not possible to transfer the compound words such as keklikotu as kekli-kotu, kekliko-tu;

f) Dividing the word into syllables and moving it from line to line is based on the vowel, not the stem and the suffix (a-ga-cin, not the tree).

All this shows that the linguistic basis of mastering the rules of spelling and orthography is studied in the phonetics department. The role of orthoepic-orthographic norms in the language is clarified, the effect of necessary phonetic rules on speech development is determined.

Along with a lot of tasks and studies in mastering these rules, spelling, rote writing, spelling with a dictionary, and vocabulary work also find a large place. After analyzing the orthographic-orfoepic norms in the subject of morphology, we will touch on writing and its correction.

We know that in the compilation of our dictionaries we use the morphological principle, we clarify words not only according to their sound, but also according to their morphological structure, roots and suffixes.

Although literary pronunciation and spelling are more related to phonetics, they should not be limited to this topic. The student also gets acquainted with the grammatical conditions of the word in the training of morphology, what is learned in a kind of phonetics is repeated through grammatical signs. "In the teaching of morphology, students also learn the pronunciation features of suffixes whose orthography is different from spelling". But this repetition is not a repetition of phonetics, but learning the orthography of the grammatical signs in morphology. Here, the word undergoes an orthographic-orphoepic change within the range of possibilities given by the grammatical conditions. In morphological conditions, the change is felt in the root ending and suffixes attached to it, the central part of the word remains constant. The habits acquired in phonetics help to master the changes in the joining part well. Phonetic phenomena and laws are traced here directly on the word (noun, verb, adverb, number, pronoun) and morphemes. For example, vowel lengthening is observed in nouns such as scientist, teacher, law, Fuzuli, and adjectives such as mischievous, mischievous, and differences in spelling and pronunciation are investigated.

Language rules related to morphology and related orthographic-orthographic norms are mastered in grades VI-VII, and pronunciation and writing habits are also clarified at this stage.

Corrective nouns as a language rule, change of the noun according to affiliation, possessive case indicating uncertainty, effective case indicating uncertainty, vowel drop in the root of the word, pronunciation of words in the case of orientation and expressiveness, reporting suffixes, modifying adjectives, number and its semantic types, numerative words, spelling of numbers, spelling of suffixes in quantitative numbers, spelling of ordinal numbers, spelling of complex numbers, singular and plural nouns used with numbers, processing of commas after these pronouns, correcting verbs, compound verbs, spelling and pronunciation of verbs in the form of news, pictures of verbs , compound adverbs and their spelling are taught in the VI grade, grammatical meaning types of the verb, idi, the pronouncing and spelling of the present participles, the indeterminate forms of the verb, the pronouncing and spelling of conjunctions, the processing of the comma in conjunctions are taught in the VII grade. If we pay attention to the name and character of the topics, the main goal in mastering language rules is to achieve correct writing training and literary pronunciation norms.

About the numbers, the "Remember" column provides information that the number is written in words (sixteen), numbers (16), numbers and words (16 thousand) and Roman numerals (XVI). A hyphen (16th, 16th) is used between the number and the suffix when the grammatical sign is added to the quantity numbers. Complex numbers are written both with a hyphen (six-seven) and separately (sixteen).

In the 4th section of the textbook, some information is given again under the rubric "Remember" about the pronunciation and spelling of verbs. Pupils learn that the present (lives) and the future (will live) are pronounced as live and live because the vowels a and a are used before the time suffixes. Or, in the 3rd person plural, -ır4 present tense and -ar2 future tense suffixes are pronounced as consonant (l) (they will see, they will see). This difference is also felt in the second person plural: you look - you don't look, you come - you don't come, etc.

In class VI, they learn that it is pronounced as -la2 (-nan2) as an orthoepic norm with an adverb. For example, stubbornly, happily, etc. With this, the issues related to orthoepic and orthographic norms are concluded in class VI. Other issues (pronunciation of the particles idi, imish, pronunciation of conjunctions with, for, etc.) are mastered in class VII.

As an orthoepic norm, children learn that in different forms and tenses of the verb, these particles are in different spelling and pronunciation conditions. For example, it was new (tazeydi), old (old), didn't buy (didn't buy), I won't write (I won't write), they won't read (they won't read), see it we can see this difference in words like

The conjunction with -nan2 (atamla-atamnan, grandmother with grandmother-naneynan) and the conjunction for is pronounced as -chin4 depending on the tone (to stay-to stay, for girl-to girl).

When we systematize these rules related to both phonetics and morphology, we see that it is inevitable to study phonetics and morphology in integration, as well as learning orthography and spelling in integration is inevitable. In phonetic and morphological analyses, it should be repeated according to rules, grouped and made into a habit in the work process of all types of writing. In addition to all this, the integrability between content lines should not be forgotten.

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ИНТЕРНЕТ-ОРИЕНТИРОВАННОЕ ОБУЧЕНИЕ: ЭФФЕКТИВНЫЕ СТРАТЕГИИ ДЛЯ ФОРМИРОВАНИЯ ПРОФЕССИОНАЛЬНО-БАЗИРУЕМОЙ КОМПЕТЕНЦИЙ УЧИТЕЛЯ ИНОСТРАННОГО ЯЗЫКА

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Аннотация: Сегодня нельзя себе представить преподавателя иностранного языка, который не использует сеть Интернет ресурсы. Этот ресурс обеспечивает не только быстрый доступ к достоверным исследовательским данным, но и к определенным приложениям, которые преподаватели могут адаптировать для применения в своих собственных специфических ситуациях и для практического взаимодействия со своими учениками. Даже у относительно молодых педагогов все еще возможно наблюдать сопротивление освоению новых технологий и приспособлению к ним даже в самых «современных» условиях работы. Цель данной статьи состоит в демонстрации преимуществ использования технологий Web 2.0, таких как Google Drive, Google Sheets, Google Slides, Google Docs, Google Forms, Kahoot, Mysimpleshow, Poll Everywhere, Nearpod, Mentimeter, Edpuzzle и QR-коды, для изучения иностранного языка.

Ключевые слова: Интернет ресурсы, технологии Web 2.0, доступ, приложения, преподаватель иностранного языка, адаптация, образование, иностранный язык.

Современные технологические усовершенствования повышают эффективность и продуктивность труда преподавателей, предоставляя быстрые способы решения задач, которые ранее требовали значительного времени и усилий. Сфера образования - одна из областей, на которую оказали существенное влияние технологические изменения в этом столетии. Основная причина этого изменения заключается в том, что учащиеся 21 века уже обладают цифровыми навыками. Поэтому, учреждениям образования крайне важно интегрировать технологические новшества в свои учебные программы. В этом контексте преподавание английского языка не остается в стороне. Преподаватели английского языка как второго или иностранного должны корректировать свои педагогические навыки, чтобы быть в шаге с меняющимися условиями современных технологических новаций. На протяжении довольно продолжительного времени преподаватели часто использовали в своей практике некоторые технологии, такие как приложения Microsoft Office (например, Power Point) или обмен сообщениями по электронной почте; однако особенно с внедрением инструментов Web 2.0, обучение приобрело новое измерение. Инструменты Web 2.0 предоставили пользователям возможность создавать, размещать сообщения и взаимодействовать в Интернете. Таким образом, пользователи стали авторами, соавторами, редакторами или "экспертами" в своем собственном творчестве и теперь могут создавать, редактировать и потреблять контент, сотрудничая с другими пользователями [8]. Многие пользователи подчеркивают потенциал инструментов Web 2.0 в образовании благодаря "их открытому характеру, простоте использования и поддержке эффективного сотрудничества и коммуникации". Богданова М.В. описывает детей 21 века как "цифровых аборигенов", которые воспринимают технологии как важный и предпочтительный компонент каждого аспекта своей жизни [2, 235 с.]. Следовательно, чтобы привлечь современных учащихся и сделать их обучение осмысленным, занятия, проводимые в классе, должны соответствовать тому, что они делают вне класса в повседневной жизни. Современные учащиеся уже используют информационные и коммуникационные технологии для поддержки своего обучения вне класса. Эбнер М. разделяет ту же точку зрения и говорит, что "учащиеся будут более мотивированы к обучению до тех пор, пока условия обучения будут значимыми и интересными для них", и также акцентирует внимание на преимуществах «интерактивности», создаваемой инструментами Web 2.0, добавляя, что это повышает потенциал учащихся в получении значимой информации [7].

Использование современных инструментов практически во всех аспектах нашей повседневной жизни поднимает вопрос о том, как мы можем наилучшим образом их использовать. «Новейшая» технология, как мы ее назвали, больше не является незнакомой нашим ученикам [9]. Пытаясь, внедрить технологические гаджеты в наши учебные заведения, чтобы повысить привлекательность наших уроков для учащихся, мы можем упустить из виду тот факт, что они выросли с этой технологией, и то, что волнует нас, может показаться им обычным делом. Несмотря на то, что современные педагоги переходят от традиционных методов обучения с использованием классных досок к использованию интерактивных досок, наши учащиеся уже знакомы с повсеместным присутствием технологий и неизбежно относятся к категории людей, владеющих цифровыми инструментами.

Преподавание английского языка должно быть дополнено с применением веб-технологий, так как освоение языка превышает учебную аудиторию [1]. Интегрируя инструменты Web 2.0 в процесс преподавания английского языка, педагоги нацелены на неформальное обучение, учитывая, что освоение языка происходит неформально вне стен аудитории благодаря использованию инструментов Web 2.0. Современные технологии облегчают онлайн-коммуникацию и обмен информацией, расширяя возможности учащихся и создавая более насыщенную социальную образовательную среду. Во многих исследованиях подчеркивается ключевая роль социального взаимодействия в эффективном обучении, следовательно, преподаватели, использующие технологии Web 2.0, принимают видение обучения с социальной перспективы. Таким образом, технологии Web 2.0 предоставляют учащимся благоприятный контекст для развития социального взаимодействия без угрозы. Приобретая реальный опыт, учащиеся также проходят периферийное обучение, они знакомятся с аутентичным языком с использованием инструментов Web 2.0 в языковом образовании. Итак, инструменты Web 2.0 служат опорой для обучения студентов [5, 126 с.].

Интернет-обучение произвело революцию в области преподавания иностранных языков, предложив как преподавателям, так и учащимся множество эффективных стратегий и методов для улучшения усвоения языка. В этом всеобъемлющем руководстве мы рассмотрим различные способы, с помощью которых преподаватели могут использовать интернет-ресурсы и инструменты для создания привлекательной и динамичной среды обучения для своих студентов:

Онлайн-платформы для изучения языка:

Использование специализированных платформ для изучения языка, таких как Duolingo, Rosetta Stone, Babbel или Memrise, в дополнение к обучению в классе.

Изучение преимуществ и ограничений этих платформ для приобретения словарного запаса, практики грамматики и улучшения произношения.

Оценка потенциальных преимуществ геймификации в изучении языка для вовлечения студентов.

Партнеры по виртуальному языковому обмену:

Общение студентов с носителями языка или пользователями, владеющими иностранным языком, со всего мира с помощью веб-сайтов и приложений для обмена языками, таких как Tandem, HelloTalk или ConversationExchange.

Поощрение регулярного взаимодействия между студентами и их партнерами по языковому обмену для улучшения навыков говорения и аудирования.

Мониторинг и оценка эффективности программ виртуального языкового обмена.

Языковые онлайн-ресурсы:

Курирование коллекции онлайн-ресурсов, таких как подкасты, каналы YouTube и языковые блоги, для предоставления студентам аутентичного контента и общения с носителями языка.

Интеграция мультимедийных ресурсов для понимания на слух, погружения в культуру и расширения словарного запаса.

Включение образовательных веб-сайтов, таких как BBC Languages, Transparent Language и FluentU, в планы уроков.

Платформы электронного обучения и системы управления обучением (LMS):

Внедрение систем управления обучением, таких как Moodle или Canvas, для облегчения асинхронного обучения.

Создание интерактивных онлайн-курсов с мультимедийным контентом, викторинами, заданиями и дискуссионными форумами.

Отслеживание успеваемости и вовлеченности учащихся с помощью функций аналитики и отчетности LMS.

Виртуальная реальность (VR) и дополненная реальность (AR):

Изучение потенциала технологий виртуальной и дополненной реальности для создания иммерсивного опыта изучения языка.

Обсуждается использование гарнитур виртуальной реальности и дополненной реальности-приложений для моделирования реальных жизненных ситуаций, культурных контекстов и практического использования языка.

Оценка ценовой доступности этих технологий для языковых аудиторий.

Социальные сети и онлайн-сообщества:

Использование возможностей платформ социальных сетей, таких как Facebook, Twitter и Instagram, для создания сообществ по изучению языка.

Поощряя студентов следить за содержанием и беседами на иностранном языке и участвовать в них.

Обсуждение проблем и этических соображений, связанных с использованием социальных сетей в образовании.

Мобильные приложения для изучения языка:

Анализ эффективности мобильных приложений, таких как Anki, Quizlet или Drops, для языковой практики на ходу.

Включение обучения на основе приложений в домашние задания или планы самостоятельной работы.

Устранение потенциальных отвлекающих факторов и подводных камней при изучении языка с помощью мобильных устройств.

Адаптивное обучение и инструменты на базе искусственного интеллекта:

Изучение роли искусственного интеллекта в изучении языка с помощью адаптивных обучающих платформ, таких как Babbel, и чат-ботов с искусственным интеллектом, таких как Replika.

Обсуждаем, как искусственный интеллект может обеспечить персонализированный опыт обучения, отслеживать прогресс и предлагать мгновенную обратную связь.

Учитывая этические последствия и потенциальную предвзятость в обучении языку с использованием искусственного интеллекта.

Смешанные подходы к обучению:

Сочетание традиционного обучения в классе с онлайн-ресурсами и инструментами позволяет создать смешанную среду обучения.

Обсуждение преимуществ гибкости, индивидуализации и самостоятельного обучения в рамках смешанного подхода.

Обмен передовым опытом эффективного управления смешанными классами.

Оценка и обобщение:

Изучение инновационных способов оценки языковых навыков в среде обучения, основанной на Интернете.

Использование онлайн-инструментов оценки, видеозадач и виртуальных устных экзаменов.

Решение проблем аутентичности и обмана при онлайн-оценке.

Интернет-обучение предлагает преподавателям иностранных языков широкий спектр стратегий и инструментов для создания увлекательного и эффективного опыта обучения для своих студентов. Используя возможности онлайн-платформ, ресурсов и технологий, преподаватели могут адаптироваться к меняющемуся образовательному ландшафту и дать возможность своим студентам овладеть иностранным языком. Учителям важно быть в курсе развивающихся технологий и адаптировать свои методы обучения к потребностям современных цифровых учащихся.

Использование данных технологии помогают формировать профессионально-базируемую компетенцию учителей ИЯ. Однако, сначала необходимо определить значение слова «компетенция», присущую профессии, крайне важно обратить внимание на значения понятий «компетентность» и «мастерство». Профессиональный уровень предполагает обладание компетенциями и способностью эффективно использовать их в важнейших аспектах профессиональной практики. В целом «компетентность» рассматривается как «конкретный результат образовательного процесса» [5, с.128]. А.В. Хуторской утверждает, что «компетентность» выступает в качестве четкого, заранее определенного критерия готовности студента к обучению, направленного на приобретение знаний, умений и способностей, необходимых для компетентной работы в последующих начинаниях, в то время как компетентность предполагает обладание личностными качествами для продолжения функционирования и роста в определенной области деятельности [5]. С.С. Кунанбаева утверждает эта «компетентность», приумножаясь новыми знаниями и навыками, трансформируется в «профессионализм» [6]. Тщательно изучив как отечественные, так и международные научные исследования, мы пришли к выводу, что компетентность относится к способности выполнять конкретные задания, что тесно связано с понятием «навык». Компетентность может быть достигнута с помощью образовательных усилий и активного участия в профессиональной практике.

Развитие «профессиональной компетентности» происходит, когда студенты занимаются изучением предметов, имеющих отношение к выбранной ими профессии. Следовательно, С.С. Кунанбаева предлагает кластеры профессиональных компетенций, в частности те, которые классифицируются как профессионально-ориентированный, профессионально-базируемый и профессионально-идентифицированный компетенции [6]. Среди них первостепенное значение имеет профессионально-базируемая компетенция, учитывая, что она формируется в течение 3-го учебного года, в течение которого все дисциплины адаптируются к профессиональной сфере. Следовательно, мы твердо утверждаем, что профессионально-базируемая компетенция включает в себя склонность и стремление к приобретению профессиональных навыков.

Наконец, компетентность, заложенная в профессии студентов, характеризуется как всестороннее объединение индивидуальных способностей и атрибутов, знаний и умений, приобретаемых в ходе образовательного процесса в высшем учебном заведении. Это обеспечивает устойчивую готовность к профессиональному межкультурному общению в профессиональной сфере. Компетенция, основанная на конкретной профессии, такой как перевод, представляет собой сложную и интегрированную конструкцию. Структура компетенций, основанная на профессии, охватывает четыре области: контекстно-коммуникативную, межъязыковую-преобразующую, информационно-поисковую и аналитико-прогностическую субкомпетенции. Соблюдение этой директивы требует внедрения профессиональной направленности в педагогику и формирования содержания иноязычной межкультурной коммуникации, приведения их в соответствие с требованиями профессиональной подготовки на университетском уровне.

Развитие компетентности, основанной на профессии преподавателя иностранного языка, необходимо рассматривать как многогранную процедуру. Нынешний этап развития высшего образования характеризуется широкой интеграцией компетентностно-ориентированного подхода. Это подразумевает реализацию образовательных программ, которые развивают способность выпускника самостоятельно применять знания, навыки и компетентности, приобретенные в процессе обучения, в конкретной профессиональной среде. Каждая учебная программа высшего профессионального образования должна уделять приоритетное внимание реализации четко сформулированных целей обучения для всей образовательной программы и ее фундаментальных компонентов.

Образование на иностранном языке играет жизненно важную роль в современном глобализированном мире. Поскольку спрос на эффективное языковое обучение продолжает расти, компетентность преподавателей иностранных языков становится все более важной. Формирование профессионально-базируемой компетенции у преподавателей иностранного языка - это не просто вопрос академического интереса; это важнейший компонент обеспечения высококачественного языкового образования. Эта компетенция включает в себя целый ряд навыков, знаний и атрибутов, которые позволяют учителям преуспевать в своей роли и оказывать положительное влияние на своих учеников.

Эффективное обучение языку

- *Владение языками:* Преподаватели иностранного языка должны обладать высоким уровнем владения изучаемым языком. Эта лингвистическая компетенция необходима для эффективного общения и языкового моделирования.

- *Педагогические знания:* Учителя должны хорошо разбираться в методиках преподавания языка, разработке учебных программ и методах оценки. Прочная педагогическая основа имеет решающее значение для разработки и проведения эффективных уроков.

Культурное взаимопонимание

- *Культурная восприимчивость:* Преподаватели иностранного языка должны обладать глубоким пониманием культуры, связанной с изучаемым языком. Культурная компетентность позволяет им преподавать не только язык, но и культурные нюансы и контекст.

- *Глобальная осведомленность:* В современном взаимосвязанном мире преподаватели иностранных языков должны быть осведомлены о глобальных проблемах и тенденциях, поскольку эти темы могут обогатить опыт изучения языка.

Мотивация и вдохновение

- *Страсть к преподаванию:* Преподаватели, которые увлечены своим предметом и преподаванием, вдохновляют студентов с энтузиазмом относиться к изучению языка.

- *Индивидуальное обучение:* Компетентные преподаватели иностранного языка могут адаптировать свое обучение к уникальным потребностям и интересам своих учеников, повышая мотивацию.

Адаптивность и инновации

- *Владение технологиями:* В эпоху цифровых технологий преподаватели иностранных языков должны владеть навыками использования технологий для преподавания и обучения, включая онлайн-ресурсы и образовательное программное обеспечение.

- *Гибкость:* Компетентные преподаватели легко приспосабливаются, способны корректировать свои методы и материалы в соответствии с разнообразными потребностями учащихся.

Эффективная коммуникация

- *Ясность и коммуникативные навыки:* Способность четко излагать идеи и вовлекать учащихся в содержательное общение имеет основополагающее значение для преподавания языка.

- *Обратная связь и оценка:* Учителя должны предоставлять конструктивную обратную связь и эффективные методы оценки, чтобы направлять прогресс учащихся.

Непрерывное профессиональное развитие

- *Обучение на протяжении всей жизни:* Компетентность преподавателей иностранных языков не является статичной; она должна развиваться путем постоянного профессионального развития и в соответствии с последними тенденциями в языковом образовании.

- *Исследования и стипендии:* Компетентные преподаватели занимаются исследованиями и стипендиями, чтобы внести свой вклад в развитие отрасли и усовершенствовать свою собственную практику преподавания.

Влияние на студентов и общество

- *Успеваемость учащихся:* Компетентность преподавателей иностранных языков оказывает непосредственное влияние на уровень владения языком учащимися, их культурную осведомленность и общую академическую успеваемость.

- *Глобальное гражданство:* Языковое образование способствует развитию информированных граждан мира, которые могут общаться через границы и ценить богатство различных культур [4, 268 с.].

Формирование профессионально-базируемой компетенции у преподавателей иностранного языка - многогранный и необходимый процесс. Компетентные преподаватели иностранных языков не только квалифицированы в области методологии, лингвистики и педагогики, но и осведомлены о культуре, способны к адаптации, новаторству и увлечены своей ролью. Они способны вдохновлять и расширять возможности студентов, помогая им стать опытными носителями языка и информированными гражданами мира. Признание важности этой компетенции и инвестирование в развитие преподавателей иностранных языков имеет решающее значение для продвижения языкового образования и, в конечном счете, для содействия эффективной межкультурной коммуникации и взаимопониманию во взаимосвязанном мире (таблица 1).

Навыки и умения, которые обычно включаются в формирование профессионально-базируемой компетенции:

Skill/Ability	Description
Экспертиза по предмету	Глубокие знания и опыт в конкретной области или профессии.
Критическое мышление	Способность анализировать сложные проблемы, логически мыслить и принимать обоснованные решения.
Решение проблем	Способность выявлять проблемы, разрабатывать решения и внедрять эффективные стратегии решения проблем.
Коммуникативные навыки	Эффективная письменная и устная коммуникация, включая способность ясно и убедительно излагать идеи.
Сотрудничество и командная работа	Работать в сотрудничестве с другими, вносить вклад в успех команды и конструктивно разрешать конфликты.
Адаптивность и гибкость	Способность приспосабливаться к меняющимся обстоятельствам, осваивать новые навыки и внедрять инновации.
Принятие этических решений	Принятие морально обоснованных решений и поддержание этичного поведения в профессиональном контексте.
Руководство	Руководить и вдохновлять других, проявлять инициативу и достигать организационных целей.
Тайм-менеджмент	Эффективное управление задачами, расстановка приоритетов и соблюдение сроков.
Навыки в области информационных технологий	Владение навыками использования соответствующего программного обеспечения, инструментов и технологий для данной профессии.
Исследования и анализ	Проведение исследований, сбор данных и составление значимых выводов.
Управление проектом	Организация проектов и надзор за ними, обеспечение их завершения в срок и в рамках бюджета.
Мультикультурная компетентность	Понимание и эффективное взаимодействие с людьми из разных культурных слоев.
Разрешение конфликтов	Навыки разрешения споров и поддержания позитивных рабочих отношений.
Сетевой (Networking)	Выстраивание и поддержание профессиональных отношений и контактов в отрасли.
Принятие решений в условиях неопределенности	Принятие обоснованных решений, когда данные ограничены или неопределенны.
Управление рисками	Выявление и снижение потенциальных рисков для достижения желаемых результатов.
Навыки презентации	Проведение увлекательных и информативных презентаций для различных аудиторий.

Этот всеобъемлющий обзор подчеркивает важность профессионально-базируемой компетенции в преподавании иностранного языка. Компетентность преподавателей иностранных языков напрямую влияет на качество языкового образования и имеет далеко идущие последствия для учащихся и общества в целом. Постоянная поддержка профессионального развития преподавателей иностранных языков необходима для обеспечения того, чтобы они могли эффективно выполнять свои функции и вносить вклад в достижение более широких целей языкового образования.

Взаимодействие с виртуальным миром оказывается весьма эффективным в воспитании у студентов компетентности, основанной на их профессии. Интернет предоставляет обширный запас контекстуальных профессиональных данных. В этом сценарии разумно создать образовательную среду для развития профессионального общения, используя специальные модули: цифровое хранилище с мультимедийными учебными модулями, включающими аутентичные аудио-, видеоматериалы и контент на изучаемом языке; системы ссылок, потенциально включающие многоязычную лексику, грамматические справочники и мультимедийные сборники; архив цифровых учебных пособий и многое другое [3, 272 с.]. Многие исследователи подчеркнули, что удовлетворительный уровень технического мастерства студентов также окажет благотворное влияние на различные другие области компетенции, оптимизируя их работу с точки зрения скорости и точности при формировании нужной компетенции. В то время как инструменты информационно-коммуникационных технологий (ИКТ) и его инструменты выделяются как одни из наиболее заметных технологий для преподавателей иностранного языка. Преподаватели должны уметь эффективно использовать как ИКТ, так и разные веб-сайты, платформы для обучения иностранного языка.

Обучение на основе Интернета произвело революцию в сфере образования. Это создало новые возможности и проблемы, особенно в области преподавания иностранных языков. Преподаватели иностранных языков должны обладать уникальным набором компетенций, чтобы обеспечить качественное обучение своих студентов. Эти компетенции включают владение языками, понимание культуры, педагогические знания и владение технологиями. Обучение на основе Интернета, при стратегическом применении, может сыграть ключевую роль в содействии развитию этих компетенций у преподавателей иностранных языков.

Развитие самостоятельности учащихся является одной из главных целей современного языкового обучения. Обучение языку не должно ограничиваться учебной аудиторией; вместо этого оно должно представлять собой непрерывный процесс, позволяющий изучающим иностранный язык принимать ответственность за своё собственное обучение и самостоятельно его контролировать [4, 268 с.]. Это в значительной мере можно достичь с помощью веб-технологий, особенно инструментов Web 2.0, так как они предоставляют средства для развития самостоятельности учащихся. Современные технологии рассматриваются как возможности для учащихся «проявлять самостоятельность, принимая на себя ответственность за своё обучение при планировании, контроле и оценке своих собственных учебных действий онлайн».

Технологии стали неотъемлемой частью жизни учащихся, подчёркивая важную роль преподавателей иностранных языков в интеграции технологических новшеств в свои занятия для максимального вовлечения учащихся. Использование технологий таких как, веб-сайты и платформы становится неотъемлемым, особенно в высших учебных заведениях, где студенты часто приносят с собой ноутбуки или смартфоны, обеспечивая лёгкий доступ к интернету. В таких условиях инструменты Web 2.0 поддерживают образовательный процесс [10].

В языковом классе использование таких возможностей предоставляют преподавателям множество преимуществ, таких как разработка учебных материалов, проведение курсов и обучение студентов преподаванию языка. Одна из основных причин, по которой многие преподаватели языка отдают предпочтение таким технологиям, заключается в том, что она создает «культуру поддержки и участия для обучения с участием пользователей». Эта технология обеспечивает альтернативу традиционным языковым занятиям, поскольку она создает лучшие возможности изучения языка для учащихся в интерактивной и коммуникативной среде. В такой среде совместного обучения учащиеся становятся творческими и активными пользователями новых знаний, а не пассивными поглотителями, что приводит к лучшему запоминанию новой информации.

Наиболее примечательные аспекты технологии Web 2.0 можно охарактеризовать как практики участия, кооперации и децентрализации; проще говоря, это интерактивные технологии, средства массовой информации для совместной работы и общинные цифровые технологии [8]. В отличие от раннего Интернета, где информация в основном предоставлялась немногими избранными, в Web 2.0 пользователи играют центральную роль, способствуя взаимному взаимодействию. Это позволяет людям, использующим Интернет, взаимодействовать с различными сообществами и обмениваться знаниями друг с другом. Ключевые преимущества этой прогрессивной технологии заключаются в установлении персонализированных связей между пользователями и контентом и легком обмене мультимедийным контентом, часто с помощью простых инструментов, таких как блоги. «Знание» в современной среде является коллективным консенсусом, и его достоверность подтверждается путем совместной оценки в рамках объединенного сообщества. Знания децентрализованы, доступны и коллективно разрабатываются пользователями [10]. Приложения Web 2.0 позволяют отдельным лицам, особенно учащимся, создавать свои собственные сети для получения обратной связи и помощи, позволяя им производить, потреблять и обмениваться информацией по всему миру. Еще одной характеристикой Web 2.0 является его способность манипулировать сгенерированным контентом. Этот важный атрибут позволяет редактировать и смешивать оригинальный материал, что приводит к созданию новых произведений.

Обучение на основе Интернета стало распространенным способом получения образования в различных областях, включая преподавание иностранных языков. В наш цифровой век преподаватели и учебные заведения постоянно изучают эффективные стратегии использования Интернета для развития профессиональных компетенций у преподавателей иностранных языков. Ниже я приведу подробный обзор интернет-обучения и стратегий, которые могут быть использованы для улучшения формирования этих компетенций:

Владение изучаемым языком

- *Виртуальное погружение:* Онлайн-языковые курсы, программы виртуального обмена и иммерсивные языковые платформы могут предоставить преподавателям возможность постоянно совершенствовать свои языковые навыки.

- *Синхронное и асинхронное обучение:* Использование синхронных видеокурсов и асинхронных онлайн-ресурсов позволяет учителям гибко практиковать навыки аудирования, говорения, чтения и письма.

Культурное взаимопонимание

- *Онлайновые культурные ресурсы:* Доступ к широкому спектру аутентичных культурных ресурсов в Интернете, таких как новостные сайты, социальные сети и культурные форумы, позволяет преподавателям иностранных языков углубить свое понимание культуры, которую они преподают.

- *Виртуальный культурный опыт:* Виртуальные туры, вебинары и прямые трансляции мероприятий из стран изучаемого языка предоставляют преподавателям возможность погрузиться в культуру.

Педагогические знания

- *Онлайн-педагогическое обучение:* Различные онлайн-платформы предлагают курсы, вебинары и ресурсы, специально разработанные для повышения педагогических навыков преподавателей иностранных языков.

- *Онлайн-сообщества:* Участие в онлайн-сообществах преподавателей, форумах и группах в социальных сетях позволяет учителям делиться передовым опытом и получать информацию от коллег по всему миру.

Технологическое мастерство

- *Платформы электронного обучения:* Обучение системам управления обучением и цифровым инструментам, используемым в онлайн-образовании, дает учителям технические навыки, необходимые для эффективного проведения онлайн-занятий.

- *Создание цифрового контента:* Знакомство с инструментами создания контента, программным обеспечением для редактирования видео и платформами онлайн-оценки позволяет учителям создавать увлекательные и интерактивные уроки.

Интеграция интернет-обучения

- *Смешанное обучение:* Сочетание традиционного очного обучения с онлайн-ресурсами создает среду смешанного обучения, которая поддерживает развитие компетенций.

- *Обратная связь и оценка:* Онлайн-платформы предлагают различные методы предоставления обратной связи учителям и оценки их прогресса.

Проблемы и соображения

- *Цифровая грамотность:* Устранение разрыва в цифровой грамотности среди учителей имеет важное значение для обеспечения того, чтобы они могли эффективно ориентироваться в процессе обучения на основе Интернета.

- *Обеспечение качества:* Внедрение стандартов качества и непрерывное профессиональное развитие для онлайн-обучения имеет решающее значение [9].

Интернет-обучение является мощным инструментом формирования профессиональных компетенций у преподавателей иностранного языка. Стратегически интегрируя онлайн-ресурсы и используя правильные стратегии, учителя могут постоянно повышать свой уровень владения языком, углублять свое культурное понимание, совершенствовать педагогические знания и развивать необходимые технологические навыки. Образовательным учреждениям и директивным органам важно поддерживать рост использования интернет-обучения в языковом образовании, обеспечивая тем самым, чтобы преподаватели иностранных языков оставались подготовленными для обеспечения высококачественного обучения во все более цифровом мире.

Многие преподаватели и специалисты в области образования испытывают затруднения в определении эффективных методов интеграции данной технологии или оценке ее влияния. Оценка процессов и результатов мышления учеников в проектах, связанных с Интернетом, а также определение того, как веб-приложения могут способствовать развитию их способности к такой оценке, может представлять особую сложность даже для опытных учителей, использующих контент и технологии [7]. Для того чтобы стимулировать обучение, обеспечивая конструктивную и продуктивную обратную связь с использованием новых технологий, учителя часто должны пересматривать традиционные методы и критерии обучения и оказывать помощь учащимся в осознании, что успешное обучение включает в себя активное участие и поддержку обмена обратной связью как внутри аудитории, так и за её пределами [10]. Интернет-основанные социальные сети вносят в школьную среду инструменты, людей и материалы, способные изменить устоявшийся порядок в учебном процессе и помочь учителям и ученикам получить оценку своей деятельности [9]. Использование возможностей социальных сетей может предоставить учителям и учащимся доступ к иной культуре, что поможет им лучше понимать принципы обучения с применением технологий и пересмотреть свои подходы. Тем не менее, онлайн-социальные сети могут также затруднить учебные процессы, когда учителя и учащиеся не видят их ценности в обучении или не умеют использовать эти сети для достижения образовательных целей. Концептуально, практика онлайн-социальных сетей, кажется, хорошо сочетается с концепцией коннективизма в обучении как процессе создания связей и формирования сети. Осведомленность можно проявить как способность устанавливать и укреплять эти связи, получать доступ к специфической информации и использовать ее эффективно [7]. Концепция коннективизма также допускает нелинейность и непредвиденные сетевые эффекты в учебном процессе в «размытом окружении с изменяющимися основными элементами, которое не полностью поддается контролю отдельного учащегося» [5, 125 с.]. Таким образом, опыт учащихся на сайтах социальных сетей формируется через контент, который они создают, загружают и публикуют; их взаимодействие с контентом других людей; и непредвиденные воздействия других людей на их цифровые творения.

Процесс обучения, сопровождающий нас на протяжении всей жизни, представляет собой сложный путь изменений в нашем поведении, опираясь на накопленный опыт. В этой логике обучение определяется как «процесс, в результате которого опыт выполнения упражнений приводит к изменениям в способности выполнять определенные действия» [8]. В традиционной образовательной среде наиболее часто упоминаются три теории обучения: бихевиоризм, когнитивная теория и конструктивизм. Они взаимно дополняют друг друга, описывая способы обучения человека. Для полного понимания современных методов анализа данных необходимо освоить основы когнитивной психологии. Использование информационно-коммуникационных технологий и инструментов Web 1.0 в различных сферах жизни повлияло на восприятие учеными процессов и на наше мышление о функционировании человеческого разума. Теоретики обработки данных разработали модели памяти и обучения, опираясь на принципы работы компьютеров. [10]

С использованием ИКТ и инструментов Web 1.0, образовательная система пересмотрела методы обучения и преподавания. Роли учителей и студентов претерпели изменения в соответствии с эволюцией содержания обучения. Студенты активно участвуют в учебном процессе и сотрудничают с преподавателями в создании учебного материала. Обучение стало результатом совместной работы, обсуждения и обмена мнениями. Такой подход к обучению ближе всего к конструктивизму, где студент выступает в роли активного участника образовательного процесса.

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COMMONLY USED IDIOMS IN ENGLISH AND THEIR AZERBAIJAN EQUIVALENTS

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Abstract
Idioms from Azerbaijani and English are not always compatible. As a result, the people should provide a portrayal that is appropriate given the specific circumstances of a given scenario. Idioms typically refer to fixed word combinations, although they also go through a number of significant modifications in literature and digital speech. The primary steps required for teaching idioms in secondary and higher education should be anticipated; that is, idioms should be specified first, followed by usage guidelines, and then applications.
Keywords*:* İdiomatic expressions, Equivalent translation, Equivalent phraseology

Xülasə
Azərbaycan və ingilis dillərindən olan deyimlər həmişə uyğun gəlmir. Nəticə etibarı ilə, insanlar müəyyən bir ssenarinin xüsusi şərtləri nəzərə alınmaqla uyğun bir təsvir təqdim etməlidirlər. İdiomlar adətən sabit söz birləşmələrinə aiddir, baxmayaraq ki, onlar ədəbiyyatda və rəqəmsal nitqdə bir sıra əhəmiyyətli dəyişikliklərdən keçirlər. Orta və ali təhsildə idiomların tədrisi üçün tələb olunan ilkin addımlar gözlənilməlidir; yəni əvvəlcə idiomlar, sonra istifadə qaydaları, sonra isə tətbiqlər göstərilməlidir.
Açar sözlər: İdiomatik ifadələr, Ekvivalent tərcümə, Ekvivalent frazeologiya

1. İNTRODUCTION

In addition to having a complex idiomatic system, modern English has a wide vocabulary. When translating idioms, idiomatic phrases, and phraseological expressions into Azerbaijani, caution is required. These expressions are used in English to improve the comfort and interest of learning the language as well as to make it sound more pleasant and natural.

A great resource for anyone looking to learn a language is idioms, which are the foundational knowledge of any language. One of the most important requirements to learn any foreign language is vocabulary. The language's usage of certain phrases fosters greater ease when speaking a foreign language.

Idioms have a special place in word combinations. English and Azerbaijani are languages rich in idioms and idiomatic combinations. Idioms can be found in all styles: writing, speaking, fiction, etc. Even newspapers, radio and television are full of such idiomatic expressions.

According to one of the prominent linguists Ch. Hocket *"Idiom is a grammatical form consisting of a single morpheme or complex form whose meaning cannot be determined on the basis of the present structure"*. [1, s.6]

Idioms are a kind of phrase that are used to express concepts and words in an unusual way. These terms don't have a literal meaning because they are used figuratively. Idioms and other similar expressions might be challenging to grasp at first. Idioms, it is important to remember, are not just terms that facilitate understanding and speaking; they are also one of the tools that enhance the beauty, fluency, and clarity of our speech. Idioms are a fantastic method to pick up new vocabulary while having fun and learning a lot about the language. Every idiom has an ancient root, yet it remains functional if we look into its history.

2. EQUIVALENT RENDERING OF IDIOMATIC EXPRESSIONS

Idioms were examined from both a linguistic and a psychological-cognitive perspective in this investigation. At this point, it was discovered that the idioms used in the cognitive context had something to do with semantics and syntax, and that they had something to do with cognitive processes in the psychological context.

The primary requirements for idioms are meaning integrity, semantic stability, lexical stability, and syntactic stability. The consistency of the constituents is a measure of lexical stability, while the consistency of the component members' order is a measure of syntactic stability. The consistency of idiom content is essential for structural stability because when it changes, the word loses its ability to express itself in an idiomatic manner. Idioms acquire their integrity of meaning through the attenuation of the lexical meaning of its constituent parts. In this instance, the word ceases to serve as a nominative and instead functions as a complex unit combined with other words.

Every idiom has a unique origin tale and developmental stage. Idioms were developed in relation to each country's way of life, beliefs, artistic expression, and cultural practises. Studies pertaining to the time and location of their creation reveal that they were first conceived literally before acquiring a metaphorical interpretation. Idioms are grouped together in multiple groupings based on their distinct contents. Every idiom is looked at in this article for a variety of traits.

Both rendering techniques and colloquial idioms abound. The most significant one is referred to as equivalent translation. "*Using linguistic conventions, a high rendering quality is achieved without sacrificing the diversity of material*." [2, s. 16]. The translator can fully maintain the meaning of the translated language unit by employing this technique. In other words, the translation language's expression and the source language's expression have the same parameters. *"In addition, equivalents are separated into complete and partial categories according to the content they include*." [3, s.203]

Full equivalents: The rendered expression in these kinds of renderings is a solitary depiction of the original expression. Their lexical makeup, imagery, and grammatical structure are all the same. Ex: *qara bazar – black market; boz kardinal - grey cardinal* və s.

Incomplete equivalents: Despite the stylistic and pictorial similarities between these idioms, there can be some lexical-grammatical variations. Ex: *silver screen - mavi ekran; a black look - hirsli baxış; be in the red - əli aşağı olmaq* və s.

It is simple to see that there are many significant differences in the grammatical structure and structural formation of idiomatic expressions in the Azerbaijani and English languages when examining them from the perspective of tyrology. These variations can be grouped together and summarised as follows:

1) Redicative phrases are included in colloquial expressions of the verb in both Azerbaijani and English. As a result, in these idiomatic units, the redicative word combination manifests itself in the Azerbaijani language as a verb clause or branch sentence. Take a look at this example: *"Don't count the chickens before they are hatched."* The equivalent of this expression in the Azerbaijani language is understood as "Süsani is counting in the rain". "*To take the hair of the dog that bit you." – "İti öldürənə sürütləyərlər." "To bite the hand that feeds you."* - In the Azerbaijani language, this expression can be interpreted as "*çörək verənin əli kəsmək."*

2) In English, the verb is used in front of the main element in idiomatic combinations, as it is related to the word order of the grammatical structure. Ex: "*to pay through the nose"* – in literally translation "*çox pul ödəmək"* in the compound expressing the meaning the word *"pay"* is used in front of the expression. In expressions such as "*başa düşmək, qulaqardına vurmaq"* the verb is used at the end.

3) The ability of the English language to be utilised in the middle of a verb in Azerbaijani is another feature that sets it apart from the latter language. Ex:, *gah başına döyür, gah dizinə; gah nala vurur, gah mıxa.* Furthermore, we observe that at least two Azerbaijani idiomatic idioms are combined. Ex:, *baş-beynini aparmaq, əldən-ayaqdan düşmək* and etc. Such sentences are usually surprising in their interpretation. The interpretations are seldom the same as the dry parts' literal interpretations. It is possible to dissect and analyse many idiomatic expressions, with each part's meaning contributing separately to the total semantic meaning. English language learners most likely don't know these expressions. Usually, they analyze the literary level first. Ex: "to climb the walls" - to be uneasy or restless; syn: go bananas- bu idiomun mənası "incitmək, narahatlıq yaratmaq" deməkdir. Bu ifadəni ingilis dilini yeni öyrənməyə başlayanlar "divara dırmaşmaq, banan ağacına çıxmaq". [4, s. 41]

As Harry Collins' dictionary of American-English Idioms explains: "*an idiom is a fixed phrase or expression that has conflicting meanings with respect to the ordinary structures of the language, or different meanings when interpreted literally.*" [5, s.12] Idioms, then, are idioms that have specific, established meanings that are typically not evident or plain. Ex: *"sirri açmaq*" meaning is *"to spill the beans"* or, *"bir kəslə çox ehtiyatla danışmaq"* meaning is *"to handle someone with kid gloves"* are idioms. A mismatch between the overall meaning of linguistic units and the meaning of each of its constituent parts is known as idiomaticity. The breakdown of formal and semantic connections between language units leads to idiomaticity. The context generally clarifies meanings that are not made clear by the words alone. [6, s. 68]

Idiomatic unit equivalency is predicated on similarities and commonalities between the compared languages. The premise for equivalency is a somewhat different formulation of the expression in terms of complete or content similarity. There are several idiomatic units with differences in content and expression within every language. Cross-linguistic invariance results from the inclusion of both dynamic and non-dynamic units in the structure of equivalent idiomatic units. The placement of the language's units at the lexical-semantic, lexical-morphological, syntactic, and semantic levels determines this. [3, s. 82] Certain linguists contend that every language has unique national traits as well as structural-grammatical and semantic traits of phraseological units or colloquial expressions. From this vantage point, it is important to adhere to the requirements of interlinguistic equivalency while taking into consideration variables like the specific location of each expression in the language system and its level of stability. It is incorrect, according to some linguists, to translate colloquial idioms word for word. Since all of them are highly stable expressions that have been condensed into a certain shape. When translating from one language to another, each one should be read in accordance with its equivalent. Idiomaticity is the full disassociation of words from their original meaning. Idiomaticity is defined by the compatibility of one of the constituent parts and the combination's semantic integrity, or equivalency to the word. Making the language sound more colourful can be impeded by translating expressions verbatim. N.M. Shansky states the following about the word's meaning shift: "*The level of a word is frequently linked to the language's deviation from the principles governing the integration of semantic units of meaning. This implies that the constituent parts lose their individual meanings and become less semantically independent. In linguistics, this results in the phenomenon known as idiomaticity."*[3, s.64] The confirmation of this opinion can be found in the monograph of M. Mirzaliyeva: "*The true essence of idiomaticity is that the general meaning of the whole language unit (word, combination and sentence) cannot be divided into the meanings of its constituent parts.*" [3, s.64]

Phenomenology can be classified into two categories: 1) phraseology that has complete phraseological equivalents, and 2) phraseology that has partial phraseological equivalents. The phraseology of SL (sign language) intersects with PL (primary language) in terms of semantics, lexical composition, grammatical structure, and artistic and stylistic nuances: Ex: *"Faults are* *thicker where love is thin" (Məhəbbət boyuk olan yerdə, qusur boyuk olar. -One half of the world doesnt't know how the other half lives" (Toxun acdan xəbəri yox)* The set of incomplete phraseological counterparts includes phraseology from SL that, in terms of meaning and artistry, somewhat matches the composition of phraseological equivalents in PL. [7, s.21]

3. CONCLUSION

Idioms from Azerbaijani and English are not always compatible. As a result, the artist should provide a portrayal that is appropriate given the specific circumstances of a given scenario. Idioms are mostly stable word combinations, although in writing and digital speech, they go through a number of important modifications. The primary steps required for teaching idioms in secondary and higher education should be anticipated; these are the definition of the idiom, the usage guidelines, and the applications.

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IMPACT OF MODULED LEARNING ON THE PREPARATION OF FUTURE TEACHERS

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Annotation:
This article provides an analysis of the impact of modular training on the formation of competencies of future teachers. Modular learning is seen as an innovative method designed to change traditional approaches to education. Key aspects of this approach are highlighted, including the flexibility of the learning process, individualization of learning, the introduction of active forms of learning through practical modules, as well as an assessment system that provides students with feedback to stimulate the learning process. The article also examines the specialized skills that students can acquire as a result of modular training, and their relevance in the context of modern requirements for teaching. Particular attention is paid to issues of interdisciplinary integration and its role in the formation of a holistic perception of education. The findings highlight that successful implementation of modular learning requires not only the development of flexible curricula, but also active support from teachers and educational institutions at large. Based on these aspects, the article highlights modular learning as a promising and effective approach to training future teachers, facilitating their successful adaptation to the dynamics of the modern educational landscape.

Modern challenges in the field of education require innovative approaches to training future teachers. In this context, modular learning represents an important research object and tool for the development of modern educational practices. This form of training provides students with the opportunity to break the learning process into smaller, logically connected components - modules. Each module may focus on specific topics, skills or teaching methods. In the context of preparing future educators, modular learning can transform traditional curricula by giving students the flexibility to choose and tailor courses to their needs. This approach helps personalize the educational experience, allowing students to more effectively develop their strengths and work on their weaknesses.

One of the key benefits of modular learning is its ability to promote active learning. Activities and projects built into each module can support the practical orientation of education. This is especially important for future educators who need to develop teaching skills in a dynamic and technology-rich educational environment.

Modular learning also contributes to the formation of interdisciplinary connections and a comprehensive view of teaching activities. Students taking different modules can see the relationships between different aspects of the educational process and gain a better understanding of a wide range of methods and strategies. However, despite its advantages, modular learning also presents challenges, such as the need for careful planning and coordination to ensure the integrity of the educational experience. It is also important to pay attention to assessment and feedback to encourage students to achieve better results.

In this context, conducting a more in-depth analysis of the impact of modular learning on the preparation of future teachers becomes an integral part of research work aimed at optimizing learning processes and creating a sustainable basis for the professional growth of future teachers in the modern educational landscape.

The relevance of studying the impact of modular learning on the preparation of future teachers is underscored by several important factors that define the modern educational environment. For instance, individualization of learning, as contemporary learners vary in learning pace, style, and proficiency levels. Modular learning enables a more effective adaptation of approaches to individual student needs, taking into account their unique abilities and interests. Rapid changes in educational requirements, such as those for pedagogical training, may also evolve in response to societal, technological, and economic changes. Modular learning provides flexibility in integrating new topics and methodologies into educational programs.

Preparing for real-world educational challenges, for example, future educators must be prepared for varied and challenging classroom scenarios. Modular training can provide them with the opportunity to develop specific skills needed to succeed in a dynamic educational environment.

With the development of technological competencies, modern teachers must be masters of digital skills and be able to successfully integrate technology into the educational process. Modular training may include specialized modules aimed at developing digital literacy.

The globalization of education directs today's educators to work in a global context. Modular learning can provide students with the opportunity to explore international methodologies, cultural sensitivity and modern approaches to education. Effective teacher training in a variety of contexts, with events such as the COVID-19 pandemic placing new demands on teaching formats. Modular training, including online components, can be an effective means of preparation, providing accessibility and flexibility.

Modern educational standards also emphasize the importance of interdisciplinary interaction. Modular learning allows you to integrate different aspects of education, promoting deeper understanding and preparation of students. Striving for better learning outcomes: With the advent of new methodologies and research in the field of education, there is a need for constant updating of learning content. Modular learning allows for the rapid integration of innovations and best practices, facilitating more effective learning and student preparation.

Making educational programs more attractive: A modular structure can make educational programs more attractive to students. Being able to choose specific modules to suit their interests and career goals can be a key factor when choosing an educational institution.

Support for distance learning: Modular training provides unique opportunities for the effective implementation of distance learning. Each module can be structured in such a way as to ensure independent study of the material, which is important in the context of the growing popularity of online education.

One of the important requirements for modern teachers is the availability of practical skills necessary to successfully conduct lessons and work with a diverse audience. Modular learning can emphasize the development of these practical skills through specialized modules and practice in real-life educational environments. Modular learning, by providing students with the opportunity to study various aspects of teaching, can contribute to the formation of multitasking in them. This ability is becoming increasingly important in the context of the modern educational environment. Modular learning can encourage students to focus on outcomes and the development of specific competencies, which is important for successful entry into a professional field.

By providing a more flexible structure, modular training can reduce overall training time while maintaining quality training. This is especially true in conditions of increased need for education and the need to quickly enter the labor market. Modular training allows you to create sustainable educational programs that easily adapt to changes in the sociocultural environment, technological innovation and labor market requirements.

Thus, research on the impact of modular learning on the preparation of future teachers is important in light of modern challenges and expectations in the field of education, as well as to effectively meet the needs of students and ensure their successful future in the teaching field.

Support for distance learning: Modular training provides unique opportunities for the effective implementation of distance learning. Each module can be structured in such a way as to ensure independent study of the material, which is important in the context of the growing popularity of online education.

The main part of the study on the impact of modular learning on the preparation of future teachers includes an analysis of key aspects that may be addressed within this research. It is important to consider both the positive aspects and potential challenges that may arise when implementing modular learning in the field of pedagogical training. The flexibility and personalization of modular learning provide students with the flexibility to choose courses, adapt study plans to individual needs, and offer a variety of options for exploring specific aspects of pedagogical activities. It is crucial to strike a balance between flexibility and the need to establish common standards.

Active learning and practical skills from modular courses can integrate practical assignments, stimulating the development of practical skills for future teachers. This also promotes active student participation in the educational process and ensures that practical assignments align with the real challenges faced by educators, guaranteeing their effective integration into the learning process. Assessment and feedback facilitates assessment of each module, allowing for more accurate measurement of student progress and targeting improvement. Developing effective assessment and feedback methods for each module, and maintaining assessment standards in a flexible learning environment.

Specialist skills integrate specialist modules, for example on working with children with special educational needs or using new technologies in teaching. Ensuring relevance and compliance of specialized modules with the requirements of the labor market and the changing educational environment. Professional development can support the formation of individualized professional development plans for future educators.

Interdisciplinary integration of modular learning promotes interdisciplinary integration, creating a more holistic understanding of the role of the teacher and his interaction with various educational disciplines and ensuring balanced integration without losing the depth of knowledge in each area. Research into these aspects will provide a more complete understanding of how modular learning impacts the development of competent and challenge-ready future teachers. In the future, modular learning represents not only a methodological shift in education, but also a real opportunity to train more flexible, independent and competent teachers. This approach meets the modern requirements of educational systems, where the most important role is played not only by the acquisition of theoretical knowledge, but also by its successful practical implementation. One of the significant advantages of modular learning is its ability to adapt to the individual needs of students. This is especially important in the context of the modern diversity of educational styles and personal characteristics of students.

Modular learning allows you to learn at a pace that suits your specific needs, resulting in deeper, more meaningful learning. It should also be noted the importance of modular learning in the context of an ever-changing teaching environment. Specialized modules allow you to introduce modern topics into curricula, such as digital technologies in education, issues of inclusive education and many others. This ensures that future educators are equipped with the knowledge and skills needed to be successful in today's educational environment. An important aspect is also the preparation of students for professional activities. Individualized professional development plans through modular learning enable students to proactively build their career paths based on their unique interests and ambitions. This contributes to the formation of flexible and proactive professionals who are able to effectively adapt to changes in the field of education.

Finally, modular learning encourages the development of critical thinking, research skills and independence in students. These qualities are key in today's world, where learning does not stop after completion of formal training programs, and where the ability to independently update one's knowledge is important.

Modular learning is not just a method, but also a teaching philosophy that meets modern requirements and challenges in the educational field. Its successful implementation requires not only efforts on the part of educational institutions and teachers, but also a readiness for constant development and innovation in the field of teaching practice.

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Teaching STEM: Mathematics in English to preschoolers of different cultures

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Annotation
This article presents an overview of contemporary research on preschool mathematics teaching and learning which includes a variety of educational studies, focusing on the different content and methods of studying mathematics in young children across educational systems. Particular focus in this paper is directed to what facilitates children's mathematical learning and development, and what mathematical key concepts can be observed in children. This knowledge is important for future research and for the development of educational practices.
Keywords: Mathematics, cognitive abilities, preschoolers, english language, Kazakh and other students from diversity cultures.

I. INTRODUCTION

Preschool is a formative year for math skills. This is the time when kids should start developing their "number sense"—the ability to understand, connect, and manipulate numbers. It is also a period of a rapid cognitive (intellectual), social, emotional and physical development of a child.[1]

By the end of Preschool, kids should easily recall the counting sequence and use it to solve simple math problems. They should have a strong understanding of the relationship between numerals and their quantities. And they should start exploring ways to build and take apart numbers. These skills will give kids strong foundation for the rest of elementary school and beyond.[2]

Since children speak mostly in native language, they will learn extra mathematical terms in English. It helps them to enlarge their vocabulary widely. Because in my region there is few places where children can learn English with basic numeral awareness in English. And it is important to preschoolers who go to English based class in the following year. But some of them go to Russian or Kazakh based class. In my group were 15 children and 14 of them moved the English based class, 1 of them to Kazakh based class to 1-st grade. Half or one year is too short to develop their mathematical knowledge nevertheless, good method and effortfulness together gave unbelievable result.

To develop this field of research, a strong foundation of theory and methodology is necessary, along with consideration of the practical settings of young children's learning as well as the societal needs and relevant educational policy frameworks. Moreover, from a didactical perspective, it also requires consideration of the essence of the mathematics to be taught to young children.

High-quality research grounded in theory is necessary for all areas of mathematics education, in order to move forward and contribute to the generation of new knowledge from which the educational practice can benefit. Since there is much evidence that later development in mathematics is laid in the early years. [3]

Investigating young children's mathematical learning and teaching became part of this discipline much later. Early childhood mathematics has long been the research field of sciences. From the studies of mental abilities and thinking in mathematical problem-solving carried out in these disciplines, we have gained knowledge about the influence of working memory and attention span.[4]

II. METHOD

Conceptual Framework

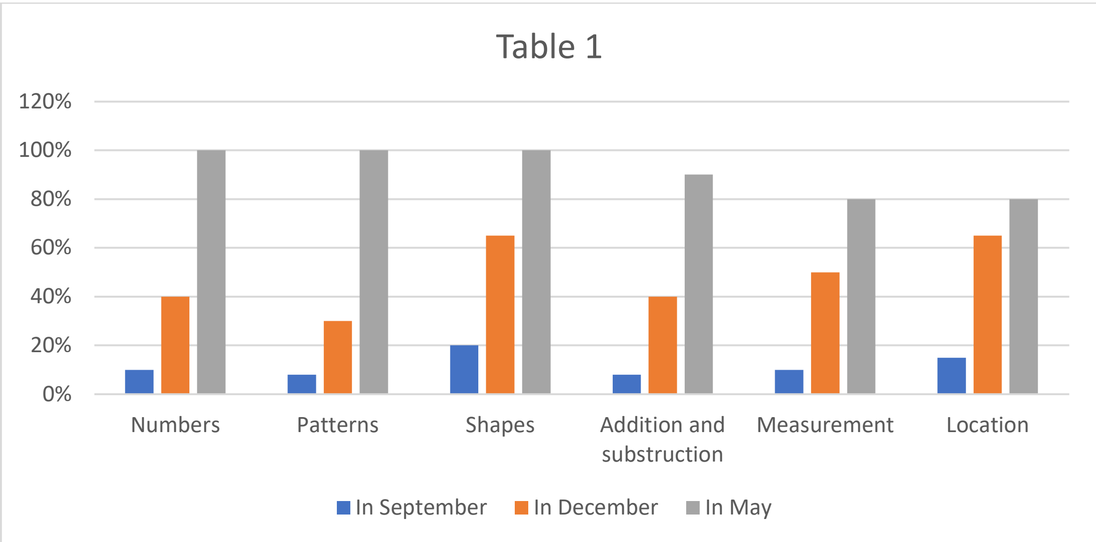
Bronfenbrenner [5]describes three key elements of contexts: activities in which the child is engaging (“activities”); people, in differing roles and relationships with the child (“interactions”); and the physical space and materials within this (“settings”). Within these settings, the beliefs and practices of early childhood educators guide the mathematics education opportunities available to the children with whom they work. In order to explore these practices, the study adopts the concepts of “sayings, doings, and relatings” from the theory of Practice Architectures [6]. These concepts provide a framework for recognising and interpreting early childhood educators’ own particular understandings and self- understandings (“sayings”); skills and capabilities (“doings”); and values and norms (“relatings”) [7].

The study employs children's mathematical activities and interactions, as well as educators' views and behaviors, uses a multi-phase mixed-method methodology. Participants were surveyed including from 4 to 6 years old. The research specifically targets a range of services in order to capture typical under 6s education settings and identify their mathematics education in English.

Before data collection, the homeroom teacher and other preschool staff members of the preschool unit, as well as parents of the children attending the unit, were informed about the project, and asked to sign a form to indicate their informed consent. In the information provided, they were informed about the research, its related studies and aims, the processes of data collection, use of results and their rights as participants. All consented to take part. The homeroom teacher and other staff members were the focus of the observations.

III. RESULTS

This section presents a descriptive data in the beginning of September, at the end of December and at the end of May. (Table 1)



The highest scores

The highest scores are related to the item on Numbers and Patterns and Shapes. As regards these three items, the preschool unit has ‘good’ quality. Numbers, Patterns and the Shapes are the following ‘Activities such as songs, rhymes, counting stones and/or games are often used with the children. They are encouraged to count objects and to associate the spoken numbers with the numerical concepts.

The lowest scores

The lowest scores are related to the item on Addition and Substruction, Measurement and Location. As regards these three items, the preschool unit did not attain 'good' quality. Activities occur regularly that develop and extend Addition and Substruction, Measurement, Location and mathematical skills. Almost most of the participants stated that mathematics education is required to help young children to develop their mathematical thinking, to improve their practical intelligence and problem-solving, and to support them for learning in their daily life. Early mathematics teaching enables them to think actively, to be ready for primary school, and ensures success in many parts of their life. Mathematics is in all aspects of our lives, and it is therefore crucial to expose children to it at early age because it gives meaning to their lives.

Proximal processes related to early childhood education in preschool

Mathematics from 1 to 10 is the first theme. This subject is in line with the emphasis placed in the preschool lesson on the numbers 1, 2, 3, 4, 5, 6, 7, 8, 9 and 10. The preschoolers engaged in activities (including circle time and lunch preparation) where counting, typically limited to numbers up to ten, was used. In the preschool section, these ten numbers were also exhibited on posters, with the number 1 next to one butterfly, the number 2 next to two butterflies, the number 3 next to three butterflies, and so on (both indoors on the wall and outdoors on the school yard fence). The preschoolers were also asked to count the things (which numbered no more than ten) and sort the objects (for example, plastic toys by color). preschoolers who effortlessly sorted objects, read numbers, and applied counting to ten were observed, as well as preschoolers who did not. The homeroom teacher and the other preschool staff members helped the children who were having trouble so they could finish a job and respond to a question that was posed to them; for instance, they counted alongside these kids.

The second theme is named "A short question and a short answer". This reflects short mathematical dialogues that occurred in the preschool unit between staff members and children. These short dialogues encompassed a question from teacher to child (e.g. How many plates do we need? Do you want a whole or a half apple? Do you want two or three pears ?), and an answer from the child to the teacher (e.g. Three plates. A half apple. Three.). There were also short dialogues and questions which were initiated by a child. For example, one child said, 'My brother is big'. One of the preschool staff members answered, 'Yes, he is tall'. This theme reflects the relative rarity of long mathematical dialogues between teacher and children in which both a teacher and a child constructed a shared meaning and had a sustained shared thinking on such matters as counting, written numbers, comparing, matching and measuring.

Embedded mathematical concepts in everyday routines and play activities.The third theme concerns mathematical concepts such as side, under, as many as, lesser, whole, half, over, tall, both, under, high, low, circle, square, rectangle, triangle, heavy, light, long, big, small, few, many, 1st, 2nd, 3rd and so forth. In the preschool unit the preschool teacher and other preschool staff members used mathematical concepts when talking to children in daily routines (e.g. breakfast) and play situations (e.g. art activities and free play). One example was when a staff member said to a child, 'You are so tall'! The child answered that she had been growing the whole day. These concepts were neither foregrounded (i.e. drawn attention to) nor backgrounded; these were, as many other terms, interwoven into everyday preschool conversations during daily routines and play activities. This theme is termed Embedded mathematical concepts in everyday routines and play activities.[8]

These preliminary findings are overwhelmingly positive. The data presented Table 1 indicates that mathematical awareness of preschoolers in English of different cultures increased vividly comparing with the beginning of September and at the end of May.

IV. CONCLUSION

This research offers a baseline position in terms of Kazakhstan early childhood educators' beliefs and self-understandings regarding mathematics education for children under six years of age. And these analyses present positive descriptive data. These findings also shows a good level of recognition of early mathematical development. Table 1 indicates that the majority of preschoolers' mathematical concepts are developed for one academic year starting from September to May. Preschool teachers suggest that everyday resources and activities connecting with daily routine, which used for in existing studies are useful for mathematics education. Moreover, children boosted their English speaking skills. Finally, benefits of mathematics education is related to transition to school, language development, and thinking skills. These findings are positive in light of existing research that suggests that educators may prioritise these areas over mathematics.

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DEVELOPMENT OF SOCIAL SKILLS IN TEENAGERS IN THE CONTEXT OF PREVENTION OF SCHOOL BULLYING

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Abstract

Bullying remains a pressing concern among adolescents in Kazakhstan, as evidenced by the revelation that every fifth teenager in the country has experienced bullying. To combat this issue, the Ministry of Education has taken significant steps, such as the approval of "Rules for the prevention of bullying of children." This article explores the pivotal role of developing social skills in teenagers in preventing school bullying. By integrating social skills development into the educational system, we aim to create a safer and more nurturing environment for Kazakhstan's youth.

Keywords: School bullying, social skills, adolescents, prevention, education.

Introduction

"Every fifth teenager in Kazakhstan was bullied. Such statistics were announced in the National Center of Public Health, says Khabar 24 correspondent Indira Ahat" [1]. This alarming revelation underscores the pressing issue of school bullying, a concern that affects the well-being and development of adolescents across the country. In response to this crisis, the Ministry of Education of the Republic of Kazakhstan has taken a significant step forward with the approval of the "Rules for the prevention of bullying of children," as outlined in Order No. 506, dated December 21, 2022 [2]. These rules mark a milestone in addressing the pervasive issue of bullying in educational institutions.

Khalida Azhigulova, a prominent advocate for children's safety, emphasizes the importance of these new regulations by stating, "Thanks to our joint advocacy efforts, a new competence was introduced for the Ministry of Education to develop rules for the prevention of bullying in schools, which will now be mandatory for all public schools throughout the Republic of Kazakhstan. Because safety issues are the basic needs of any child. If a child comes to school and he does not feel safe, then he cannot study effectively, he cannot effectively absorb knowledge, realize himself in creativity, and other projects" [3]. Indeed, the foundation of any thriving educational environment is ensuring that students feel safe and secure, free from the detrimental effects of bullying.

In light of these developments, it is crucial to examine the pivotal role that the development of social skills in teenagers plays in the context of preventing school bullying. This article will delve into strategies and methods helpful to develop social skills in teenagers in the context of prevention of school bullying. By understanding the importance of social skills and their integration into the educational system [4], we can pave the way for a safer and more nurturing environment for the future of Kazakhstan's youth.

Methodology

This research seeks to contribute to the ongoing efforts to address the pervasive issue of school bullying and to ensure the well-being and development of adolescents. The research began with an extensive review of existing literature on the subjects of school bullying, social skills development, and their interplay. We examined previous studies, academic papers, and relevant government reports to understand the current state of bullying in Kazakhstani schools, the importance of social skills in preventing bullying, and best practices in this domain. We gathered data through a combination of qualitative and quantitative methods. Surveys were administered to students, teachers, and parents to gauge their perspectives on bullying and the development of social skills. Additionally, focus group discussions were conducted to obtain in-depth qualitative insights into the experiences and opinions of participants. Drawing on the research findings and existing best practices, we developed intervention strategies aimed at promoting the development of social skills among teenagers as a means to prevent bullying.

Literature review

The impact of interventions on reducing aggression and victimization in school environments has been the subject of extensive research. Some significant studies shed light on the effectiveness of social skills development programs in addressing these issues.

Espelage et al. (2013) conducted a study focused on the impact of a middle school program aimed at reducing aggression, victimization, and sexual violence. Multilevel analyses revealed significant intervention effects with regard to physical aggression. Notably, individuals in intervention schools were 42% less likely to self-report physical aggression than students in control schools. However, no significant intervention effects were found for verbal/relational bully perpetration, peer victimization, homophobic teasing, or sexual violence [5].

On a similar note, Silva et al. (2018) explored the effectiveness of interventions in social skills and bullying prevention. Their study observed a significant reduction in the difficulty in social skills, which persisted over time. This success in improving social skills was seen as a vital aspect of peer interactions, especially during school transitions. However, the researchers noted that while there was a significant reduction in victimization, this decrease could not be solely attributed to the improvement in social skills. This finding suggests that other intervention models may need to be explored to address bullying victimization more comprehensively [6].

Furthermore, the importance of teaching social skills to prevent bullying in young children has been highlighted in practical guidance. It has been observed that bullying often emerges among young children due to differences in physical size, skill levels, and family experiences. To address this issue, caregivers are advised to prepare strategies for dealing with bullying incidents, create a supportive environment that rejects bullying, and help children develop three types of social skills: social problem-solving skills, empathy skills, and assertiveness skills. These skills empower children to navigate bullying situations effectively, foster empathy, and assert themselves when necessary [7].

In summary, the research presented indicates that interventions focusing on social skills development can have a positive impact on reducing physical aggression and improving social interactions among students. While such interventions may not exclusively address all aspects of bullying, they form an essential part of the broader strategy to prevent and mitigate bullying behaviors among young individuals.

Results and discussions

The research design employed for this study is a longitudinal approach, focusing on school students. A total of 12 school classes were selected and randomly assigned to either the Social Skills and Bullying Prevention intervention or the control condition.

Under the Social Skills and Bullying Prevention intervention condition, teachers were responsible for delivering a series of 10 weekly lessons (term 4) as part of acurriculum. These lessons were designed to emphasize the development of social-emotional learning skills, with a specific focus on fostering empathy, improving communication, addressing bullying prevention, and enhancing problem-solving abilities among the students.

The study involved a total of 12 school class students, who were evenly distributed between the intervention group and the control group. These students participated in self-report assessments that were administered both before and after the implementation of the curriculum.

The self-report assessments were designed to gauge various aspects of students' experiences and behaviors related to bullying and social skills development. These measures encompassed self-reported data on verbal and relational bullying, physical aggression, instances of homophobic name-calling, as well as experiences of harassment.

By following this comprehensive methodology, our study aims to assess the impact of the curriculum, with its focus on social skills development and bullying prevention, on the behaviors and experiences of the participating students. The longitudinal design will allow us to observe changes over time and draw valuable insights into the effectiveness of these interventions in addressing and preventing school bullying.

Conclusion

The critical issue of school bullying in Kazakhstan demands an integrated approach that prioritizes the well-being and development of adolescents. By examining the role of social skills development in preventing bullying and drawing insights from a literature review, we have identified the significance of interventions that promote empathy, effective communication, and problem-solving abilities among students.

Research into social skills development and bullying prevention highlights that while some interventions, such as those examined in the studies of Espelage et al. (2013) and Silva et al. (2018), have shown promise in reducing physical aggression and fostering social skills, a comprehensive approach is needed to address the various dimensions of bullying.

Our ongoing study, following a longitudinal design and involving student assessments before and after the implementation of a curriculum, aims to contribute to this body of knowledge. By tracking changes over time, we intend to gain insights into the effectiveness of interventions that emphasize social skills development in preventing school bullying. As our research progresses, we hope to provide valuable recommendations that can inform policies and practices, ultimately creating safer and more nurturing educational environments for Kazakhstan's youth.

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REALIZATION OF ARTIFICIAL INTELLIGENCE TECHNOLOGY IN MODERN INFORMATION AND EDUCATIONAL ENVIRONMENT

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In the era of digital transformation and rapidly changing technologies, education is becoming a key success factor. Today, people all over the world have the opportunity to use modern technologies in the learning process to improve its quality and effectively master the necessary professional skills. Artificial intelligence is penetrating various aspects of our lives, and education is not left behind.

The modern information and educational environment is being transformed into a mobile and open system. The introduction of digital technologies and digital educational resources into the educational process has contributed to the formation of a new paradigm of education.

The essence of the digital transformation of education is expressed in the achievement by each student of the necessary educational results by personalizing the educational process through the use of the growing potential of digital technologies, including the use of artificial intelligence methods, virtual reality tools; the development of digital educational environment in educational institutions; providing public broadband access to the Internet, working with big data.

The term artificial intelligence (AI) was coined by American computer scientist John McCarthy in 1956.

Artificial intelligence (AI) is the modeling of human intelligence processes by computer systems. These processes include learning (acquiring information and rules for using the information), reasoning (using rules to reach approximate or certain conclusions), and self-correction. Specific applications of AI include expert systems, speech recognition, and machine vision.

One area whose application of artificial intelligence could lead to big changes is education. AI is breaking new ground and redefining traditional methods of learning. Transforming the educational process with AI:

- Personalized learning: AI systems can analyze student data and create unique learning plans. This allows the learning process to be tailored to each student's individual needs and learning pace. As a result, students can learn more effectively and achieve better results.
- Automated assessments: AI can automatically check assignments, tests, and essays, making teachers' jobs easier. This allows them to devote more time to quality instruction and feedback for students, instead of monotonous checking.
- AI Tutoring: AI-powered virtual teachers can help students explain complex concepts and provide guidance on how to improve study skills. These smart tutors can work with students regardless of the time of day.
- Adaptive learning apps: Mobile apps and AI-enabled platforms can provide students with anytime, anywhere access to learning content, making learning more flexible. They can adapt to each student's learning style, providing personalized material.
- Predicting academic performance: Using data and analytics, AI can help schools and institutions predict student performance and develop interventions to improve it. This allows for better management of resources and organizing support for students who need it.
- Cheating detection: In education, AI can be used to detect plagiarism and cheating in exams. This helps maintain the integrity and integrity of educational programs.
- Data management: AI helps schools and universities analyze large amounts of data to improve operational efficiency and make informed decisions in educational institutions.
- Overcoming language barriers: AI translators and language learning apps make learning accessible to people who speak different languages.
- Research and innovation: Many research projects are using AI to develop new teaching methods and materials. Artificial intelligence is driving creativity and innovation in education.
- Ethical and safety issues: With the increasing use of AI in education, questions arise about data privacy, as well as how to ensure ethical use of the technology for educational purposes. Organizations and educational institutions must actively work to ensure data security and privacy.

Artificial intelligence will continue to change education in the future. We may see the introduction of virtual classrooms, educational robots, and other innovations that will change the way students and teachers learn and interact.

To date, there are already many successful examples of integrating AI into education. For example, Khan Academy platform uses AI for personalized learning, and Coursera provides courses, among which you can find many programs backed by AI technology.

The use of AI technologies by universities facilitates the process of providing educational services and contributes to improving their quality. AI allows to form an individual educational trajectory for each student for successful study at the university and further professional growth.

Let us present some promising directions of using AI, which are shown in Figure 1.

Figure 1: Main directions of using artificial intelligence in education

Adaptive and personalized learning implies the selection of the necessary learning content to meet the needs of each student with different levels of performance, with the ability to track progress in learning and change its trajectory depending on the results.

The system of automatic assessment allows to carry out automated unbiased assessment of students' knowledge level, analyze information about learning results, give recommendations, develop effective individual learning plans.

Intermediate training - specialized computer program allows the student to consolidate the passed material, determines when he/she can forget it and gives recommendations for repetition.

The possibility of learning in a game form (gamification) is expressed in the use of game technologies and training simulators in the educational process.

Proctoring system is also promising, which is able to analyze the behavior of a student taking an exam remotely: the frequency of looking away from the monitor, an attempt to change tabs in the browser, the presence of unauthorized persons or voices, etc. It should be noted that the above can, on the one hand, be objective in the evaluation, but on the other hand, in case of imperfections in the system, can in some cases lead to inaccuracies.

For example, there may be noise in the room that has nothing to do with the exam, which the system may record as a violation; or, for example, there may be difficulties in taking the exam for people with visual impairments (strabismus), etc. The Smart Campus - the project will allow to promptly answer various questions of students: class schedule; search for classrooms where classes are held; feedback from the university.

Smart-campus - the project will allow to promptly answer various questions of students: schedule of classes; search for classrooms where classes are held; feedback with the university. teacher access to video lectures, audio materials, presentations, etc.; receiving test assignments; registration for various educational programs, courses; availability of necessary literature in the library; availability of a free place in the dormitory, the ability to choose a place; search for a free parking space, etc.

Artificial intelligence is transforming education, making it more accessible, efficient and adapted to individual needs. It provides new opportunities and challenges, and its integration into the educational process will continue to evolve, bringing new innovations and improvements.

The maturity of artificial intelligence technology has led to the reform of education, renewed the concept of higher education, updated the way of school management and optimized the training system. At the same time, it combines new technologies for continuous education, borderless education, intelligent campus construction and so on, making the realization of people's values and ability development highly integrated. Artificial intelligence not only optimizes teaching skills, but also leads to the reform of higher education evaluation mechanism and system innovation of cross-domain and cross-regional coordination of school resources. This accelerates the reform from innovation in higher education system to innovation in management, and ensures the continuous development of higher education quality.

Nowadays, the application of artificial intelligence in educational institutions is becoming more and more extensive. In concrete learning connections, through data collection and analysis, classification and comparison, it can understand the learning situation of students in all aspects and at several levels, and establish an effective communication bridge between teachers and students. It helps teachers to develop teaching plans, collect teaching materials, answer online questions, test and evaluate teaching, and reduces the burden of daily work. So that teachers have new teaching methods to develop students' innovative thinking, ability to unity and cooperation, ability to interact emotionally, ability to solve complex problems and other social skills.

Thus, by vigorously promoting the combination of artificial intelligence and higher education in line with the new direction of modern economic development and increasing the employment rate of the country, the development speed of artificial intelligence technology will be faster and faster. We need to understand the development context, study and evaluate the industry demand trends, take the initiative to seize the opportunities, actively respond to the challenges and work together to develop the education system in the new era.

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Teaching STEM: Tools of Learning: Enhancing Education with Comics,Animations,and Diagrams

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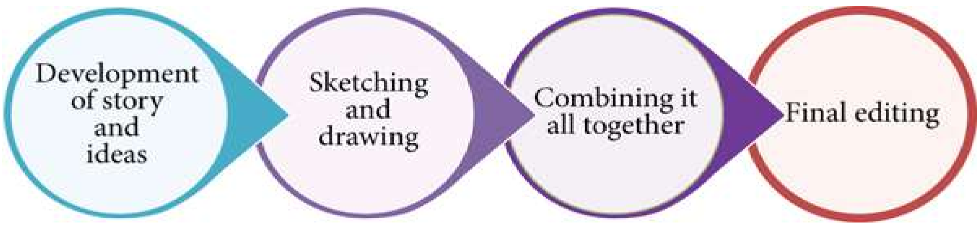
Annotation

This article presents an overview of current research in the field of teaching, which includes various educational studies focusing on various content and methods of study with the help of comics, animation and diagrams. This knowledge is important for future research and for the development of educational practices. Animation serves as an engaging and innovative method to connect with audiences across various fields, catering to age groups from infants to adults. This communication discusses a systematic review that focuses on how animation impacts the visual attention of viewers.Animation helps viewers gain a better grasp of concepts, thus enhancing their cognitive responses. Consequently, animation proves valuable in improving learning skills, food marketing, and teaching strategies.

Keywords:Comics, animation, research, platform and diagrams.

I. INTRODUCTION

Education is a constantly evolving field, and in recent years, the inclusion of visual content has emerged as a dynamic and transformative element in how students learn and understand academic concepts. Comics, animations, and diagrams, once primarily associated with entertainment, have now found a meaningful and vital role within contemporary classrooms. These visual tools serve as catalysts for learning and engagement, ushering in a pedagogical shift that is reshaping the educational landscape. Comics, animations, and diagrams play a significant role in education due to their ability to enhance the learning process in various ways. Incorporating comics, animations, and diagrams into the classroom can be a powerful way to support diverse learning styles and improve overall educational outcomes. These tools not only make learning more enjoyable but also help students grasp and remember complex information more effectively. Comics, with their combination of images and text, hold a unique allure, captivating the imagination and offering a rich platform for narrative exploration. The animation videos can be processed as represented in Figure 1.



Animations, with their ability to convey motion and interactivity, breathe life into subjects in ways that traditional teaching methods often cannot. Diagrams, with their visual simplicity, are essential for simplifying intricate ideas, making them accessible to students of all ages. When used together, these forms of visual learning have the potential to bridge gaps in comprehension, foster creativity, and instill a lifelong passion for learning. We will delve into their origins, unveil their significance, and explore their impact on the educational landscape. By shedding light on the importance of comics, animations, and diagrams in education, our aim is to provide a comprehensive perspective on their transformative potential. This study underscores how these visual aids have become integral to modern pedagogy and why their continued exploration and integration are vital for the future of education.

The most popular free online ICT tools used by undergraduate students for creating comics were: “Storyboard That,” “Pixton,” “MakeBeliefsComix,” and “Scratch.” Students used the microlearning approach to present their comics in the classroom. The main advantage of the application of comics in the teaching process is that they can present basic statistical concepts, with a very challenging and humorous approach using visual arts.

The technology of applying a strategic approach in teaching in a foreign language to students in grade 10

Table 1 . Differences between teaching technologies and teaching methods1

Pedagogical technologies in education are gaining importance, particularly in teaching foreign-language tools. These technologies involve updating teaching methods and approaches to actively develop language skills and apply knowledge effectively by tools in various situations. Learning technology can be defined as a structured set of pedagogical actions and procedures that facilitate achieving desired learning outcomes in evolving educational settings. While some experts equate teaching methodology with teaching technology, others see learning technology as a more specific and focused aspect of education.

Learning technologies	Teaching Methods
Technologies are often non-subjective in nature; they can be implemented on any academic subject, regardless of its content.	Methods are of a subject nature, they are implemented on a specific academic subject, depending on its content.
Technologies give equally high results when used by different teachers in different educational institutions with different needs.	The methodology does not promise the teacher guaranteed results.
Technologies rigidly set the way to achieve the goal through the algorithmization of procedures and actions that must strictly follow one after the other, in other words, it has instrumentality.	The methodology provides for diversity, variability in the way of implementing theoretical provisions, does not imply a guarantee of achieving the goal, does not have a high instrumentality.
Answers the question "How to teach?"	Answers the questions: "What to teach? Why teach? How do you read?

This technology involves controlled, guided, and free stages of development. The entrance testing results showed that most students struggled to complete the task effectively.During the training sessions, students engaged in various exercises related to their level, and the majority showed improvement and interest in developing monologue skills. In the final test, four students excelled, while others made varying levels of progress.

In summary, the technology tools focuses on gradually building students' skills, but many initially struggled. However, after training by apps, there was noticeable improvement in their performance.

In the course of training, the entrance control of students of the 10th grade was carried out in the form of oral testing. The students were offered a task that consisted of two exercises: 1) discuss the chosen situation; 2) describe the picture/photo. This control is aimed at determining the level of formation of the student's communicative competence, namely, how he makes a message containing the most important information on the topic; talks about facts / events, giving examples, arguments, drawing conclusions, etc., and also determines whether the student is able to plan his monologue statement; find a way out of the situation if there is no answer to the question or nothing to say on a particular topic, if you can't find the right word, etc. Twelve students of Grade 10 passed the entrance test:

1. Sagi Akpeyil
2. Musabaeva Makhabbat
3. Sapargaliyev Arman
4. Serikpai Saltanat
5. Mynbaev Beybarys
6. Azhguzhiev Aitek
7. Amangeldin Aidaulet
8. Adil Dilnaz
9. Bayanova Karina
10. Bolatbay Merey
11. Erbol Erzhan
12. Ermaganbetov Yeset

In the entrance test, most students struggled to complete the task effectively. Out of twelve students, only two excelled, achieving the maximum points. Three managed to avoid more than two major language errors but fell short of fully addressing the topic, receiving an average score of "4". Four students only partially completed the task and disclosed the topic to a limited extent, resulting in below-average scores labeled as "satisfactory." The remaining students could not complete the task, failing to achieve the communication goal and making significant errors, earning an "unsatisfactory" rating. The entrance testing results are shown in Table 8.

Table 2. Results input testing

Full name	Assessment for introductory testing
Sagi Akpeyil	4 - good
Musabaeva Makhabbat	5 - excellent
Sapargaliyev Arman	3 - satisfactory
Serikpai Saltanat	5 - excellent
Mynbaev Beybarys	4 - good
Azhguzhiev Aitek	5 - excellent
Amangeldin Aidaulet	3 - satisfactory
Adil Dilnaz	5 - excellent
Bayanova Karina	4 - good
Bolatbay Merey	5 - excellent
Erbol Erzhan	3 - satisfactory
Ermaganbetov Yeset	4 - good

The entrance testing results indicate that most students struggled with the task. However, during our training sessions, we implemented strategic approaches, offering various exercises suitable for their skill levels. Students enthusiastically participated, as they hadn't previously focused much on developing monologue skills in English.

In the final lesson, students faced a test of similar complexity to the entrance test. Many students could now complete the task effectively. Four students excelled, covering the topic fully, while four others made a few minor language errors and did not fully explore the topic. It's important to note that the language proficiency of students who couldn't complete the task at all significantly improved, but they still fell short in terms of communication goals and language accuracy.

Table 2. Final test results

Full name	Assessment for introductory testing
Sagi Akpeyil	4 - good
Musabaeva Makhabbat	5 - excellent
Sapargaliyev Arman	4 - good
Serikpai Saltanat	5 - excellent
Mynbaev Beybarys	4 - good
Azhguzhiev Aitek	5 - excellent
Amangeldin Aidaulet	4 - good
Adil Dilnaz	5 - excellent
Bayanova Karina	4 - good
Bolatbay Merey	5 - excellent
Erbol Erzhan	4 - good
Ermaganbetov Yeset	4 - good

Based on the results of the final test, we can conclude that the students have improved their results, there is not a single "unsatisfactory" grade in the class, which indicates that all students have fully or incompletely completed the task. The number of positive assessments has increased, which indicates the effectiveness of classes aimed at developing the ability of monologue speech using a strategic approach.

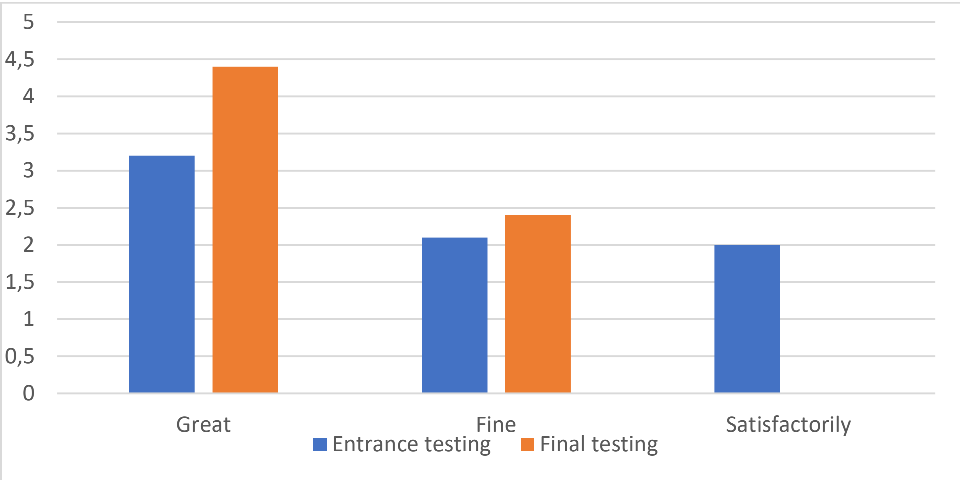


Diagram 1 . The results of entrance testing and final testing

The diagnostic results for each student are shown in the figure below:

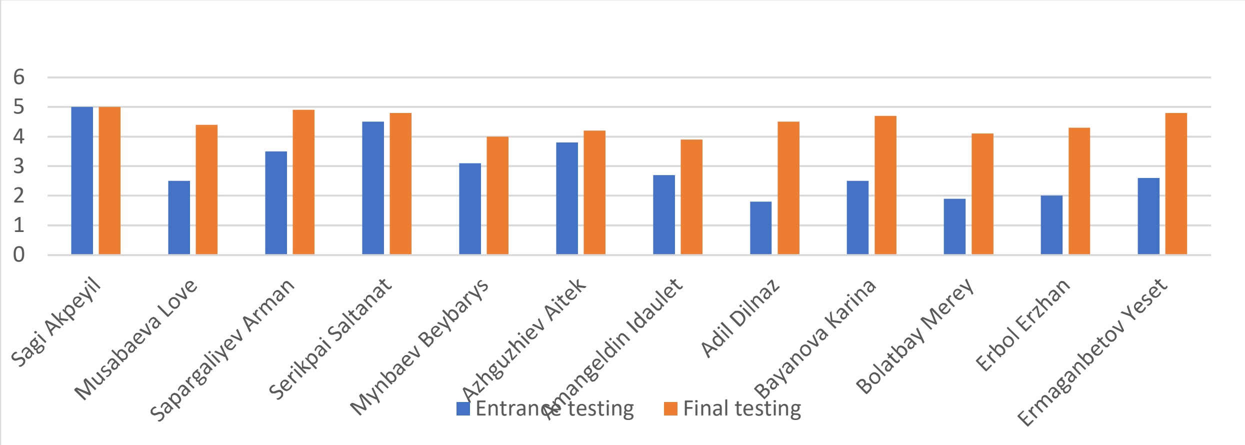


Diagram 2. The result students

1.2 Well-designed instructional technology can promote learning in several ways:

❍ Overview course content and applications. Show an online graphic organizer or concept map that depicts the topics and organization of your course. Include hyperlinks to important applications of each topic that can stimulate students' interest in the course.

❍ Enable a wide variety of presentation formats. Show screencasts, photos, videos, and animations of course-related phenomena and events [the crystals growing, the bacteria multiplying, the bridge collapsing, etc.].

❍ Facilitate active student engagement. Use personal response systems to add active engagement to otherwise traditional lectures. Use system simulations that let students adjust system variables and observe and interpret responses. Use interactive online tutorials that provide students with information about methods, practice in applying them, and feedback on their efforts.

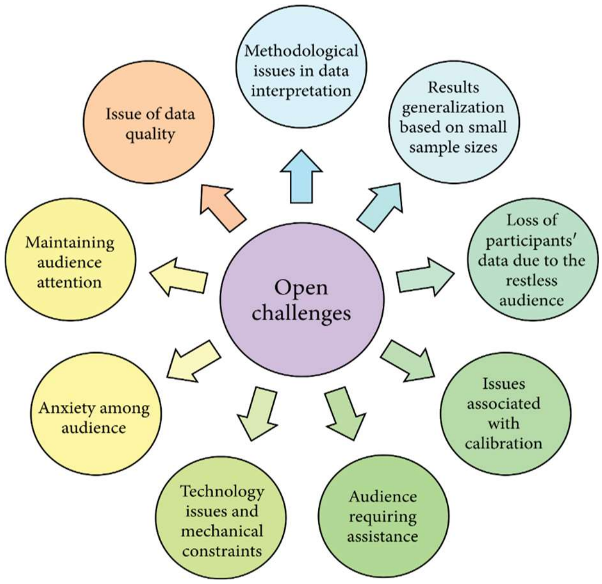
❍ Enhance student-faculty and student-student interactions. Create interactive message boards and threaded discussions. Communicate with students via posted messages, virtual office hours, and teleconferencing. In online courses, form virtual student groups and learning communities and involve them in active learning exercises and collaborative assignments and projects.

❍ Assess knowledge and skills. Give and grade quizzes online. These assessments may be formative (providing students with feedback on what they know and what they need to work on), summative (counting toward the course grade), or both. Conduct peer assessment, in which students provide formative feedback on each other's products and on their performance as team members.

❍ Provide adaptive, individualized, self-paced instruction. Different students have different backgrounds, interests, strengths, and weaknesses, and therefore different learning needs. An emerging industry has begun to develop instructional modules that assess students' needs and adjust instruction to accommodate those needs (Kolowich, 2013.

2.Challenges and Open Issues

The challenges and open issues faced by the researchers during the study are elaborated in this section, and it is shown in Figure 2



Methodological Issues in Data Interpretation

The methodological issues in data interpretation may occur due to animation completion time, fixation duration, and other confounding variables. Fixation duration may be employed to determine the participant's eye or head movements. Mostly eye-tracking devices and gaze movement trackers are utilized for this purpose. Any fault with these devices will affect the data quality, data loss, and data interpretation bias. Li et al. [28] have suggested that fixation data points showed the preschooler's more significant mobilization and limited processing capacity. Tummeltshammer et al. [34] have determined the unfiltered eye movement data using SMI's BeGaze analysis software to overcome the error caused by the tracking device or participants in attention.

2.1 Results Generalization Based on Small Sample Sizes

The generalization of results based on small sample sizes may not be appropriate for all the cases. 53] have reported improving logical thinking and spatial thinking skills of 12th grade students of Oman. He has also stated that further investigations are required due to the small sample size. Danaei et al. [27] have reported that the children who read the AR storybook were more confident in retelling and recalling the story.

The specific format or instructions employed in the research can also affect the generalization among the same or different populations. For instance, a specific pedagogical agent format that shows attraction towards the younger population might not show the same effects on adolescents and adults [58]. Similarly, the instructions designed to visualize in animation may not be appropriate for visualizing the same in real phenomena [39]. Binder et al. [32] suggested conducting more eye-tracking experiments with integrated food cues to attract children's attention toward healthy foods.

II. METHOD

When I was doing my internship, I conducted a survey among students about how it is easier for them to remember information. 32 students took part in this survey, and 97 percent noted that it is easier for them to learn languages or memorize information using animation or comics, the remaining 3 percent noted that using animated games. The results of the experiment showed that it was easier for most students to memorize information using animated games and diagrams.

Building on these intuitions, many teachers and educators have experimented with comics in their classroom, mostly to support students with low literacy skills [Aleixo and Norris, 2010 ;

Crawford, 2004 ; Frey and Fisher, 2008 ; Schwarz, 2006]. However, comics adoption on a larger scale has been hindered by the ‘perennial disorganisation’ of educational comics [Rifas, 1991], which makes them extremely difficult to find, and the lack of clear models for how comics may be integrated in classroom practice [Lapp et al., 2011]. These issues are particularly relevant in the field of ‘science comics’ or ‘graphic science’. Although many comics covering STEM subjects (Science, Technology, Engineering and Mathematics) have been published over the years [Tatalovic, 2009] and the format has become increasingly popular with online science communication platforms, the effects of comics on public engagement and perception of science remain poorly understood [Jee and Anggoro, 2012]. Most literature on science comics consists of qualitative reports, often by teachers and educators who are also the authors of the comics themselves, therefore providing a small and possibly biased sample [Toledo, Yangco and Espinosa, 2014 ; Kaptan and İzgi, 2014 ; Kennepohl and Roesky, 2008 ; Kim et al., 2016 ; Nagata, 1999 ; Naylor and Keogh, 1999 ; Rota and Izquierdo, 2003].

Animation is one of the best ways to explain complex topics. Even small topics can be explained beautifully using gif animations. Children love animations, and it is the best way to get their animation. You can use free gif tools like animator or learn other full-fledged animation tools. Below are two animations created by using animator software. The simple concept of falling down while walking on an oily floor due to lack of friction is explained using animation

III. RESULTS

The theme "Teaching STEM: Tools of Learning: Enhancing with Comics, Animations, and Diagrams" leverages visual aids like comics, animations, and diagrams to enrich STEM education. This approach is supported by research indicating that visual tools increase engagement and comprehension, making STEM subjects more accessible. For instance, a study by the National Center for Biotechnology Information found that visual aids improve learning outcomes in science. This theme explores the application of these tools in teaching, with examples from successful case studies and emphasizes the potential for these methods to enhance STEM education.

Conclusion

Experimental work on the implementation of a set of exercises was carried out on the basis of the "Regional Specialized Boarding School for Gifted Children. M. Kusainov". In conclusion, incorporating comics, animations, and diagrams as educational tools is a promising strategy to enhance learning, engage students, and improve the overall educational experience. Technology offers various means to provide both formative and summative feedback to students. For instance, in traditional classroom settings, students can use clickers to answer multiple-choice questions, and once the poll closes, they can immediately view a histogram displaying all responses. This allows them to engage in peer discussions and re-vote, observing shifts in student opinions towards the correct answer. Furthermore, in online environments, students can ask questions in discussion forums or during virtual office hours and receive real-time or near-immediate responses. Online quizzes are effective for assessing students on content from readings, screencasts, and online tutorials, reinforcing correct answers and rectifying mistakes. In fully online courses, students can expect prompt communication of their grades on assignments and tests as soon as grading is finalized. This technology-assisted approach enhances the learning experience and enables timely feedback for continuous improvement.

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CHARACTERISTICS OF LITERATURE TEACHING IN CLASSES X-XI

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Literature teaching in the X-XI classes of general education schools differs from that in the lower classes in terms of the goals and tasks set before it. However, this difference does not create a barrier between them, on the contrary, as they pass from class to class, the literary course is completed and integrated, the students' literary knowledge gradually deepens and strengthens. What is learned in grades V-XI prepares the ground for what will be taught above, and what follows complements the previous ones. As a result of this organic connection, students' literary knowledge expands, deepens and strengthens. In this way, they understand the artistic-figurative vision of life events, and appreciate examples of literary creativity as works of art. Forming such skills in students was not easy, it is the result of work that requires hard work, logical sequence, and strong connection between training materials.

In the current literature program (2003), it is written taking into account these aspects (in order to take into account the diversity of the work carried out in these classes, it is necessary to provide the program's requirement):) is implemented in two classes (X-XI). The syllabus of class X covers our literature from the earliest times to the 20th century. Literature of the 20th century is included in the syllabus of class XI as a whole. Introduction to selections from world literature is also included in the program of both classes. The programs mainly reflect the general picture of the life and creativity of the artists, and include the whole and extensive teaching of one or several of their works.

As can be seen from the quote from the program, a very serious task is set before the teaching of literature at this stage of the school (grades X-XI). In these classes, in addition to the centuries-old rich literature of the Azerbaijani people, students should also get acquainted with certain selections from world literature according to the requirements of the program. These are the actual materials, not all of the work yet to be done. In addition to mastering the content of those materials, the teaching of literary theory materials and the development of communicative speech are also set as a special requirement in the program. Although these are not presented as separate teaching materials, they are very important areas that require special attention and require pedagogical mastery from the teacher.

In the "Content and Structure of the Program" section, it is said about the teaching of concepts of literary theory: "Teaching of concepts from literary theory is also included in the program of classes X-XI. On the one hand, this should be done in the direction of deepening the knowledge gained in grades V-IX, and on the other hand, mastering more complex theoretical concepts."

It is not difficult to understand how serious this requirement of the program is. It is true that the request is short in volume, consists of only a few sentences, and the amount of work to be done is quite heavy.

One of the most serious and practical problems facing teaching (especially mother tongue and literature teaching) at the secondary school level is the creation and development of communicative speech habits in students.

The following requirements are given to speech development in the existing program from literature: "Special hours are allocated for students' speech development in the program. The work carried out on the speech development of schoolchildren should enable them to create a sensitive attitude towards the artistic word, to form the ability to hear and express the intricacies of the meaning of words and thoughts. In the process of carrying out these works, a clear thinking should be created about the artist's skill in using words, expressiveness, accuracy, thought capacity, and softness of the figurative word, and on this basis, the enrichment of the students' own speech should be achieved."

Looking at the Azerbaijani literature, it becomes clear that the literature has an ancient history and is very rich in content. In different periods of our literature, there were artists who wrote and created, known beyond the borders of Azerbaijan. Such artists created works of art whose creative examples retain their educational significance even today. As it is clear from the quote from the program, in these classes (X-XI) literature is taught in the form of a literary-historical course. This means that students should have a certain idea about the historical development of Azerbaijani literature and, if necessary, should express their opinion on them. However, it is also known that it is impossible to teach the history of Azerbaijani literature in detail in general education schools. Therefore, it is intended to teach the history of literature in the form of a brief course, not to the full extent. It should also be said that a certain difficulty arises in this brevity itself. The difficulty is the problem of how to choose the material, what facts from the history of literature to convey to high school students.

It is considered appropriate to overcome this difficulty and to create a logical connection between literary and historical facts, to teach those materials (literary materials) in the form of certain groups. That grouping can be summarized as follows. That is, the literary-historical process is intended to be delivered to students in the following ways:

a) materials reflecting a literary summary of this or that historical period;

b) materials reflecting the biographies of prominent artists who wrote and created in different periods;

c) Organization of work on some examples of the creativity of such artists;

ç) Recommended materials for independent reading.

The use of computers has a great opportunity in the assimilation of these materials to students, and in the expectation of logical differences between them.

At the end of the article, I came to this conclusion:

1. Research shows that it is very useful to use the possibility of modern technology in training. In addition to visualizing the theoretical knowledge given to students, this has a significant impact on the formation of life skills in them.

2. As time passes, as in other fields, the possibilities of using the achievements of modern technology in training are expanding. One of these possibilities is the use of information and communication technologies - computers.

3. Observations conducted in schools, interviews organized with teachers, analysis of questionnaires distributed to teachers in different regional schools allow to come to such an objective conclusion: some of the teachers who teach literature in secondary schools do not know how to use computers. A small number of literature teachers have the ability to deal with computers in a very superficial way. Such teachers cannot properly use the capabilities of the computer to convey the diversity of the content of the educational material to the students.

4. Working students on literary-artistic and theoretical materials with the help of a computer ensures that the given knowledge is stronger. This also encourages the development of their life skills.

5. The use of computers in literature classes increases students' interest in reading and affects the development of their aesthetic feelings.

6. When using computers in the process of teaching literary learning materials, their grouping according to genre and type features gives effective results in the application of the new curriculum.

I would like to make the following suggestions regarding the results in the article:

1. In order to effectively use the computer, it should be considered appropriate to organize mass compulsory courses for literature teachers.

2. In accordance with the content of the taught subject, the preparation of the educational complex related to the determination of the possibility and form of computer use should be kept in the center of special attention.

3. To ensure the preparation of electronic teaching materials from literature according to the content of the program.

4. The work experience of advanced teachers in the field of computer use in the process of teaching literary and artistic materials should be studied and summarized.

5. In order to prepare literature teachers for the effective use of computers in the teaching process, it should be considered appropriate to organize special courses in a centralized manner at the Baku Pedagogical Staff Training and Retraining Institute, regional (city) educational departments.

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WORKS ON LITERARY PRONUNCIATION

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Abstract
The work on developing students' speech at school is multifaceted. One of its directions is enriching vocabulary through the development of orthoeically correct speech in children. This means improving their pronunciation and auditory culture, developing good diction, developing expressiveness of speech, and enhancing the culture of the living word. Unfortunately, in modern schools, the habit of studying language in written form and instilling literacy exclusively in the form of spelling has not been eliminated.

Attention to the orthoepic side of children's speech is determined by many factors, among which social factors occupy the first place. Competent oral speech promotes speed and ease of communication between people and gives speech communicative perfection. In the life of modern society, the sphere of influence of the living, sounding word on a person has expanded enormously. All this forces us to place high demands on the correctness of speech. The task of consciously mastering the norms of oral speech, cultivating maximum respect for the rich traditions of the Azerbaijan language is now not only brought to the fore, but is also defined as the most important social task of our time, as a social order of society.

Keywords: literary pronunciation, primary school, spelling errors, stress, students, primary school

Correct literary pronunciation is one of the important indicators of the general cultural level of a modern person. Incorrect pronunciation makes it difficult to exchange information, as the listener is distracted from the content of the text that he hears from the interlocutor.

The process of mastering orthoepic language norms occurs mainly in preschool and primary school age.

In elementary school, much attention is paid to replenishing and enriching the vocabulary of schoolchildren, but very little time is devoted to teaching the norms of literary pronunciation - orthoepics of the Azerbaijan language. In the system of speech development of students, an important place is occupied by work on the pronunciation (sound) side of speech.

It has always been believed that children entering first grade have a sufficient level of pronunciation skills that allow them to communicate freely. However, research shows that many first-graders have significant impairments in this aspect of speech: the speech of most of them is slurred, the speech apparatus works sluggishly, students do not know how to properly use their breathing and voice, and many have physiological disturbances in diction. All this affects the student’s speech activity.

To solve these issues, it is paramount to work on speech technique: correct breathing, clear diction, intonation, facial expressions. For example, the consolidation of sounds and the formation of clear diction is carried out in the process of describing an illustration or any object. When looking at the illustration, the child is asked, among different objects, to find and list those whose names have a certain sound.

To maintain the correct structure of a word, a leisurely pace of speech and smooth pronunciation are important. These qualities are well developed in children through round dance games with chanted texts, and through slow reading of simple texts (rhymes, children's poems, riddles).

The main feature of spelling errors caused by a discrepancy between the sound and letter composition of a word is their wide distribution not only in the spoken written language, but also in the natural spoken speech of children not related to the book text (story, conversation). When a child comes to school, the main mechanism for mastering pronunciation norms continues to be imitation, imitation of the speech of others, and the most important factor becomes the sounding speech of the teacher. Therefore, the teacher must speak, observing all the rules of Azerbaijan orthoepy. The formation and development of oral speech rules in children is the content of work on correct pronunciation in elementary school, which is determined by the orthoepic minimum, which is mandatory for primary schoolchildren to master.

Didactic games are also used to correctly formulate word pronunciation. When playing with children, you must first use toys whose names children can pronounce without difficulty, for example: house, ball, cube, pussy. And then you need to gradually use more complex words. Words that are difficult to pronounce can be included in games such as “Roll Call”, “Telephone”, “Guess What I Said?”. In older groups, you can hold verbal competitions in which difficult phrases and words are pronounced. It is especially useful to include in games those words whose pronunciation is distorted by children (colander, can, gooseberry, ice cream, baking sheet, burner).

To increase children's interest in these exercises, you can use toys, pictures, performances with toy characters, and play activities. For example, in the game “Who has the cube?” The presenter asks this question to one of the children, and he passes the cube to a friend and answers: “I gave it to Saida,” “I gave it to Naila.”

In general, orthoepic correctness of speech is formed by copying the speech of adults. In oral speech, there are two types of pronunciation style: the colloquial style, or incomplete, and the style of public speech, complete. Conversational style is ordinary speech in which there is no careful articulation and there are some deviations from spelling norms. The full style is characterized by impeccable pronunciation, a somewhat slow pace of speech and clear diction.

The degree of development of auditory concentration in children of senior preschool age is sufficient to instill in them sensitivity to the syllabic structure of a word and to form solid spelling skills in the correct placement of stress. Therefore, you can periodically organize listening to radio programs, recordings, watching television programs, and at the same time draw children’s attention to the correct and beautiful pronunciation of announcers and speakers. You can also organize meetings for preschoolers with people who own a literary work.

For successful work on the development of the sound side of students’ speech, it is important to reveal the mechanisms of mastering Azerbaijan literary pronunciation by children of primary school age, to show the patterns and features of mastery of orthoepic norms at the initial stage of education. A preschool child perceives and reproduces only one form of speech - oral, while his pronunciation is always compared with the pronunciation of adults “without any consideration of the relationship to the orthographic, written language” [1].

Upon entering school, the process of children mastering pronunciation continues under the significant influence of writing. This is the specificity of mastering the norms of literary pronunciation at primary school age. At school, children begin to master two completely new types of speech activity for them: reading and writing, which involve the visual analyzer in the work, which causes a significant restructuring of previously established mechanisms in the auditory and speech motor analyzers.

It is precisely at primary school age that the tendency for pronunciation to converge with writing is actualized, which is recognized by many Azerbaijan linguists as the leading trend in the development of the orthoepic norm in our days.

K.S. Gorbachevich writes: “Of course, the influence of the book had affected the pronunciation of sounds before. However, now “in conditions of universal literacy,” when oral speech skills are developed not only by ear by imitating the speech of adults, but also through visual assimilation of the graphic image of a printed word, the impact of writing on pronunciation has increased disproportionately" [3]

Thus, the pronunciation skills of primary school students are formed and developed under the relentless influence of the graphic form of the word, which cannot be ignored when organizing orthoepic work in the primary classes. However, to teach children orthoepy, understanding the general patterns and characteristics of pronunciation at primary school age is not enough. It is important to imagine the specific level of orthoepic literacy of primary school students, to know their typical pronunciation errors, as well as the nature of the manifestation of errors in two types of children's speech activity: speaking and reading.

In the speech of younger schoolchildren there are various deviations from the norms of Azerbaijan literary pronunciation. It is advisable to classify all deviations from orthoepic norms according to the reasons causing them. For Azerbaijan students, the main sources of pronunciation errors are writing, vernacular and dialect. In accordance with this, three types of spelling errors in the speech of children of primary school age are distinguished: spelling errors caused by the influence of the spelling of a word; spelling errors of a colloquial nature; spelling errors of dialect origin.

Children of primary school age are very susceptible to the surrounding linguistic environment, and therefore the local dialect significantly influences their speech, which, as a rule, contains many spelling errors. Many dialect errors are very persistent, which is understandable: dialect is the first language in a student's life, which is subsequently supported by the practice of his verbal communication with others.

This implies the need for regionalization of cultural and speech work in primary school, which involves linking the studied spelling and grammatical topics with the linguistic and sociocultural characteristics of the region. It is necessary to take into account that "students who are influenced by dialects are in a difficult situation. On the one hand, they must learn the norms of pronunciation and spelling of the literary language, on the other hand, they need to understand what is the norm and what is not, and why, how their speech differs from the literary norm. Therefore, a primary school teacher must be well aware of the peculiarities of local dialects in order to promptly prevent errors in children's oral and written speech" [cit. to 9, p. 86].

To overcome dialect spelling errors, a special system of exercises is needed, aimed at consciously mastering the pronunciation norms of the Azerbaijan literary language. When preparing for a lesson, the teacher should carefully review the didactic material in the textbook and think about how it can be used in working on the dialectal features of the speech of residents of their area. Exercises to eliminate dialect spelling errors can not be carried out specifically, but can be associated with the study of various topics of the Azerbaijan language course.

In the primary grades, as a rule, special attention is paid to replenishing and enriching the vocabulary of schoolchildren, however, very little time is devoted to the norms of literary pronunciation - orthoepy of the Azerbaijan language.

The formation and development of children's rules of oral and written speech is the content of pronunciation work in elementary school, which is determined by the orthoepic minimum, which is mandatory for primary schoolchildren to master. This minimum includes the rules of literary pronunciation and stress of words and grammatical forms of the modern Azerbaijan language.

The problem of teaching pronunciation standards to younger schoolchildren needs further development. For example, questions to consider include:

– correction of the lexical-orthoepic minimum;

– optimal relationship between orthoepy and diction in the process of forming a speech culture;

– introduction of the “Orthoepy” section into the current Azerbaijan language program for primary schools and the development of appropriate didactic reinforcement;

– solving the issue of continuity in teaching pronunciation culture in high school.

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СОЦИАЛЬНО-ПЕДАГОГИЧЕСКИЕ ОСНОВЫ ПРЕВЕНЦИИ МЕНТАЛЬНОГО ТЕРРОРИЗМА СРЕДИ СТУДЕНЧЕСКОЙ МОЛОДЕЖИ

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Ключевые слова: превенция, социально-педагогические основы, ментальный терроризм, студенческая молодежь.

Аннотация: Статья рассматривает угрозу ментального терроризма, которой больше всего подвержена студенческая молодежь, и социально-педагогические методы ее превенции.

Keywords: prevention, socio-pedagogical foundations, mental terrorism, student youth.

Annotation: The article examines the threat of mental terrorism, to which student youth are most susceptible, and the socio-pedagogical methods of its prevention.

Усугубление общественной обстановки, усложнение социально-экономического обустройства государств, социальные проблемы, сопровождающиеся дестабилизацией духовной жизни – это реальность современного мира. Казахстан также не остался в стороне, январские события 2022 года всколыхнули казахстанское общество. Наш народ столкнулся с беспрецедентным вызовом, когда под угрозой оказалась целостность страны. В эти дни мы глубоко осознали непреходящую ценность «Независимости», поняли, насколько важны мир, стабильность и согласие. Благодаря единству мы отстояли свое государство. Предпринятые своевременные меры, дали решительный отпор террористам. Формирование нового качества нации имеет особое значение для нашей страны. Все граждане, особенно молодежь, должны воплощать в себе самые лучшие качества – из этого складывается единая система ценностей общества. Если каждый будет патриотичным, образованным, трудолюбивым, дисциплинированным, ответственным, справедливым, бережливым и отзывчивым, то для нас не будет недостижимых высот. В этом и заключается глубинный смысл концепции «Адал азамат», которая берет свое начало от учения Абая о «Совершенном человеке» [1].

Наиболее уязвимой в социуме является молодежь с неустоявшимися ценностями и инфантильностью сознания. Как известно, человеческое общество манипулятивно по своей природе. В этой связи, изучение и превенция механизмов ментального терроризма, как насаждения чуждых ценностей и норм, манипулирование сознанием граждан приобретает актуальность.

За последние три десятка лет Республика Казахстан добилась значительного прогресса в различных областях, отмечая ряд впечатляющих достижений. Тем не менее, вызовы, связанные с ментальным терроризмом среди молодежи, по-прежнему остаются нерешенными. Эта проблема требует особого внимания и комплексного подхода, чтобы обеспечить гармоничное развитие и благополучие молодого поколения. Государственным

аппаратом принято множество законодательных и нормативных актов и программ, где расписаны механизмы по:
- совершенствованию мер профилактики религиозного экстремизма и терроризма, направленных на формирование в обществе иммунитета к радикальной идеологии и нулевой терпимости к радикальным проявлениям;
- снижению влияния внешних факторов на радикализацию населения Республики Казахстан;
- повышению эффективности выявления и пресечения фактов религиозного экстремизма и терроризма, в том числе путем совершенствования системы обеспечения деятельности специальных государственных и правоохранительных органов;
- совершенствованию системы реагирования на акты религиозного экстремизма и терроризма, а также минимизации и (или) ликвидации их последствий [2].

Студенческая молодежь, будучи одной из наиболее восприимчивых к социальным воздействиям групп, оказывается под угрозой психологического давления и манипуляции. В числе симптомов, выявляющих признаки слабого иммунитета молодежи к манупулятивным информационно-психологическим агрессиям и влияющим на это факторам, можно отнести следующие:

1. Рост цифровой зависимости. Студенты активно используют цифровые платформы для обучения, общения и развлечения, что делает их уязвимыми для целенаправленных ментальных атак;

2. Недостаток адекватного просвещения. Организации образования часто не обеспечивают студентов необходимыми навыками критического мышления для отбора и анализа информации, что увеличивает риски манипуляции;

3. Социокультурные изменения. Студенческая молодежь ищет свою идентичность в меняющемся мире, что может создавать психологический диссонанс и повышенную уязвимость к ментальным агрессиям;

4. Недостаточный уровень интеграции социально-педагогических методик в учебно-воспитательный процесс высшего учебного заведения (*далее по тексту - ВУЗ*), что приводит к нарушению принципа единства обучения, воспитания и развития студентов.

Несмотря на реализуемые разнообразные меры по противодействию ментальному терроризму, студенческая молодежь по-прежнему остается уязвимой к такому деструктивному воздействию. Угроза использования международных террористических организации (*далее-МТО*) молодежи и даже детей в своих противоправных действиях не исключена и в нашей стране. Последние примеры свидетельствуют о том, что в последнее время террористы стали уделять особое внимание именно этой категории граждан, которые зачастую становятся исполнителями актов терроризма.

Так, в июне 2020 года в Узбекистане пресечена деятельность религиозно-экстремистской организации «Джихадисты», призывавшей к вступлению в ряды террористической организации «Катиба Таухид валь-Джихад». В результате проведенных антитеррористических мероприятий задержаны 16 членов группировки, в т.ч. 3 несовершеннолетних [3].

В октябре 2020 года в г.Гамбург (ФРГ) пресечена террористическая атака на синагогу и мечеть со стороны несовершеннолетнего лица [4].

В г.Тамбове (РФ), в декабре 2020 года, ФСБ предотвращен акт терроризма, готовившийся 17-тилетним учащимся колледжа. В качестве орудия преступления подросток планировал использовать самодельное взрывное устройство, способ изготовления которого получил в сети Интернет [5].

Следует отметить, что теракты с участием несовершеннолетних смертников в Афганистане происходят постоянно. Только за 2017 год в стране было зафиксировано не менее 67 терактов-самоубийств, в которых участвовал 151 человек [6]. Сказать о том, сколько среди них было молодежи не представляется возможным. Как правило, после теракта остается немного судебно-медицинских доказательств. В качестве смертников в указанных террористических актах как правило выступают юноши. В абсолютном большинстве случаев – это молодые люди, ранее лишенные родительской заботы и внимания. Отсутствие эмоциональных связей в детстве в последующем обычно компенсируется в их идеологическом или религиозном варианте, в частности, в фанатической преданности тем или иным лидерам или идеям и религиозно утопическим мечтам о совершенном мире.

В свете вышеперечисленного, изучение и внедрение в практику социально-педагогических основ превенции ментального терроризма становится важной и актуальной задачей, нацеленной на создание защищенной и психологический устойчивой образовательной среды для студентов.

Превенция ментального терроризма, часто называемая также психологической поддержкой и профилактикой радикализации, является важным аспектом работы в образовательных учреждениях во многих странах.

Давайте рассмотрим, как проводится социально-педагогическая работа в этом направлении зарубежом, к примеру в Великобритании:

- существует специализированная программа "Prevent", которая направлена на недопущение радикализации молодежи. Эта программа предоставляет образовательным учреждениям ресурсы и методики для обучения студентов, осознанию ими рисков и предотвращения радикализации;

- организуются тренинги для педагогов, где учителя и преподаватели обучаются методам и технологиям выявления признаков радикализации и ментального терроризма среди студенческой молодежи и при этом своевременно предоставлять соответствующую поддержку или направлять на специализированную помощь;

- университеты и колледжи активно сотрудничают с местными сообществами и организациями, чтобы вместе работать над превенцией радикализации и созданием благоприятного психологического климата среди студентов;

- университеты и колледжи предоставляют студентам доступ к психологам и социальным работникам, которые могут помочь в случае возникновения психологических проблем или вопросов, связанных с радикализацией;

- организации образования проводят мероприятия и программы, направленные на повышение осведомленности о культурном разнообразии и уважении к различным культурам;

- университеты и исследовательские центры ведут научные работы, направленные на изучение причин и механизмов радикализации, а также методов ее предотвращения [7].

Это лишь некоторые из методов и подходов, используемых в развитых странах запада. Конкретные методики и программы могут варьироваться в зависимости от региона, культуры и конкретных вызовов, стоящих перед образовательной системой.

Подводя итог, можно сказать, что вопрос противостояния ментальному терроризму среди студенческой молодежи является актуальным и требует дальнейших научных изысканий и практических решений. Надежда на создание безопасной психологической среды для молодежи лежит на сочетании научных исследований, образовательных программ и активной социально-педагогической деятельности.

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КӨРКЕМ ЕҢБЕК САБАҚТАРЫН ҰЙЫМДАСТЫРУ КЕЗІНДЕ ПАЙДАЛАНАТЫН ЗАМАНАУИ БІЛІМ БЕРУ ТЕХНОЛОГИЯЛАРЫ

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Технологиясы дамыған және бәсекелестікке негізделген XXI ғасырда білім берудің нақты жолы – сабақтың сапасын арттырып, әдістемелік, тәрбиелік жақтарын жетілдіру болса, қазіргі білім беру жүйесін дамыту стратегиясының басты мақсатының бірі – кәсіби шыңдалған және ұлттық тәрбие беру үлгісін жасау. Сондықтан, мектептегі көркем еңбек сабақтарын оқытудың мазмұнына қойылатын талаптардың негізгі қағидалары: еңбекті интеграция арқылы оқыту, тәрбиелеу, дамыту; оқытуда жаңа инновациялық технологияларды пайдалану, білім мазмұнын жаңарту. Осы қабілеттер мен біліктіліктер баланың жас кезінен қалыптасып, оқу және еңбек әрекеттерін орындау кезеңдерінде әрі қарай дамуы керек. Ұлы педагог М.Жұмабаев айтқандай: «Қазақтың тағдыры, келешегі мол ел болуы да мектептің қандай негізге құрылуына тіреледі. Мектебімізді сау, берік, һәм өз жанымызға қабысатын, үйлесетін негізге құра білсек, келешегімізге тайынбай серттесуге болады. Ал сондай негізге құра алмасақ, келешегіміз күңгірт» [1, 36].

Мектеп - мемлекеттің, қоғамның және жеке адамның білім беру саласына сұраныстарын қанағаттандыратын қоғамдық мемлекеттік жүйе. Олай болса өсіп келе жатқан ұрпақтың ерекше жоғары дәрежеде дамуына жағдай туғызатын - оның еңбек әрекеті. Сондықтан, қазіргі қоғамда экономикалық және әлеуметтік өмір сүру жағдайлары жалпы білім беретін мектептердің түлектеріне жаңа талаптар қояды: олар тез оқитын, икемді, коммуникативті дағдыларға ие, стандартты емес шешімдер қабылдай білуі, шығармашылық ойлауы және ақпараттық кеңістікте бағдарлануы керек. Сонымен қатар, дамушы қоғамға таңдау шешімдерін өз бетінше қабылдай алатын, ынтымақтастыққа қабілетті, мәдениетаралық өзара іс-қимылға дайын заманауи білімді, адамгершілік, іскер адамдар қажет [2, 36]. Сондықтан, мұғалімнің алдында сабақтарды қалай қызықты, есте қаларлық ету, оқушыларға не ұсыну керек және сабақта қандай заманауи технологияларды қолданған дұрыс деген міндеттер қойылып тұр. Жалпы айтқанда, қазіргі мұғалімге оқыту процесін, мұғалім мен оқушы арасындағы өзара қарым-қатынасты жаңаша ұйымдастыруға мүмкіндік беретін жаңа (немесе жақсы ұмытылған) әдістер қажет.

Көркем еңбек сабағын басқа білім беру салаларымен интеграциялау мәселесімен жұмыс істей отырып, жобалық, ақпараттық, интеграциялық, ойын технологиясы деген жаңа оқыту әдістерін тиімді пайдалуға мүмкіндік береді.

Ақпараттық-коммуникативтік технология немесе медиа технологиялар - презентациялар мұғалімнің шығармашылық идеялары үшін кең мүмкіндік береді, сабақтарды әртараптандыруға, оларды қызықты, терең етуге, оқушылардың коммуникативтік қабілеттерін дамытуға мүмкіндік береді. Қызықты, есте қаларлық сабақтар өткізу оқушылардың бағдарламаның негізгі тақырыптарын оқуға деген ынтасын едәуір арттырады, оларды белгілі бір ойын жағдайына кірісуге көмектеседі, оқу материалын иллюстрациялармен, графиктермен, түстермен, дыбыстық эффектілермен ұсынуға мүмкіндік береді. Бұл белгілі бір эмоционалды көңіл-күйді тудырады, бұл оқушылардың шаршауын азайтуға, белсенділік пен өнімділікті арттыруға көмектеседі. Сондай-ақ сабақта компьютердің көмегімен тестілеу мен сауалнама жүргізуге, әр түрлі бағдарламалық жасақтама мен интернет ресурстарын қолдана отырып, сабақ тақырыбы бойынша оқушыларға әр түрлі қиындықтар мен әр түрлі тапсырмалар жасай аласыз. Медиа сауаттылық мұғалімге бұқаралық ақпарат құралдарының ақпараттық өрісінің мүмкіндіктерін белсенді пайдалануға көмектеседі.

Көркем еңбек сабақтарында цифрлық жабдықты пайдалану мұғалімнің сабаққа жоғары дайындығын, сабақтың жаңа материалын мобильді түрде ұсыну арқылы сабақта уақытты ұтымды пайдалануды қамтамасыз етеді, оқушылардың пән бойынша сабаққа жоғары мотивациясын, бірнеше оқушының бір тапсырмамен, проблемамен жұмыс істеу мүмкіндігін қамтамасыз етеді. Оқушылар өздерінің жұмыс тәжірибесін, жетістіктерін жеке және топта жұмыс істеу кезінде көрсету мүмкіндігіне ие. Сабақтағы интерактивті тақта немесе префикс сабақта жұмыс істеуге үлкен мүмкіндіктер ашады. Сабақтардағы тақырыптарды зерттеу кезінде сабақтың әртүрлі кезеңдеріндегі тапсырмалары бар интерактивті презентацияларды қолдануға болады: зерттелген материалды қайталау, жаңа материалды үйрену кезінде, сондай-ақ оны бекіту үшін.

Технология сабақтарындағы заманауи технологиялардың бірі - *жобалық қызмет*. Жобалық іс-әрекет мұғалімнің басшылығымен оқушының жаңа өнімді әзірлеуінен және жасауынан тұрады және біртіндеп оқушының тәуелсіз қызметіне ауысады. Өнімді жасау кезінде оқушы өнімді жобалауды, модельдеуді, жасауды, талдауды, бағалауды, түзетулер енгізуді, түзетуді, әртүрлі жабдықта жұмыс істеуді үйренеді. Жоба бойынша жұмыс кезінде оқушы өз өнімін ұсақ-түйекке дейін ойластыруы керек, өнімнің эскизін салуы керек, оның негізінде сурет салу, оны модельдеу, өңдеудің оңтайлы әдістерін табу, өнімді жасау, құжаттама жасау керек. Оқушы шығармашылық және ғылыми жобада жұмыс істей жолдарын менгеру және олардың біреуінің екіншісінен айырмашылығы неде екенін түсінуі керек.

Шығармашылық жоба екі бөліктен тұрады: өнімді дайындау және өнімге құжаттама жасау. Зерттеу жобасы таңдалған тақырып бойынша кез –келген зерттеуді қамтуы керек және бұл тек сауалнама жүргізу мен сұрақ – жауап қою ғана емес, сонымен қатар әртүрлі ақпарат көздерінен ақпарат іздеу, жинау, адамдармен сөйлесу, сұхбат алу, мұражайларға, көрмелерге бару, таңдалған жоба тақырыбы бойынша жиналған ақпаратты талдау. Бағдарлама бойынша технология сабақтарында оқушының пәнге байланысты кез келген тақырыпқа жылына бір жобаны орындауы көзделеді. Жоба тақырыбын оқушы мұғаліммен бірге өзі таңдай алады. Мұғалім жасына сәйкес әр түрлі сынып оқушыларына арналған шығармашылық және ғылыми жобалардың үлгілі тақырыптарының тізімін жасауы керек. Оқушылар жобаны жеке, сондай-ақ жұптар мен топтарда орындайды. Сабақ барысында оқушылар жобаны сапалы орындауы мүмкін емес, себебі оны орындауға бөлінген уақыт жеткіліксіз, сондықтан жобаны орындау үйірмеде немесе үй жағдайында үй тапсырмасын орындау сияқты жалғасады.

Проблемалық оқыту (проблемалық оқыту технологиясы) деп мұғалімнің басшылығымен оқушылардың санасында проблемалық жағдайларды құруды және оларды шешу үшін оқушылардың белсенді тәуелсіз қызметін ұйымдастыруды көздейтін оқу процесін ұйымдастыру түсініледі, нәтижесінде білімдерді, дағдыларды шығармашылық игеру және ойлау қабілеттерін дамыту жүреді. Шешілетін мәселелердің мазмұны бойынша проблемалық оқытудың үш түрі бар:

1. ғылыми мәселелерді шешу (ғылыми шығармашылық) - теориялық зерттеу, яғни, білім алушылардың жаңа ережені, заңды, дәлелдемелерді іздеуі және ашуы. Проблемалық оқытудың бұл түрі теориялық оқу мәселелерін қою мен шешуге негізделген;
2. практикалық мәселелерді шешу (практикалық шығармашылық) - практикалық шешімді іздеу, яғни белгілі білімді жаңа жағдайда қолдану тәсілі, жобалау, өнертабыс. Проблемалық оқытудың бұл түрі практикалық әрекетке және практикалық оқу мәселелерін шешуге негізделген;
3. көркем шығармашылық шешімдерді жасау - эскиз, сурет салуды, ойнауды, музыкалауды және т. б. қамтитын шығармашылық қиял негізінде шындықты көркем бейнелеу.

Проблемалық әдістер - бұл проблемалық жағдайларды құруға, оқушылардың белсенді танымдық іс-әрекетіне негізделген әдістер, олар білімді өзектендіруді, талдауды, жеке фактілер мен құбылыстарды олардың мәнін, оларды басқаратын заңдылықтарды көре білуді талап ететін күрделі мәселелерді іздеуден және шешуден тұрады. Технология сабағында балаларға теориялық және практикалық проблема қоюға болады. Мысалы, сабақтың басында оқушылардан қандай да бір детальді немесе тігіс түрлерін өңдеуді сұрау (олар әлі өңдеумен таныс емес). Осы сәтте балалар өз бетінше орындай алмайтынын түсінеді, олардың алдында «Қалай істеу керек» проблемасы тұр, жұптарда немесе топтарда жұмыс істеу проблеманы шешуге және оны шешудің оңтайлы нұсқасын табуға мүмкіндік береді. Сондай-ақ, мысалы, бұйымды пішу кезінде оқушылар түктің бағытын, суретті, тоқыма өндірісінің ақауларын ескере отырып, пішу бөлшектерін матаға үнемді орналастыру проблемасын шешуге тура келеді. Сабақ барысында оқушылар тез бағдарлануы және қолда бар материалдарды ескере отырып, өз бұйымдарының үлгісін өзгертуі қажет.

Ойын технологиясы көркем еңбек сабақтарында жиі қолданылуы мүмкін. Жасөспірімдерде өз әлемін құру, ересектікке ұмтылу қажеттілігі шиеленіседі, қиялдың қарқынды дамуы орын алады, стихиялық іскерлік және топтық ойындар пайда болады. Орта және жоғары мектеп жасындағы ойынның ерекшеліктері ойлау, сөйлеу қабілетін жетілдіріледі, оқушы табысқа жету мүмкіндігін жоспарлау және болжау дағдыларына ие болады. Мысалы, тігін ісі сабағында өткізілетін ойынның мақсаты - оқушылардың танымға, пәнге, еңбекке деген қызығушылығын ояту.

Дидактикалық ойын түрлері - сабақта оқушылардың танымдық іс-әрекетін оқыту мен басқарудың бір түрі. Ол ойын тапсырмасы арқылы жүзеге асырылады және оны балалар жүзеге асырады. Ойын тапсырмасы ойын әрекеттерін анықтайды және бұл әрекеттер оқушының өз міндетіне айналады. Өйткені, ойын әрекеті ойынның негізі болып табылады. Ойын әрекеттері неғұрлым әртүрлі болса, ойынның өзі оқушылар үшін соғұрлым қызықты болады. Танымдық және ойын тапсырмалары сәтті шешіледі. Әр түрлі ойындарда ойын әрекеттері олардың бағыты бойынша және ойнайтын оқушыларға қатысты әр түрлі болады.

Бұл рөлдік ойындар болуы мүмкін «Сән үйі», «Киім пішуші, «Тігін бұйымдарының үлгілерін көрсетуші».

Мектепішілік ойын технологияларынан *оқу іскерлік ойындары* танымал. Бұл бағдарлама бойынша білімді игеруді анықтайтын қорытынды ойындар, мысалы, «Бақытты сәт», «Миллионер болғым келеді», оқушылардың кәсіби қасиеттерін дамытуға бағытталған ойындар, «Жұмысқа орналасу» іскерлік ойындар және басқалар болуы мүмкін.

Іскерлік ойын жаңа нәрселерді игерудің, материалды бекітудің, шығармашылық қабілеттерін дамытудың, жалпы білім беру дағдыларын қалыптастырудың кешенді мәселелерін шешу үшін қолданылады, оқушыларға оқу материалын әртүрлі позициялардан түсінуге және зерттеуге мүмкіндік береді.

Іскерлік ойын технологиясы келесі кезеңдерден тұрады:

Дайындық кезеңі. Іскерлік ойынды дайындау сценарийді - жағдай мен объектіні шартты түрде көрсетуден басталады. Сценарийдің мазмұнына мыналар кіреді: - сабақтың оқу мақсаты, зерттелетін мәселенің сипаттамасы, тапсырманың негіздемесі, іскерлік ойын жоспары, ойын процедурасының жалпы сипаттамасы, жағдайдың мазмұны және кейіпкерлердің (топтардың) сипаттамалары. Әрі қарай ойынға кіріспе, қатысушылар мен сарапшылардың бағыты. Жұмыс уақыты анықталады, сабақтың негізгі мақсаты тұжырымдалады, проблеманы қою және жағдайды таңдау негізделеді. Материалдар, нұсқаулықтар, ережелер, қондырғылар пакеттері беріледі. Қосымша ақпарат жиналады. Қажет болған жағдайда оқушылар кеңес алу үшін жетекші мен сарапшыларға жүгінеді. Ойынға қатысушылар арасында алдын-ала байланыс орнатуға рұқсат етіледі. Айтылмаған ережелер жеребе рөлінен бас тартуға, ойыннан шығуға, ойынға пассивті қарауға, белсенділікті басуға, тәртіп пен мінез-құлық этикасын бұзуға тыйым салады.

Ойынды өткізу кезеңі - ойын процесі. Ойынның басталуымен ешкім араласуға және оның бағытын өзгертуге құқылы емес. Ойынның негізгі мақсатынан алшақтап кетсе, қатысушылардың әрекеттерін тек жүргізуші ғана реттей алады. Іскерлік ойынның модификациясына байланысты қатысушылардың топтық рөлдік позицияларының әр түрлері енгізілуі мүмкін.

Топтағы жұмыс мазмұнына қатысты позициялар - идеялар генераторы, әзірлеуші, имитатор (еліктегіш), эрудит, диагностик (ауытқуларды анықтауға бағытталған адам), талдаушы.

Ұйымдастырушылық позициялар - ұйымдастырушы, үйлестіруші, интегратор (біріктіруші), бақылаушы, жаттықтырушы, манипулятор (алдамшы немесе жасырын тактика арқылы оқушылардың қабылдауын өзгертуге бағытталған адам).

Жаңалыққа қатысты позициялар - бастамашы, сақ сыншы, консерватор (ескі ұстанымдарды қолдайтын адам).

Әдіснамалық ұстанымдар - әдіскер, сыншы, проблематизатор (проблемаларды қоюмен және шешумен айналысатын талдаушы), рефлексиялаушы (сыни тұрғыдан іс-әрекеттерін, ойлары мен нәтижелерін талдауға бағытталған адам), бағдарламашы.

Әлеуметтік-психологиялық ұстанымдар - көшбасшы, таңдаулы, қабылданатын, тәуелсіз, қабылданбайтын, жоққа шығарылатын.

Ойын нәтижелерін талдау және жалпылау, талқылау және бағалау кезеңі - сарапшылардың сөз сөйлеуі, пікір алмасу, оқушылардың өз шешімдері мен қорытындыларын қорғауы. Мұғалім қол жеткізілген нәтижелерді хабарлайды, қателіктерді атап өтеді, сабақтың соңғы нәтижесін тұжырымдайды. Пайдаланылған имитацияны нақты әлемнің тиісті саласымен салыстыруға, ойынның оқу пәнінің мазмұнымен байланысын орнатуға назар аударылады.

Қорытындылай келе, білім берудегі инновациялар, ең алдымен, өз мүмкіндіктерін қолданудың кез-келген саласында сәттілікке бейімделген тұлғаны құруға бағытталуы керек, содан кейін инновациялық қызмет тек оң нәтиже береді. Қазіргі мектеп мұғалімдерінің тәжірибесі оқу процесінде педагогикалық инновацияларды қолданудың кең арсеналына ие болып жатыр. Оларды қолданудың тиімділігі мекеменің қалыптасқан дәстүрлеріне, педагогикалық ұжымның осы инновацияларды қабылдау қабілетіне байланысты.

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WORK SYSTEM AND COMPUTER USE ON LITERARY TEXT

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At this stage of the school, that is, the literary knowledge of students studying in grades V-IX has not yet developed to the required level. Therefore, they have certain difficulties in understanding the literary and artistic material. This difficulty is related to the figurative meaning of a number of words used in the literary work. Figurativeness and figurativeness are not completely clear for students studying in these grades (especially grades V-VI). In such a case, the training material should be presented in such a suitable sequence that the students not only do not have difficulty in understanding the material, but also make an effort to learn it.

In the main stage of secondary education, especially in grades V-VI, school experience confirms that learning material is better mastered when it is delivered visually to students. From here, the importance of using a computer becomes clear.

When we approach understanding from a philosophical point of view, it is based on live observation, that is, as the first stage is observation, it is confirmed in the experience that mastering the material presented in the training, when it is based on observation, a better result is obtained. In the literature lessons of these classes, it is necessary to make students work on the material and organize their observation on the text.

The positive effect of using computers in different directions on the acquisition of literary and artistic material is clearly observed in the school experience. Of course, this is specifically related to the purpose of the lesson and the nature of the topic. In middle grades (V-IX), the use of computers is very important in imparting knowledge that is more practical and is frequently encountered by students. For example, the most practical knowledge to be given to students from literature at the secondary education level is the way life events are reflected in fiction - prose or verse. Experience shows that this is a very important issue, a number of concepts in the literature are related to them. In other words, the knowledge given in prose and poetry almost plays the role of a key for the literary knowledge that students will gain in the next grades. So, without having the necessary knowledge in the said direction, content and form, lyrics, description, genre, type, etc. it is quite difficult to master such literary concepts. It should be noted once again: information about the expression of life events, people's wishes and desires in fiction is the foundation of literary knowledge. Therefore, first of all, it is necessary to know and distinguish whether the text is prose or verse.

According to the observations made in schools, it should be said that even the students studying in the upper classes, despite hearing the explanation of very simple concepts related to art many times, when necessary, they cannot give satisfactory answers when asked to explain. School experience shows that such defects can be eliminated by using a computer. For this purpose, the teacher's explanation of the literary and artistic material by using the computer and asking for answers from the students is checked in practice. For this, the main condition is to define the classes, organize the lesson in the computer room and give the program material in a certain system. The work of the teacher who teaches in the control classes is not given any direction.

Life events are expressed in fiction either in prose or poetry (students learned this in primary classes). It is brought to the students' attention that it is impossible to master the various and complex concepts of poetry - the aspects that distinguish poetry from prose - without knowing this simple basis. The school experience shows that the possibilities of the computer in imparting and mastering such important literary knowledge are wider. Thus, when a student reads the information written on the computer screen, a connection is made between the visual and auditory organs in the understanding of that information, the information given about the understanding is strengthened and consolidated in the memory. For example, it is recommended to compare a piece of poetry with a prose form in order to explain the features that distinguish verse from prose.

Basically, in the lower grades of the school, especially in the 5th grade, the work on the text begins with its reading. Reading the text, especially poetry, is not as easy as it seems at first, reading requires care and pedagogical skills from the teacher. The first reading of the work should be organized in such a way that it attracts the attention of the students and the lyrical content reaches the listener (students). The first reading of the text is done by the teacher and this reading serves as an example for the students. Therefore, feeling this responsibility, the teacher thinks in advance about the reading of the poem (of course, this is an example of a poem, any poem that is presented to the students as intended teaching material), determines the requirement of the poem, the harmony, the factors that create it, and decides how to follow it in the reading process.

As shown above, the purpose of teaching literature in these classes (V-IX) is to familiarize students with artistic perception and artistic perception, and in this way to explain life events. School experience shows that this is not as easy as it seems. Explaining this to students whose literary knowledge is not yet perfect requires knowledge and pedagogic skill from the teacher. What does image reflection mean? The answer to this question should be explained with specific examples. The computer has a great opportunity in explaining that problem - image reflection. The teacher's duty is to use this opportunity effectively.

In order to create a type in all artistic creations, the writer needs a broad, deep, sensitive observation of life, a rich artistic imagination, the ability to see and show the characteristic aspects of people, artistic mastery and many other aspects. M. Gorky said that if the writer describes only a person he knows, for example, a shopkeeper, a worker, an official, the person he describes will not be able to go further than a photographer's image, this type will not have social educational significance. ¬ is: it will add almost nothing to our knowledge and ideas about man and life. In order to create a real, lively, effective artistic type, the writer must study the class characteristics, thoughts and feelings, customs, attitudes and conversations of dozens, even hundreds of shopkeepers, workers and officials - in short, their entire lives and create the artistic type.

Jalil Mammadguluzade also followed this path and observed dozens and hundreds of paintings like Khudayar Bey and summarized the similarities in their character. Therefore, the image of Khudayar bey is called a typical image. While summarizing the likes of Khudayar bey, the writer did not overlook the unique individual features of Khudayar bey. It is his personal characteristic that he admires his deceased friend's wife, treats people like Uncle Mammadhasan, and carries a cranberry baton in his hand. When creating a type, the writing of the unique characteristics of a person by the writer is called individualization in literature. It should be noted once again that when talking about a typical image, the concept of "generalization" and "personalization" should be remembered and explained.

Or in the story "Gurbanali Bey" (taught in grade VIII), Gurbanali Bey is a typical character. The main aspect of his character is flattery. The fact that the bailiff's wife flatters the bailiff by stroking the dog's head and saying "molodes sobak" on the birthday of the bailiff amazes the reader. But the flatterer in life is not only Mr. Gurbanali. C. Mammadguluzade generalizes the flattery of dozens of people he has observed in his life and criticizes him. It's a personal thing that he doesn't take responsibility for his word, hides in the manger when his invited guests arrive. While creating the type of flattery in the story, the writer did not forget the personal aspect of Mr. Gurbanali.

The relationship between the event and the image in the work of art is explained in this way and brought to the attention of the students. Studying the content of the work is assigned to the students, drawing up a plan on the content is set before the students as a task.

The knowledge gained by students in grades V-IX is checked through the following questions:

1. What are the aspects that distinguish verse from prose?
2. How do you understand imagery in the work?
3. What is typicality in literature?
4. How do you evaluate the image of Mother in Huseyn Javid's work "Mother"?
5. What is the personal characteristic of Gurbanali Bey?
6. Which typical characters can you name in the works you read?
7. What are the dimensions of poetry in Azerbaijani poetry, how do you understand the difference between them?

When checking the results of the work with this system, the evaluation of the student's answer is based on two criteria: sufficient and insufficient. Adequate means average ("3"), good ("4"), excellent ("5"). In the 9th grades of some schools of the republic (since the 9th grade is the last grade of the main school), the teachers of the experimental classes were advised to work on the literary text in that order. Another IX class of that school was considered as a control class. In this class, those topics were covered in the traditional way. The results were checked and summarized and compared. The results obtained in the experimental and control classes are reflected in the presented table.

From the generalization, it is clear that the average overall mastery of the answers to the above questions in the control classes was 53.6 percent, while the average overall mastery in the experimental classes was 74.3 percent, which indicates that the experiment had a positive result. In this regard, it is recommended to work on other literary texts (works) given as program material at the main level of education in this order.

ZU DEN GRUNDPRINZIPIEN DER ORGANISATION DES FREMDSPRACHENUNTERRICHTS

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Zusammenfassung

Der Artikel befasst sich mit den Prinzipien der Organisation des Fremdsprachenunterrichts in der heutigen Zeit, den wichtigsten Bedingungen für das Erlernen einer Fremdsprache, den Merkmalen, dem Wesen und den Vorteilen des aktiven (interaktiven) Unterrichts. Der Artikel diskutiert die Theorien prominenter Wissenschaftler zum Thema Bildung und erklärt ihre Beziehung. In diesem Zusammenhang wird die Bedeutung der Beteiligung jedes dieser Fächer als Gegenstück am Lernprozess im System der gegenseitigen Beziehungen „Lehrer-Schüler" diskutiert.

Schlüsselwörter: aktives Lernen, Prinzipien, Kommunikation, Bildung, Einstellung, Sprachumgebung

Nach der Unabhängigkeit unserer Republik unterhalten wir direkte Beziehungen und Beziehungen zum Ausland. Dadurch hatten wir die Gelegenheit, das Bildungssystem dieser Länder näher kennenzulernen, fortgeschrittene Arbeitspraktiken zu erlernen und sie im Bildungsprozess anzuwenden. Die genaue Kenntnis der Auslandserfahrungen zeigt, dass beim Erlernen von Fremdsprachen mehr auf die Kommunikationsfähigkeit geachtet werden sollte. Mit anderen Worten: Die Zentralisierung sollte weder dem Lehrer noch dem Schüler auferlegt werden, sondern sollte zu gleichen Teilen aufgeteilt werden. Zu diesem Zweck sollten aktive Trainingsmethoden in großem Umfang eingesetzt werden. Derzeit werden an unserer Universität Fremdsprachen allgemein gelehrt und Kommunikation als Grundlage genommen.

Abiturienten, die an unserer Universität zugelassen sind, haben die Fähigkeit, am Ende des ersten Jahres und im zweiten Jahr fließend zu sprechen. Dies liegt an der Effektivität des Unterrichts, da unsere Lehrer beim Unterrichten Wert auf innovative Methoden legen. Wenn also die Sprache zum Zwecke der Kommunikation gelehrt wird, wird dies möglich. Dies gilt nicht nur für höhere Schulen, sondern auch für weiterführende allgemeinbildende Fachschulen. Wird eine Fremdsprache auf diese Weise unterrichtet, beherrscht der Schüler bis zum Abschluss die Feinheiten der Sprache. Ich bin mir sicher, dass, wenn unsere Absolventen, die heute an weiterführenden Schulen arbeiten, das, was sie gelernt haben, in den Institutionen, in denen sie arbeiten, anwenden, ihre Schüler die Sprache, die sie gelernt haben, auf jeden Fall gut sprechen können. Daher sollte der Lehrer über verschiedene Methoden nachdenken und sie finden, um das zu wecken Interesse seiner Schüler.

Natürlich wäre es nicht der richtige Ansatz, die individuellen Fähigkeiten der Schüler beim Erlernen einer Fremdsprache außer Acht zu lassen. Jeder am Unterricht teilnehmende Schüler kann entsprechend seiner individuellen Wahrnehmung, seinem Urteilsvermögen und seinen Fähigkeiten von dem vermittelten Wissen profitieren, das heißt, nicht alle Schüler können das Wissen in gleichem Maße beherrschen. Nur gilt dies im Unterricht anderer Fächer als normal und erregt keine große Beachtung. Dies macht sich beim Erlernen einer Fremdsprache deutlich bemerkbar.

Für die Beherrschung des Fachs und die Verbesserung der Unterrichtsqualität sind die umfassende Berufserfahrung des Fremdsprachenlehrers, die methodische Beherrschung und die Fähigkeit, den Studierenden sowohl theoretisches als auch praktisches Wissen zu vermitteln, wichtig. Eine der wichtigsten Voraussetzungen für das Erlernen einer Fremdsprache ist das Vorhandensein einer realen Sprachumgebung. In einem Land, in dem jeder diese Sprache als Kommunikationsmittel nutzt, ist es einfacher, eine Fremdsprache zu lernen.

Im Unterrichtsprozess hängt die tiefe Beherrschung einer Fremdsprache und das Interesse des Schülers an einer Fremdsprache mehr als an anderen Fächern von der pädagogischen Beherrschung unserer Lehrer ab. Beim Unterrichten der Sprache sollten wir solche Grundsätze anwenden, dass der Schüler diese Sprache intern lernen muss, er gezwungen ist, sie zu sprechen, um Informationen über sich selbst zu geben, Informationen von anderen zu erhalten und mit seinen Freunden in einen Dialog zu treten.

Der Lehrer sollte seinen Schülern beim Durcharbeiten eines bestimmten Themas Anweisungen geben und in gewisser Weise beiseite treten. Das vermittelte Wissen soll im Dialog und in der Diskussion durch die Studierenden selbst erarbeitet werden. Dabei erwerben die Studierenden auch gute Sprechfähigkeiten. In diesem Prozess sollte der Lehrer den Schüler nicht zurechtweisen, der seine Meinung in einer Fremdsprache falsch äußert. Andernfalls mangelt es dem Studierenden an Selbstvertrauen und er wird sich nicht aktiv an der nächsten Diskussion beteiligen. Erst durch das Eingreifen anderer Schüler erkennt er seinen Fehler. Es darf nicht vergessen werden, dass der Schüler die Sprache nicht durch Hausaufgaben lernt, sondern nur durch Live-Kommunikation.

Sprache ist ein langfristiger Lernprozess. Das Hauptziel beim Fremdsprachenunterricht ist die Kommunikation. Grammatik ist eines der Werkzeuge beim Sprachenlernen. Grammatik sollte im kommunikativen Aspekt zusammen mit der Sprache selbst gelehrt werden. Im Allgemeinen sind beim Unterrichten einer Fremdsprache mehrere Faktoren wichtig: Sprachumgebung, Motivation, Lehrinhalte, Lehrerausbildung usw.

In der gegenwärtigen Zeit besteht ein großer Bedarf an der Verbesserung der Bildungsprogramme und der Erstellung neuer Lehrbücher im Hinblick auf die notwendige Reform des Bildungssystems Aserbaidschans. Die Globalisierung in der Welt und die Integration des aserbaidschanischen Bildungssystems in das europäische Bildungssystem erfordern den Einsatz neuer Lerntechnologien, aktiver und interaktiver Lernmethoden sowie neuer Technologien im Bildungssystem.

Damit der Schüler im Bildungsprozess aktiv werden kann, ist es daher wichtig, dass er als Individuum als zentrales Objekt des Bildungsprozesses fungiert. Die Ausbildung sollte sich an den Interessen und Bedürfnissen des Kindes, seinem Wissensstand, seinen Möglichkeiten und Fähigkeiten orientieren. Der Lehrer sollte den Schüler als Individuum behandeln, seine individuellen Eigenschaften berücksichtigen und ihn mit Respekt behandeln.

Die kognitive Aktivität im Lehrprozess basiert in erster Linie auf der Aktivierung des Denkens. Um dies zu erreichen, sollten im Lernprozess zunächst Problemsituationen geschaffen werden, die die kognitive Aktivität anregen. Durch das Bedürfnis des Kindes, dieses Problem zu lösen, werden alle kognitiven Prozesse aktiv, es wird darauf hingewiesen, neues Wissen zu entdecken.

Nach der Theorie von L.S.Vygotsky, einem prominenten russischen Psychologen, einem der Begründer der modernen pädagogischen Psychologie, sollte die Ausbildung der Entwicklung vorausgehen und auf die „nächste Entwicklungszone“ des Kindes ausgerichtet sein. In dieser Entwicklungszone werden die potentiellen Möglichkeiten des Kindes gebündelt und zu deren Verwirklichung sollen besondere Trainingsbedingungen geschaffen werden. Um dies zu erreichen, sollte den Studierenden angeboten werden, selbstständig Aufgaben zu lösen, die ihren Fähigkeiten angemessen, aber einigermaßen komplex sind. Gleichzeitig sollten der Lehrer und andere Erwachsene sie durch das Stellen von Fragen bei der Lösung des Problems anleiten. Das heißt, die Ausbildung sollte darauf abzielen, die potenziellen Möglichkeiten des Kindes zu erkennen, sich durch selbstständige Tätigkeit oder mit Hilfe von Erwachsenen Wissen und Fähigkeiten anzueignen. Entwicklungstraining soll in erster Linie das Denken und die Kreativität formen.

Die rasanten Veränderungen in der modernen Zeit machen die Frage der Vorbereitung der Schüler auf das Leben vor der Ausbildung immer akuter. Dazu muss Bildung zunächst einmal die Entwicklungstendenzen der Gesellschaft widerspiegeln und die neue Generation auf die Lebensbedingungen der nahen Zukunft vorbereiten. Die Schule sollte sich nicht damit zufrieden geben, den Schülern grundlegende Kenntnisse, Fähigkeiten und Gewohnheiten zu vermitteln. Gleichzeitig sollte er in sich kognitive Aktivität, die Bereitschaft, alles zu lernen, und andere notwendige Eigenschaften entwickeln. Die Ausbildung soll dem Studierenden beibringen, sich die notwendigen Informationen selbständig anzueignen, sie erneut zu verarbeiten, richtig zu nutzen und anzuwenden.

Die Flexibilität des Bildungssystems liegt in erster Linie in seiner Fähigkeit, sich an reale Bedingungen anzupassen. Unter Berücksichtigung der sich ändernden Anforderungen des öffentlichen Umfelds und der Studierenden sollten der Inhalt von Bildungsplänen und -programmen, die Organisation des Bildungsprozesses und die Auswahl pädagogischer Technologien systematisch aktualisiert werden. Im flexiblen Bildungssystem wird die Differenzierung der Ausbildung, die Verarbeitung und Aufnahme verschiedener Informationen durch die Studierenden bevorzugt. Um dies zu erreichen, sollte der Lehrer versuchen, auf jeden Schüler individuell einzugehen und im Training unterschiedliche Wissensquellen und Formen der Informationspräsentation (basierend auf den Sinnen des Sehens, Hörens, Fühlens usw.) zu nutzen. Die Flexibilität des Bildungssystems spiegelt sich darin wider, dass Wissen kreativer und anwendungsorientierter ist und die Schüler versuchen, Lernziele selbst zu setzen.

İm System der gegenseitigen Beziehungen „Lehrer-Schüler“ soll jedes dieser Fächer als Gegenpartei am Lernprozess teilnehmen. Die Zusammenarbeit spiegelt sich vor allem im kollegialen und dynamischen Ablauf des Ausbildungsprozesses wider. Wenn der Schüler im Lernprozess als gleichberechtigter Mensch mit dem Lehrer auftritt, entsteht eine neue Qualität in seiner Tätigkeit: Das Selbstvertrauen des Schülers steigt, er scheut sich nicht, seine Meinung zu äußern, erkennt sein Potenzial. Das Prinzip der Zusammenarbeit erfordert, dass der Lehrer bei der Beurteilung der Schüler unterstützendere Noten verwendet. Durch die Zusammenarbeit wird die Lernumgebung für den Lernenden förderlicher, anregender und inspirierender.

Um die Ideen, Möglichkeiten und Erfahrungen der Gruppenmitglieder bei der gemeinsamen Lösung der Fragestellungen teilen zu können und davon zu profitieren, sollte sich jeder Studierende an den Diskussionen und der Arbeit der Gruppe beteiligen. Durch die Berücksichtigung der unterschiedlichen Standpunkte und Meinungen aller Studierenden im Ausbildungsprozess bietet die dialogische Ausbildung die Möglichkeit zur Meinungsvielfalt, bereichert die Lehrinhalte und wirkt sich positiv auf den Prozess der Schlussfolgerungen aus.

Die Umsetzung dieser Prinzipien ermöglicht es dem Studierenden, wirksame notwendige Fähigkeiten für die Gestaltung effektiver Lebensaktivitäten und seine Anpassung an sich ständig ändernde Bedingungen zu erwerben. Eine möglichst vollständige Anwendung all dieser Prinzipien im Trainingsprozess ist durch aktive (interaktive) Trainingsmethoden möglich.

Der Fremdsprachenunterricht basiert somit auf den Prinzipien von einfach bis komplex, leicht bis schwer entsprechend der Ergebnisorientierung, einschließlich der Ausbildung kommunikativer Sprechfähigkeiten auf der Grundlage sprachlicher und soziokultureller Kenntnisse und bietet die Möglichkeit dazu die Leistungen der Schüler überwachen und bewerten. Bei der Festlegung der Grundsätze wird die Ausbildung kognitiver, informativ-kommunikativer und kreativer Aktivitäten, Denk-, emotionaler und psychomotorischer Fähigkeiten zugrunde gelegt.

Durch das aktive (interaktive) Training entdeckt der Schüler aus eigenem Wunsch und Handeln neues Wissen und geht dann kreativ und interessiert an den Unterricht heran. Er verinnerlicht das erworbene Wissen lange Zeit fest.

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Architecture

PREREQUISITES FOR THE APPEARANCE OF TECTONICS: THE ERA OF ORIGIN

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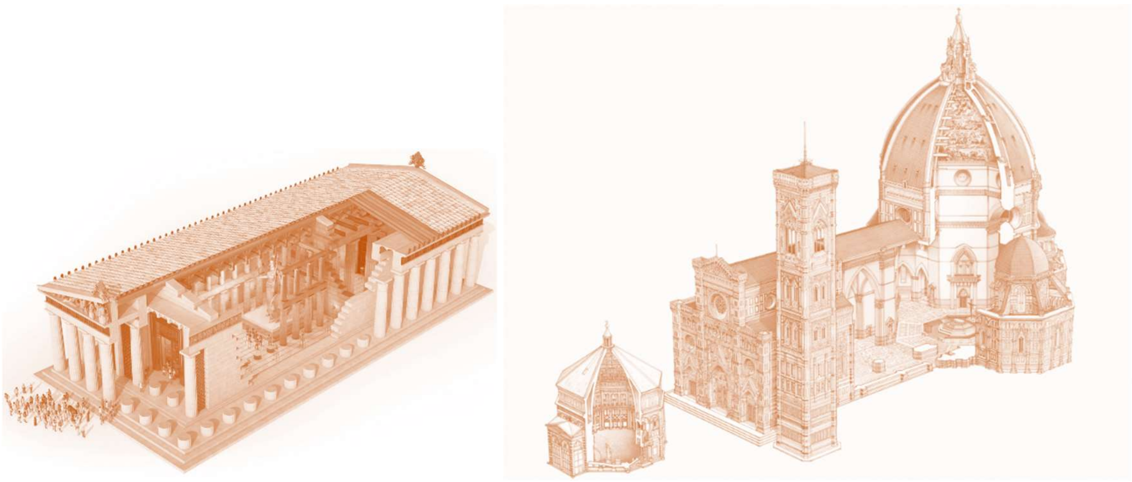
Abstract
The development of tectonics in architectural structures is a rather complex historical topic, which began its development with the appearance of the first architectural structures in ancient civilizations. One of the first examples of the use of tectonic principles in architecture is the ancient temples of Egypt and Mesopotamia. These structures were built of massive blocks of stone that were connected to each other without the use of binding materials such as cement or clay. Thus, the structures became not only strong, but also resistant to destruction from external factors. The development of tectonics in architectural structures continues today. Architects are constantly looking for new technologies and materials that will allow them to create more complex and refined designs that will combine not only functionality, but also beauty and aesthetic appeal.
Keywords: development of tectonics, new materials, reinforced concrete, aesthetic appeal, principles of tectonics, architectural design.

Tectonics as a principle in architecture appeared quite recently, at the beginning of the XX century. However, its prerequisites can be found in the distant past.

Already in ancient Greek buildings you can see elements of tectonics. The Greeks used stone blocks and columns that were connected to each other using simple technologies. These compounds can be called the first elements of tectonics. (Pic. 1)

In the Middle Ages, tectonics developed slowly. The main materials for construction were wood and stone. The designs were simple and unsightly. However, in the Renaissance, architecture began to develop faster. New technologies and materials were invented that made it possible to create more complex and beautiful designs.

One of the important stages in the development of tectonics was the Industrial Revolution. The invention of the steam engine and the development of steel rolling production led to the emergence of new materials and technologies. In the XIX century, the first reinforced concrete structures were created. These structures were strong and durable, which made it possible to create more complex and refined architectural forms.



Pic. 1 ancient Greek and the Renaissance architecture

Thus, tectonics in architecture appeared against the background of the development of technologies and new materials. It became possible thanks to the appearance of reinforced concrete and steel, which became the basis for the creation of new and complex structures.

With the development of technology and the appearance of new materials, architects began to create more and more complex and refined designs that combined not only functionality, but also beauty. One of the most famous examples of the use of tectonic principles in architecture are reinforced concrete structures.

Reinforced concrete is a material that consists of iron and concrete. It was invented at the end of the XIX century and became the basis for the creation of new and complex structures. Reinforced concrete structures are characterized by high strength, resistance to loads and durability.

One of the first and most famous examples of the use of reinforced concrete in architecture is the building of the Guarantee Bank in Paris, which was built at the beginning of the XX century. This building is an example of the use of tectonic principles in architecture – its structures look very complex and exquisite, but they are also very strong and stable.

In the XX century reinforced concrete structures became more and more popular. They were used to build bridges, skyscrapers, airports and other structures. One of the most striking examples of the use of reinforced concrete in architecture is the Millennium Bridge in London, which was built in 2000. (Pic.2) This structure is an example of the use of tectonic principles in modern architecture – it looks very complicated and refined, but it is also very strong and stable.

Pic.2 Millennium Bridge in London

Thus, tectonics in architecture plays a very important role in creating structures that combine functionality, strength and aesthetic appeal. Thanks to the constant development of technologies and the emergence of new materials, architects can create more and more complex and refined designs that become the standards of modern architecture. Tectonics also plays an important role in the preservation of historical buildings and structures. Thanks to the use of tectonic principles in the restoration and reconstruction of historical buildings, it is possible to preserve their unique architectural style and historical value, while preserving their functionality.

Modern architects are increasingly using tectonic principles in their projects to create structures that will look elegant and aesthetically pleasing, but at the same time they will be durable and stable. One example of such structures is the Leipzig transport hub in Germany, which was built in 2013. This design combines functionality, strength and sophistication, thanks to the use of new generation technologies and materials.

Thus, it can be concluded that tectonics in architecture is a very important aspect that plays a crucial role in creating structures that will combine functionality, strength and aesthetic appeal. The use of tectonic principles allows you to create structures that are not only technical masterpieces, but also real works of art.

The principles of tectonics in architecture are to create structures in which each element is not just a part of the whole, but also performs a certain function and carries a load. The basic principles of tectonics in architecture are the following:

1. The principle of the pediment - this principle is used to create the frames of buildings that have a triangular shape. The pediment is an element that forms a triangle and is used to create the frame of the building.
2. Column principle - This principle is to use columns to support the load on the building. Columns can be of various shapes and sizes and can be used both to support internal structures and to create the facade of a building.
3. Arch principle - This principle is used to create arc structures that can be used to support the load on the building. Arches can be created from various materials, such as stone, brick, iron, etc.
4. The principle of the arch - this principle is used to create domed or arched structures. In this case, the arch is the element that forms the bend, and is used to support the load on the building.
5. Reinforcement principle - This principle is used to create reinforced concrete structures in which iron is used to strengthen concrete. This principle allows you to create stronger and more stable structures that can withstand a heavy load.

In addition, there are other principles of tectonics, such as the use of contrasting materials, the creation of an overhang effect, the use of geometric shapes, etc. In general, the principles of tectonics in architecture are very important and allow you to create structures that are not only functional, but also attractive from an aesthetic point of view.

In addition to the basic principles of tectonics, you can add auxiliary principles that are also used in architecture. Let's look at some of them:

1. The principle of contrasting materials - This principle is to use materials that contrast with each other to create an interesting and attractive design. For example, the use of brick in combination with iron, glass or wood can create interesting and unusual facades of buildings.
2. Overhang principle - this principle is used to create a visual effect when one part of the building seems to "protrude" over another. This can be achieved by creating a height difference between different floors of the building or by using protruding elements in the facade.
3. The principle of geometric shapes - this principle is to use geometric shapes, such as circles, triangles, rectangles, etc., to create interesting and aesthetically attractive facades of buildings. For example, the use of rounded shapes can create a soft and pleasant visual effect, and the use of straight lines and geometric shapes can create a more modern and minimalist design.

4. The principle of functionality - this principle is that each element of the building performs a specific function and is necessary to maintain the structure. For example, windows can be placed in such a way as to provide natural illumination of the room, and not just for decorative purposes.
5. The principle of saving materials - This principle is to use materials as efficiently as possible to save resources and reduce costs. For example, the use of thin and durable materials can allow you to create lighter structures that require fewer materials.
These principles can be used in various combinations and combinations to create designs.
The principles of tectonics and other principles of architectural design can be divided into historical and modern, and in each of these categories the basic principles can be distinguished.
Historical principles can be divided into three parts:
1. The principle of simplicity - medieval castles and fortresses were built using this principle, which made it possible to create powerful and durable structures at minimal cost of materials and resources.
2. The principle of symmetry was used in ancient architecture to create harmonious and balanced facades and buildings.
3. The principle of decorativeness - used in Renaissance architecture to create decorative elements such as cornices, domes, caryatids, etc.
Modern principles:
1. The principle of environmental sustainability - currently, more and more attention is being paid to environmental sustainability and energy conservation in architecture. This principle is to use materials and technologies that do not harm the environment, and to create buildings that consume a minimum amount of energy and resources.
2. The principle of innovation and new technologies - modern technologies and materials open up new opportunities in architectural design, allowing you to create more complex and unique designs. This principle is the application of new technologies, such as computer modeling, 3D printing, robotic construction and drone technology, to create more complex and precise structures.
3. The principle of convenience and comfort - this principle is to create buildings that are as convenient and comfortable as possible for people. This includes the use of innovative technologies, such as climate and lighting control systems, as well as convenient room layouts and optimal use of space.
However, do not forget that many principles of architectural design, including tectonics, are universal and can be used in both historical and modern projects. For example, the principles of simplicity and symmetry can be used in modern projects to create minimalistic and harmonious forms.
Another example is that the principle of environmental sustainability has roots in traditional architecture, where the use of local materials and technologies made it possible to create buildings that were adapted to the local climatic and geographical environment.
Thus, the principles of architectural design are evolutionary and may change depending on social, environmental, technological and other factors. At the same time, many of these principles have remained important and relevant for centuries and can be used in modern projects to create functional, aesthetic and sustainable buildings and structures.

Biological Sciences

The Study of the Antimicrobial Properties of the Novel Cosmeceutical Remedy Components

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Based on the flora of Georgia the novel cosmeceutical remedy has been created by the composition of the plant substance "Melilot" (hereafter referred to as Melilot) and biocompatible, biodegradable amino acid polymer- film forming pseudoproteins (hereafter referred to as the polimer) [1-5].
The new cosmeceutical remedy will be a solid ointment for preventing any kind of scars and spots after plastic surgery and cosmetic procedures.
The selected plant raw materials for the preparation of "Melilot" has been collected in the field conditions. Aboveground part of during flowering: *Melilotus offfiicinalis* L. *Trifolium praténse* L. *Chelidonium majus* L. Unripe fruits *Juglans regia* L. and immature fruits (green) *Maclura pomifera* (Raf.) C.K.Schneid.
Each plant was processed separately, within a maximum of 72 hours after collection (refrigerated before processing). The plants were washed and dried, then homogenized at 45 – 50^0 C, in the presence of conditionally alkaline mineral water (pH 7.1) to the consistency of porridge in the homogenizer. The homogenate was boiled for up to 5 minutes. Then, 95% ethyl alcohol was added to the homogenate and kept at 5^0 C for 48 hours. The homogenate was dried and stored at 5^0 C for

12 hours. The precipitate was removed by centrifugation at 4000 rpm for 10 min. The supernatant was filtered through a 5-8 µm vacuum filtration unit.
The selected substances are mixed in the following proportion: 30% *Maclura pomifera*, 30% *Chelidonium majus* L., 15% *Trifolium pratense* L.,15% *Melilotus offfiicinalis* L.,10% *Juglans regia* L.and Melilot is obtained.
The antimicrobial activity of the polymer and Melilot against different microorganisms has been studied. Reference cultures (bacterial strains) have been selected as test objects grown on agar slant tubes from the G. Eliava Institute of Bacteriophages, Microbiology and Virology.

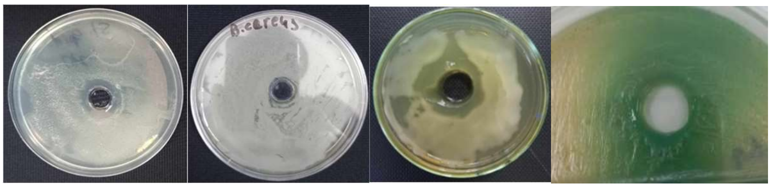
Gram-positive bacteria:
Staphilococcus aureus ATCC 25923;
Staphilococcus epidermidis 28384 clinical;
Bacillus cereus ATCC 10876;
Gram-negative bacteria:
Pseudomonas aeruginosa ATCC 27853;
Esherichia coli ATCC 25923;
And also phytopathogenic *Ralstonia solanacearum* NCPPB 4156;
The antimicrobial activity of Melilot, freshly prepared and after 3 months has been studied in dynamics by Agar Well Diffusion Method [6, 7]. The antimicrobial activity of the test substance was evaluated by the diameter of the inhibition zone of the test cultures.
Test cultures were sown on Petri dishes with TSA nutrient medium. A hole was made in the center of the Petri dish with a 12 mm diameter cutter. 200 µl of the test substance was poured into the hole. Petri dishes were placed in a thermostat at 37^{0}C for 24 h. The experiment was repeated three times for each test culture.

Antimicrobial activity of the polimer and Melilot

№	test-cultures	Zone of inhibition, diameter (mm)		
		Melilot - freshly prepared	Melilot - after 3months	the polymer
1	*Staphilococcus aureus* ATCC 25923	0	0	0
2	*Staphilococcus epidermidis* 28384 clinical	8	8	0
3	*Bacillus cereus* ATCC 10876	4	3	2
4	*Pseudomonas aeruginosa* ATCC 27853	6	0	7
5	*Esherichia coli* ATCC 25923	0	0	8
6	*Ralstonia solanacearum* NCPPB 4156	8	has not been conducted	has not been conducted

The study revealed the same antimicrobial activity of Melilot, for both freshly prepared and after 3 months, against all conditionally pathogenic bacteria: *Staphilococcus epidermidis* – 8 mm (Fig.1a), *Bacillus cereus* – 4 mm (Fig. 1b), *Ralstonia solanacearum* – 8 mm (Fig.1c). Except for the bacterium *Pseudomonas aeruginosa*. The activity of freshly prepared Melilot against this bacterium was 6 mm of the inhibition zone (Fig.1d); no activity was observed after 3 months.

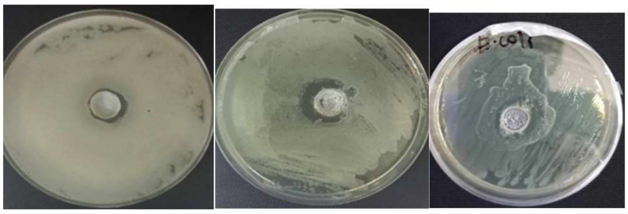
Fig. 1. The antimicrobial activity of Melilot, the inhibition zone: a – for *Staphilococcus epidermidis;* b – for *Bacillus cereus;* c – for *Ralstonia solanacearum;* d – for *Pseudomonas aeruginosa*



a b c d

The activity of the polymer against the same conditionally pathogenic bacteria has been determined once. The inhibition zone for Bacillus cereus was insignificant - 2 mm (Fig. 2a), for Pseudomonas aeruginosa - 7 mm (Fig. 2b), for Esherichia coli - 8 mm (Fig. 2c).

Fig. 2. The antimicrobial activity of the polymer, the inhibition zone: a - for *Bacillus Cereus;* b – for *Pseudomonas aeruginosa;* c – for *Esherichia coli*



a b c

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Isolation and characterization of a novel lectin with anticancer activity from the Georgian endemic plant Polygonatum obtusifolium Miscz

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Abstract: A novel Polygonatum Lectin (GPL) was isolated from the rhizomes Georgian endemic plant *Polygonatum obtusifolium Miscz*. using a combination of gel-filtration chromatography on Toyopearl HW-55 column, affinity chromatography on glutaraldehyde fixed rabbit erythrocyte column and conventional protein purification techniques. GPL had a special agglutinating activity with rabbit trypsin-treated erythrocytes at a minimum concentration of 0.000095 mg/ml. Using the marker proteins and analytical gel-filtration, molecular weight of the native GPL was established, which corresponded to 30 kDa. Using electrophoresis of marker proteins on polyacrylamide gradient gel (10-25%), in the presence of SDS, it has been showed that GPL dissociated into subunits, migrates as a single band and its molecular mass corresponds to 15 kDa. Thus it was concluded that GPL consists of two same subunits and has homodimer quaternary structure. MTT analyses method showed growth inhibition effect of GPL on short- term (48 h) primary cancer cell culture derived from human skin, lung, ovarian and breast cancer. Carbohydrate α-methyl-mannopyranoside inhibited cytotoxic and cancer cell agglutination activity of GPL. Cancer cell agglutination and growth inhibitory effects of various concentration of GPL were lost at the corresponding level with the lose of mannose-binding activity, indicating that there may be a close link between the agglutinating activity and anti- proliferative property of GPL. It was suggested that cytotoxic effect of GPL on cancer cells should be mediated by its specific interaction with α-methyl-mannopyranoside containing cell membrane surface receptors inducing destruction of cancer cells.
Key words: Polygonatum obtusifolium Miscz*.* rhizomes, mannose-specific lectin, isolation, properties, anticancer activity.

INTRODUCTION

Physiologically active compounds of plant origin are widely used in biology, agriculture, medicine and other fields of science. Among them are the sugar binding proteins lectins, which are given special attention last time [1, 4, 6].

Proteins with the ability to selectively and reversibly bind carbohydrates of glycoconjugates, causing agglutination of cells, are considered to be lectins. Nowadays lectins are successfully used as research tools and affinity sorbents for identification of glyco-conjugates, cells and organelles. As specific biological probes they are successfully applied for the research of terminal membrane carbohydrates. So, isolation of new plant lectins and ascertaining their biological role still remains one of the topical bio-medical problems. Therefore, we made our purpose to identify and study lectins from Georgian endemic medicinal plant Polygonatum obtusifolium Miscz. Polygonatum obtusifolium (C. Koch) Miscz. ex Grossh (King Solomon's-seal, Solomon's seal), which belongs to the family of Convallariaceae [3].

However little is known about the biologically active proteins activity towards cancer cells [17, 18]. The present work aims to identify lectins in Georgian endemic medicinal plant Polygonatum obtusifolium Miscz and study some biochemical properties and its antitumor activity.

MATERIALS AND METHODS

Investigation object: Different parts of plants (stems, leaves, flowers, seeds) and underground parts (roots, rhizomes, buds) of the Georgian endemic plant, mountainous Solomon's Seal (Polygonatum obtusifolium) were used as object of investigation. Plant material was harvested in autumn and in spring, at the stage of active growth and development of the plant.

Exstraction of lectins from different parts of the plant. Serapate underground and aerial parts of Polygonatum plant were homogenized. Extraction of soluble protein was made by solution: 0.9% NaCl, 0.1% -mercaptoethanolamin (-M), 0.04M K^+ phosphate buffer, pH 7.4; ratio between the raw material and extracting solution was w/v=1/5. For the maximum extraction of soluble proteins the homogenate was placed to the magnetic stirrer for 30 minutes in room temperature (20-25ºC). The extract was filtered through the double gauze and the filtrate was centrifuged at 16000 r/m for 15 minutes. The supernatant was filtered through the Whatman CF/C and Sinpor-0.45-0.22M filter. Excess inorganic ions were removed by dialysis on G-10 Sephadex column (50x2.7 cm). Extracts were kept at +4ºC.

Hemagglutination activity was determined visually using 96-well immunological microtiter U-plates using rabbit trypsin-treated erythrocytes with the method of Takatsy [16]. This was performed with Takatsy microtitrator using 50 µl loops and 50 µl 2% erythrocytes suspension, 50 µl normal saline and the serially diluted agglutinin were mixed and scored for incubated for 1 h. Lectin hemagglutinating activity (HA) was estimated according to the minimum protein concentration (mg/ml), which causes full agglutination of rabbit trypsin-treated erythrocytes.

Lectin specific activity (SA), which is its inverse value and reflects the minimum concentration of proteins which caused agglutination: $SA=T^{-1}xC^{-1}$, where T- (titer) is the degree of minimum protein concentration in which agglutination is still noticeable, C - is protein concentration, expressed in mg/ml.

Lectin content (LC) was judged by the ratio of overall protein content to lectin activity (conventionally agglutination unit, hemagglutination unit – HU) or by the formula GAA=1/Tm (T - titer of lectin hemagglutinating activity; m - mass of the used fragment of Polygonatum obtusifolium.

Kinetics of hemagglutination activity was measured by the photocolorimetric method, at 670 nm light, a 200 µl 2% suspension of trypsin-treated erythrocytes was introduced into the control and test cuvettes. Lectin fraction was added to the testing cuvettes and PBS of the same volume to the control one. In the control cuvette light transmission at 670 nm was considered as 100% and variation of this index was fixed with an recorder, connected with a photo colorimeter (КФК-3) [1].

Purification of lectin (GPL). For the extraction of lectins, rhizomes of Solomon's seal were homogenized in a homogenizer of a blender type. Soluble protein fraction was extracted using the extraction solution of the following composition: 0.9% NaCl, 40mM K^+-phosphate buffer,

pH 7.4, 0.1% -mercaptoethanol; extraction was made in conditions of (w/v = 1/5) ratio of raw material at the pH 7.4. The homogenate was placed on magnetic stirrer for 30 minutes at room temperature. Extract was filtered through the double gauze and the filtrate was centrifuged at 15
000 r/min for 15 minutes. For the partial purification and fractionation of lectin the proteins were precipitated with ammonium sulphate in conditions of 0-60% saturation. Suspension of proteins was centrifuged at 8000 r/min for 5 minutes. The supernatant was removed by decantation and the precipitated proteins dissolved in the minimum volume of PBS. Protein solution was dispersed in the homogenizer and centrifuged at 8000 r/min for 10 min. The supernatant was collected by decantation and dialyzed chromatographically on G-10 column (1.6x40 cm) to remove the ammonnium sulphate. The dialyzed protein fraction was placed at 60ºC temperature for 15 min, to remove the thermolabile proteins. The protein solution was placed in icy bath for 30 min and centrifuged at 18000 r/m for 10 min.

Treatment with acetone. The sediment of proteins was removed and the precipitated with 5 volumes of cold acetone. The mixture was centrifuged at 3000 r/min per 15 minutes and the sediment dissolved in the minimum volume of PBS. The proteins labile to aceton were removed by centrifugation at 3000 r/min for 15 min and was further purified.

Lectin specificity to carbohydrates was studied by means of hapten-inhibitory method [9]. For the analysis we used 0.6 M solution of monosaccharide's prepared on PBS. In the experiments
18 different carbohydrates were used: D-galactose, methyl-D-galactose, α-methylmanno-pyranoside, D-mannose, D-raffinose, D-glucose, D-ramnose, N-acetyl-D-glucosamine, N-acetyl- D-galactoseamine, D-galacturonic acid, D-fructose, L-inosite, D-arabinose, L-ribose, Melibiose, D-lactose, D-cellobiose, Saccharose. Sugar solution was tittered from 200 mM with decreasing concentration, on the immunological plates. Equal concentration of 1:4 titer lectin solutions was introduced in all cells of the plate. Hapten specificity was estimated by minimal concentration of sugar (mM) which resulted inhibition of lectins hemagglutination.

Gel-filtration on Toyopearl HW-55 column. Further purification of the protein fraction with lectin activity was carried out on Toyopearl HW-55 column (3.57x70cm), which was balanced with PBS. Chromatograhy was preformed using the HPLC (Knauer). For elution was used PBS. Elution rate was 2 ml/min. Detection was done at 280 nm vawe length. Protein fractions, eluted from the column were tested on lectin activity.

Purification process of GPL by the affinity chromatography on glutaraldehyde fixed rabbit erythrocytes physically entrapted in Biogel P-150.

Further purification of proteins, possessing lectin activity was performed using the method of affinity chromatography on the column with trypsin-treated rabbit erythrocytes, fixed by glutaraldehyde (1.60x20 cm) using the HPLC (LKB). Elution rate was 0.5 ml/min. Detecton was carried out at 220 nm vawelength. Elution of the lectin, immobilezed on the sorbent of affine column, balanced with saline was perfomed using the acidic solution (40 mM Glycine-HCl, pH
3.5) (solution A), but in control experiments this was done using the saline solution of lectin-specific carbohydrate 50 mM D-mannose (PBS, pH 7.4) (Solution B). Protein fraction, eluted with the Solution-A was dialysed against PBS, while the protein fraction, eluted with the Solution-B was dialysed with acidic solution, for 24 hours at +4ºC temperature Lectins were precipitated with ammonium sulphate by the salting out method (0-60%). The precipitate of salted out proteins was dissolved in minimum volume of PBS and centrifuged at 8000 r/min for
10 minutes. Dialysate, possessing lectin activity was dialysed and used in further researches.

Preparation of the glutaraldehyde fixed rabbit erythrocyte chromatographic column. With the aim of fixing rabbit erythrocytes with glutaraldehyde the erythrocytes were treated with trypsin using the above described method. Trypsin-treated erythrocyes 2% suspension was prepared in 2.5 or 5% solution of gutaraldehyde, agglutination buffer (pH 7.4) and placed on the stirrer for 17 hours at 4ºC. The percipitate was washed in quadriple volume of agglutination buffer, centrifuged (700 g, 10 min), determined hematocrite and 2% suspension of erythrocytes was prepared in 1M glycine solution (pH 7.4), prepared on agglutination buffer. The suspension was stay on a stirrer for 17 hours at +4ºC. The precipitate was washed off in a quadriple volume of agglutination buffer and centrifuged (700 g x10 min); after the determination of hematocrite the sediment was mixed with Biogel P-150 at 1:10 ratio and the affine column (75x20 mm). The column, fixed with glutaraldehyde was prepared. The column was well washed, first, by agglutination buffer and, then, with 0.2M glycine/HCl buffer (pH 3.0). Before the use the column was balanced with agglutination buffer (PBS).

Determination of GPL molecular weight by the method of gel-filtration. For the determination of the protein, purified by affine chromatography, the HPLC system on the Toyopearl HW-55 column (1.0x60 cm), equilibrated with PBS was used. Chromatography was carried out in the following conditions: elution rate - 1.0ml/min, detecton was performed at 280 nm wave length. For the standard and experimental protein fractions distribution coefficients were determined by the following formula: $K_{av}=(V_e-V_o)/(V_n-V_o)$. The following standard proteins were used: Albumin (66,000 Da), Carbonic Anhydrase (29,000 Da) and Cytochrom C (12,400 Da) (Sigma Gel Filtration Molecular Weight Markers Kit for Molecular Weights 12,400–200,000 Da).

Analytical electrophoresis of GPL in dissociated conditions. Electrophoresis of proteins was carried out in dissociated state, using the system of Laemmli on 2mm thick 10-25% polyacrylamide gradient gel in the presence of 0.1% SDS [8]. Elecrophoresis lasted 3.5 hr (on 1 ml gel at 2mA amperage. The following low molecular weight marker proteins were used for the establishing of molecular weight (SIGMA - Molecular Weight Marker KIT, For Molecular Weight Range 14,000–70,000 Da): Albumin, Bovine- 66, 000; Ovalbumin, Chicken-45,000; Pepsin, Porcine Stomach Mucosa-34,700; Trypsinogen, Bovine, PMSF treated-24,000; β- Lactoglobulin, Bovine-20,100; Lysozyme, Egg White-14,200.

Antitumor activity of GPL. The cytotoxic effect of the GPL on the human malignant tumors has been studied in vitro on the short-term primary cultures derived directly from the parent tissue of human skin, lung, ovarian and breast cancer. The tumor tissue was taken from the untreated patients subjected to the surgery. For the separation of cells the tissue was treated mechanically and then disaggregated with enzymes. The suspension of the separated cells was prepared on RPMI 1640 area, to which fetal bovine serum (10%) and gentamicin (50μg/ml) were added. Cells were seeded into 96-well microplates (cancer cells = 5×10^4 cells/well). For the determination of the cell viability we used 0.2% solution of the trypan blue, a vital dye stipulated in the project. In the experiments without GPL-1 the cell viability was in the range of 90-95%. All manipulations were carried out in sterile environments. The cells were cultivated on the microtiter plates with 96 wells in conditions of three different concentration of GPL-1 (10, 50, 100 μg/ml). In the control wells nutrient medium of standard quantity was placed. The anti-cancerogenic and control experiments were conducted in triplicate for each concentration of GPL. The incubation was carried out at 37°C during 48 hours in the conditions of humidity and 5% of CO_2. The cytotoxic effect was estimated by means of MTT (3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide) test [15]. after 3-hour-incubation. For the extraction the solution consisting of SDS (10%), isobutanol (50%) and HCI (0.01 N) was used. The extinction index was determined with Biotek EL 312 counter at the wavelength of 570 nm.

Inhibition of the cytotoxic activity of GPL with the α-methyl-mannopyranoside. Initial solution of the GPL (1 mg/ml) was added by equal quantities – 400 mM α-methyl-man- nopyranoside and was incubated on the shaker in the thermostat at 37°C temperature for 3 hours. After incubation, the free molecules of α-methyl-mannopyranoside, unbound with GPL, were removed by means of dialysis carried out in dialysis packs during the night. For sterilization the dialyzate was filtered through the filters with 0.22 mµ pore diameter (Millipore) and were tested on hemagglutination activity towards the trypsin treated rabbit erythrocytes, and, then on cytotoxicity towards the cancer cells in short-term suspension cultures in vitro.

Protein concentration was measured by the method of [10]. All experiments were performed in triplicate. Statistical analysis was performed using Student's t-test and p-values < 0.05.

RESULTS AND DISCUSSION

Lectin distribution in aerial and underground plant parts of Polygonatum

In the first series of experiments were studied plant aerial (stem, leaf, flower and seeds) and underground parts of Polygonatum (root, rhizome and bud) on the content of lectins. Result showed that only underground part crude extracts harvested in spring had haemagglutination activity.

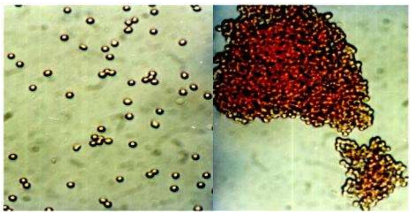

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Fig. 1. GPL stimulated haemaglutination of trypsin treated rabbit erythrocytes under light microscope. 1. control – erythrocytes, 2. test - erythrocytes+GPL

In the next series of experiments was studied localization and distribution of GPL in different underground parts of plants (root, rhizome and bud) in differing physiological condition (Table 1). As seen from the Table, protein content is the highest in the extract of autumn bud. At the same time the highest values of such lectin indexes as T, HA, SHA and LC were registered in extracts of root and rhizome. In particular these values are 5 times higher in root extracts and 10 times higher in rhizome extracts as compared with bud extract.

Table 1. Protein content (C), haemagglutination titre (T), haemagglutination activity (HA), specific hemagglutionation activity – (SHA) and lectin content (LC) in different extracts of underground parts of plant (root, rhizome and bud) depending on physiological condition of plants harvested in spring and in autumn.

Harvested in Autumn					
Underground parts of Polygonatum	C mg/ml	T	HA mg/ml	SHA mg/ml	LC
Root	0.85	$_{2}5$	0.007	37.6	607
Rhizome	0.76	$_{2}6$	0.003	84.2	1260
Bud	0.98	$_{2}3$	0.031	8.16	158
Harvested in Spring					
Root	1.56	$_{2}4$	0.070	10.25	111.4
Rhizome	1.63	$_{2}5$	0.045	19.63	181.1
Bud	1.70	$_{2}2$	0.080	2.35	106.2

As is seen from the table in spring, in the period of active vegetation and growth, the content of C, T, HA, SHA and LC was almost 2 times higher in underground parts of Polygonatum plant, as compared with autumn period.

Carbohydrate-binding specificity.

In a special series of experiments it was studied specificity of GPL in relation to different carbohydrates (Table 2). To get full-value characteristics of lectins it is necessary to ascertain lectins specificity to carbohydrates. Lectins are known to bind with carbohydrates specifically and inhibit of lectin-induced haemagglutination. As shown in table 5 were tested 18 different carbohydrates at an initial concentration of 200 mM.

Table 2. The influence of carbohydrates on haemagglutination activity of GPL

Carbohydrates (Initial concentration 200 mM)	Inhibition of Haemagglutination Activity	Minimal inhibiting concentration (mM) of a carbohydrate
D-galactose	-	
α-methyl-D-galactose	-	
α-methylmannopyranoside	+	25
D-mannose	+	50
D-raffinose	-	
D-glucose	-	
D-ramnose	-	
N-acetyl-D-glucosamine	-	
N-acetyl-D-galactoseamine	-	
D-galacturonic acid	-	
D-fructose	-	
L-inosite	-	
D-arabinose	-	
L-ribose	-	
Melibiose	-	
D-lactose	-	
D-cellobiose	-	
Saccharose	-	
Chitin	-	

\+ inhibition of haemagglutination activity. – lack of inhibition haemagglutination activity.

The data presented in the table demonstrate that lectin GPL haemagglutination activity was inhibited only in the presence of mannose and α-methylmannopyranoside. It indicate that the lectin GPL isolated from Polygonatum obtusifolium rhizome is mannosespecific lectin.

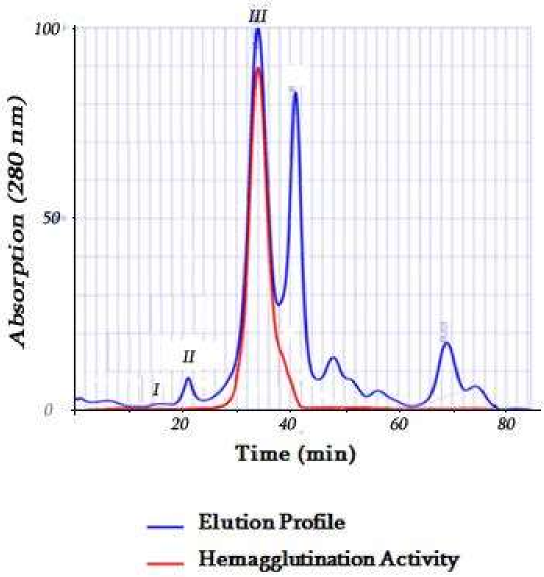
GPL purification and some characteristics

The main stages of purification of lectin GPL isolated form the rhizomes of Solomon's seal, are presented in the Table 3. The process of purification of lectin, isolated from Solomon's seal rhizome was consisted of 7 stages: 1. Isolation of protein extract from the rhizome; 2. Chromatography on the Toyopearl HW-55 column; 3. Fractionation of GPL containing proteins with ammonium sulphate; 4. Thermal treatment at +60^{O}C for 30 min; 5. Treatment with acetone; 6. Chromatography on the Toyopearl HW-55 column; 7. Affinity chromatography on the column, stabilized with glutaraldehyde.

Table 3. Main stages of purification of GPL.

Main stages of purification of GPL	Haemagglutination activity (mg/ml)	Purification degree
Extract	0.075	0
Chromatography	0.0080	9
Fractioning with ammonium sulphate	0.0045	17
Thermal treatment	0.0030	25
Treatment with acetone	0.0010	75
Chromatography	0.0008	94
Affine chromatography	0.000095	789

Table 3 showed that after each stage of purification haemagglutination activity increased correspondingly 17, 25, 75, 95 times and after the final step activity of GPL corresponding 0.000095 mg/ml, and purification degree attained 789.
As seen from the Fig 2, 9 different protein fractions were extracted from the rhizome on the Toyopearl HW-55 column. Haemagglutination activity was detected only in 3rd protein peak. Haemagglutination activity of the mentioned protein corresponds 0.0080 mg/ml.



Fug. 2. Elution profile on the Toyopearl HW-55 column Polygonatum rhizomes crude extract.

At the final stage of purification of GPL the method of affine chromatography was used. Column of glutaraldehyde fixed trypsin-treated rabbit erythrocytes was used as absorbent (Fig.

3).

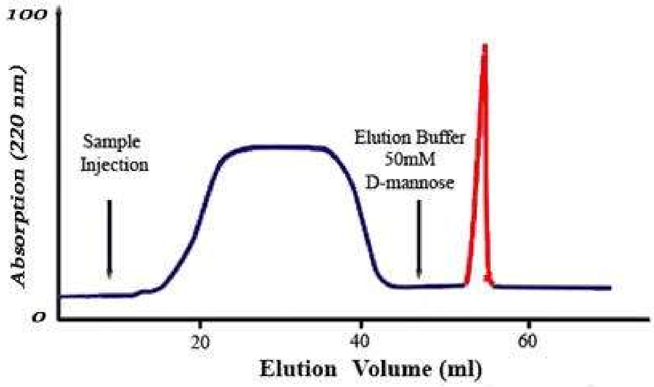


Fig. 3. Elution profile of affinity chromatography of GPL on the column glutaraldehyde fixed trypsin-treated rabbit erythrocytes. ▬ Unbound ballast proteins; ▬ Hemagglutination activity.

As seen from the Fig 3, after running the lectin-containing protein fraction through the column of trypsin-treated erythrocytes, the fraction of ballast proteins, unbound with the column was eluted with PBS, which did not had haemagglutination activity. Elution of the protein fraction with haemagglutination activity from the column was performed using the GPL specific carbohydrate, 50 mM D-mannose-containing PBS solution and its haemaggutination activity corresponds 0.000095 mg/ml. According to calculations, done with the use of the calibration curve, it was established, that molecular weight of GPL was 30 kDa.
With the aim to establish of quaternary structure of GPL, on the next steps of experiments native GPL was denatured in the presence of sodium dodecyl sulphate (SDS) and molecular masses and quantity of its constituent subunits was determined by the method of electrophoresis in polyacrylamide gradient gel (10-25%), using standard calibration protein markers.

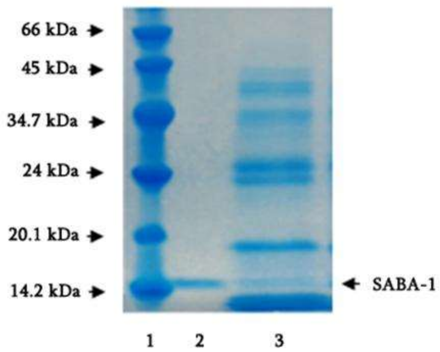


Fig. 4. GPL electrophoresis in polyacrylamide gradient (10-25%) gel in the presence of the anionic detergent, sodium dodecyl sulfate (SDS). 1. SDS Molecular Weight Markers, Molecular Weight Range 14,000–70,000 Da, gel loading volumes 1-10 μl. (Bovine albumin-66,000; Chicken ovalbumin-45,000; Pepsin, Porcine Stomach Mucosa-34,700; Bovine trypsinogen PMSF treated-24,000; Bovine β-Lactoglobulin-20.1; Egg White lysozyme-14,2); 2. GPL purified by affinity chromatography; 3. GPL containing protein fraction obtained after the gel-filtration on Toyopearl HW-55 column.

As seen from the electrophoregram, presented on Fig 4, the first track was showed the migration profile of markers of the known molecular weight. On the third track the profile migration of protein fractions, obtained as a result of the third stage of purification. The track 2 shows purified GPLmigration as one compact band, which proves that it corresponds to the individual polypeptides of GPL.

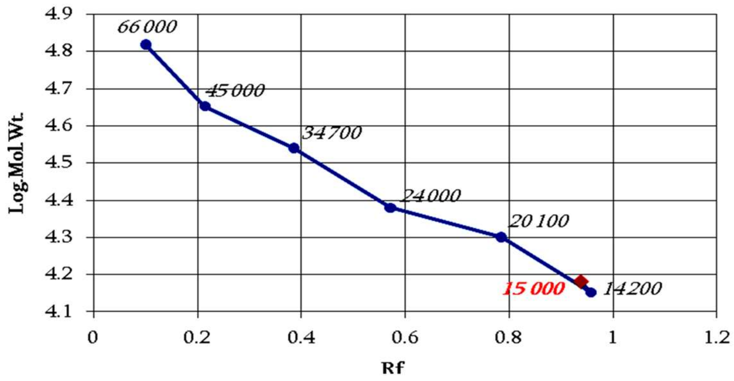


Fig. 5. Calibration curve with proteins from SIGMA - LMW Range kit 14 –70 kDa, run on polyacrylamide gradient (10-25%) gel in the presence of SDS.

Fig. 5 shows that on SDS-PAGE under reducing conditions, the purified lectin GPL exhibits as a single band, corresponding to a molecular mass of 15 kDa, so. molecular weight of native molecules of GPL corresponds to 30 kDa. Thus it was concluded that GPL consists of two the same subunits and has homodimer quaternary structure.

Anticancer activity of GPL

In order to reveal the nonspecific cytotoxic action of GPL on cancer cells, its was studied the influence of GPL on the short-term cell culture of normal human fibroblasts. According to the obtained results, the 10, 50, 100 μg/ml concentrations of GPL, which are lethal for cancer cells, does not affect normal fibroblast cells.

Data presented in the Table 4 evidence that the same concentrations of GPL had well expressed cytotoxic effects on primary short-term cell cultures, derived directly from the parent tissues of Human skin, lung, ovarian and breast cancer. The results clearly show that growing of the concentration of GPL sharply increases its cytotoxic effect. The maximum cytotoxic effect of GPL towards cancer cells of skin, lung, ovarian and breast cancer is revealed at 100 μg/ml concentration and it attains 68%.

Table 4. Ggrowth inhibition effect of GPL on short-term (48 h) primary cancer cell culture derived from human skin, lung, ovarian and breast cancer. **AV** - Average Value (average value of triplicate measurements of the extinction index); **NC (%)** - Number of Cells (% of control); **GI (%)** - Growth Inhibition %.

Cancer Types	GPLμg/ml	0	10	50	100	GPL+ α-methyl-mannopyranoside (400 mM)
Skin cancer	AV	0.326	0.283	0.166	0.091	0.320
	NC(%)	100	87	51	28	100
	GI (%)	0	13	49	72	0
Ovarian cancer	AV	0.318	0.218	0.176	0.130	0.315
	NC(%)	100	67	54	40	100
	GI (%)	0	33	46	60	0
Lung cancer	AV	0.328	0.277	0.179	0.121	0.329
	NC(%)	100	85	55	37	100
	GI (%)	0	15	45	63	0
Breast cancer	AV	0.322	0.261	0.192	0.104	0.321
	NC(%)	100	80	59	32	100
	GI (%)	0	20	41	68	0

In the next series of experiments with the aim of revealing molecular mechanisms of cytotoxic action of GPL on cancer cells the effect of α-methyl-mannopyranoside on cytotoxic activity of GPL and GPL mediated cancer cell agglutination was studied.

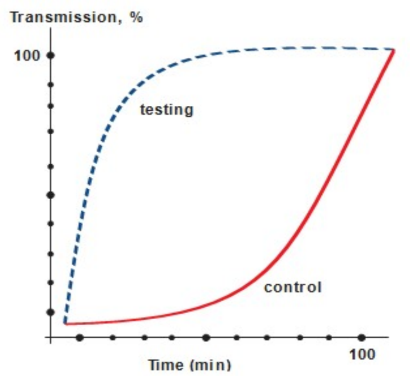


Fig.6. GPL mediated cancer cells agglutination kinetic assay by the colorimetric method. Control - cancer cells; Testing - cancer cell + GPL.

It is impotent to note that GPL cytotoxic activity is fully inhibited by α-methyl- mannopyranoside of the mentioned of all primary in vitro cultures tested tumor cells.

Cancer cell agglutination and growth inhibitory effects of various concentration of GPL were lost at the corresponding level with the lose of mannose-binding activity, indicating that there may be a close link between the agglutinating activity and anti-proliferative property of GPL.

Conclusion: It was suggested that cytotoxic effect of GPL on cancer cells should be mediated by its specific interaction with α-methyl-mannopyranoside containing cancer cell membrane surface receptors inducing destruction of cells.

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Technical Sciences

БИЗНЕСТЕГІ АВТОМАТТАНДЫРУ ЖҮЙЕСІ

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Аңдатпа

Сенімді ақпаратты уақтылы алу мүмкіндігі бүгінгі таңда кез-келген кәсіпорынның тиімділігін арттырудың маңызды факторларының бірі болып табылады. Кәсіпорынды автоматтандыруға мүмкіндік беретін көптеген бағдарламалық және аппараттық құралдардың бірқатар жағымды және жағымсыз жақтары бар. Осы құралдарды қолданудың көптеген нұсқалары мен әдістерінің болуы белгілі бір кәсіпорынды автоматтандырудың ағымдағы және күтілетін қажеттіліктеріне сүйене отырып, олардың ең оңтайлысын таңдауға мүмкіндік береді. Алайда, дұрыс шешім қабылдау үшін осы нұсқаларды жан-жақты талдау қажет.

Көбінесе компьютерлері аз ұйымдарда есептеу техникасын есепке алу тек бухгалтерлік есеппен жүзеге асырылады. Бірақ бухгалтерия құрамдас бөліктердің есебін жүргізбейді, жөндеумен айналыспайды, регламенттік жұмыстарды жоспарламайды, шығын материалдарына қажеттілікті анықтамайды, жаңғыртуға өтінімдер жазбайды және т.б. машиналар паркі өскен сайын, олардың саны бірнеше жүзге жеткенде, жауапты маман оның не және қайда екенін әрең есте сақтайды. Көптеген ұйымдарда мамандар өз ұйымдарының компьютерлері мен перифериялық жабдықтарының конфигурациясын білмейді, сондықтан есептеу техникасының әрбір бірлігін мұқият тексеру керек. Көбінесе үлкен ұйымдарда мұны қосымша күштерді тарту арқылы ғана жасауға болады, бұл қосымша материалдық шығындарға әкеледі.

СИСТЕМА АВТОМАТИЗАЦИИ В БИЗНЕСЕ

Аннотация

Возможность своевременного получения достоверной информации сегодня является одним из важнейших факторов повышения эффективности любого предприятия. Многие программные и аппаратные средства, позволяющие автоматизировать предприятие, имеют ряд плюсов и минусов. Наличие большого количества вариантов и методов применения этих средств позволяет выбрать наиболее оптимальные из них, исходя из текущих и ожидаемых потребностей автоматизации конкретного предприятия. Однако, чтобы принять правильное решение, необходимо всесторонне проанализировать эти варианты.

Часто в организациях с небольшим количеством компьютеров учет вычислительной техники ведется только в бухгалтерском учете. Но бухгалтерия не ведет учет комплектующих, не занимается ремонтом, не планирует регламентные работы, не определяет потребность в расходных материалах, не записывает заявки на модернизацию и т.д. По мере роста парка машин, когда их количество достигает нескольких сотен, ответственный специалист с трудом запоминает, что это и где. Во многих организациях специалисты не знают конфигурации компьютеров и периферийного оборудования своих организаций, поэтому необходимо

тщательно проверять каждую единицу вычислительной техники. Часто в крупных организациях это можно сделать только с привлечением дополнительных сил, что приведет к дополнительным материальным затратам.

AUTOMATION SYSTEM IN BUSINESS

Annotation

The possibility of timely receipt of reliable information today is one of the most important factors in improving the efficiency of any enterprise. Many software and hardware tools that allow you to automate an enterprise have a number of pros and cons. The presence of a large number of options and methods of using these tools allows you to choose the most optimal of them, based on the current and expected automation needs of a particular enterprise. However, in order to make the right decision, it is necessary to comprehensively analyze these options.

Often, in organizations with a small number of computers, accounting for computing equipment is conducted only in accounting. But the accounting department does not keep records of components, does not repair, does not plan routine maintenance, does not determine the need for consumables, does not record requests for modernization, etc. As the fleet of cars grows, when their number reaches several hundred, the responsible specialist hardly remembers what it is and where. In many organizations, specialists do not know the configuration of computers and peripheral equipment of their organizations, so it is necessary to carefully check every piece of computing equipment. Often in large organizations, this can be done only with the involvement of additional forces, which will lead to additional material costs.

Бизнесті автоматтандыру - бұл өзін-өзі реттейтін техникалық құралдарды, әртүрлі экономикалық және математикалық әдістерді және заманауи басқару жүйелерін қолданудан тұратын, адамды энергияны, материалдарды немесе ақпараттық ресурстарды алуға, түрлендіруге, беруге және пайдалануға тікелей қатысудан босататын, болжамды қатысу дәрежесін немесе операциялардың күрделілігін едәуір төмендететін ғылыми-техникалық прогрестің бағыты.

Автоматтандыру ұғымы ақпараттық жүйе ұғымынсыз мүмкін емес.

Автоматтандырылған ақпараттық жүйе-бұл барлық мәліметтер мен ақпаратты сақтауға және/немесе басқаруға және есептеу операцияларын жүргізуге арналған әртүрлі бағдарламалық және аппараттық құралдардың жиынтығы.

Кез-келген автоматтандырылған бағдарламаның кемшіліктері бар, бірақ олардың егер көшбасшы өз компаниясының тиімділігі мен қызметін оңтайландыру үшін бизнес-процестерді бағдарламалық қамтамасыз етудің барлық ресурстарын пайдаланса, бұл үшін ағымдағы қызметті IT-қолдаудың және бизнесті қайта құрылымдаудың негізгі мүмкіндіктерін ашып көрсету, ақпараттық даму стратегиясын әзірлеуден бастап енгізілген жүйені өнеркәсіптік пайдалану сатысына дейінгі тиімді кешенді автоматтандырудың жүйелік тәсілдері мен технологияларын қарастыру қажет.

Бизнесті жетілдіру үшін көптеген әдістер бар және олардың барлығы белгілі бір түрде технологиялық тәсілге негізделген және оларды енгізу оң экономикалық нәтижелерге қол жеткізуге мүмкіндік беретіні бірнеше рет дәлелденген.

Көлік және сауда компаниясының бизнесін автоматтандырудың пайдасы өте маңызды. Бизнес-процестерді автоматтандыру нәтижесінде компания жұмыс өнімділігінің артуына байланысты бірқатар пайда алады:

-жеке операцияларды да, жалпы бизнес-процестерді де орындау жылдамдығын арттыру;

-операциялар мен бизнес-процестерді орындауға жұмсалатын шығындарды азайту және соның салдарынан оларды орындаудың өзіндік құнын азайту;

- операциялар мен бизнес-процестерді орындау сапасын арттыру,

- операциялық тәуекелдердің басталу ықтималдығын азайту.

Өнеркәсіптік автоматтандыру - болашақтың өндірістік және инженерлік процестерін құруда неғұрлым маңызды рөл атқаратын кең термин.

Өндірушілер бірнеше бағыттар бойынша үнемі өсіп келе жатқан қысымға, еңбек ресурстарымен қамтамасыз ету мен жеткізу тізбегін шоғырландырудан бастап, сапа мен құн арасындағы тепе-теңдікті оңтайландыруға ден қоюы тиіс.

Болашақ ертең зауыттарқұруға көмектесетін өнеркәсіптік автоматтандыру әдістерін кеңінен қабылдауда.

Өнеркәсіптік автоматтандыру көп жылдар бойы болғанымен, көптеген кәсіпорындар өндірістік негіздегі қайталанатын міндеттерді автоматтандыруға, оператордың өзара іс-қимылымен немесе өзара іс-қимылынсыз қайталанатын міндеттерді автоматтандыруға тиіс технологиялар мен инновацияларды қабылдауды жүзеге асыруда.

Бұл оқиғаны жасау технологиясы қазір бұрын-соңды болмаған қолжетімді және қолжетімді. Қуатты деректер талдауымен және осыны түсінумен ұштасқан кезде өндірушілер шығындарды азайтуға, тиімділікті арттыруға, қауіпсіздікті арттыруға және еңбек өнімділігін арттыруға көмектесу үшін автоматтандыру шешімдерін өздерінің өндірістік процестеріне біртіндеп интеграциялай алады.

Бұл жерде біз бүкіл әлемде өндірістік процестердің бет-әлпетін қалай өзгертетінін мұқият қараймыз.

Қазіргі заманғы өнеркәсіптік автоматтандыру Индустрия 4.0-мен тығыз сәйкестендіріледі, оны өңдеуші өнеркәсіптің болашағы қаншалықты көп екенін көріп отыр.

Өнеркәсіп 4.0 өндірістік жүйелердің жұмыс істеген және техникалық қызмет көрсету процестерін ретке келтіру тәсілін алға жылжытуға жәрдемдеседі.

Ол дәстүрлі жүйелерді барлық өндірістік процестерді басқару ға және диагностикалауға мүмкіндік беретін жаңа технологиялармен өзара қосу мүмкіндігін қамтамасыз етеді.

Робот техникасы мен бағдарламалық қамтамасыз етудегі инновациялар өндірістік жүйелерді толығымен автоматтандырылуға мүмкіндік береді, бұл ретте нақты уақыт режимінде мониторинг сапа мен қызмет көрсету саласындағы кезеңдік жақсартуларды жүргізу үшін пайдаланылуы мүмкін деректер мен мәліметтер береді.

-Бұл өндірушілерге келесі артықшылықтарға қол жеткізуге көмектеседі:

-Еңбек өнімділігі мен бәсекеге қабілеттілікті арттыру

-Өндірістің максималды шығысы және жұмыс процесі

-Жүйенің істен шығуы мен тұрып қалудың қысқаруы

-Еңбек қауіпсіздігі және еңбекті қорғау жүйесін жетілдіру

-Нарықтағы өнімді жетілдіру және бейімделу

-Процестердің икемділігі мен реттелуінің үлкен икемділігі

-Өндірістік параметрлерді қосымша бақылау

-Өнеркәсіптік автоматтандыру түрлері

-Өнеркәсіптік автоматтандырудың негізгі артықшылықтарының бірі оның икемді болуы болып табылады.

«Бір өлшем бәріне сай» деген шешім жоқ. Оның орнына, қолда бар бағдарламалық қамтамасыз етудің, технологиялардың және аппараттық құралдардың осындай ауқымды массиві болған жағдайда, сіз іздеп жатқан өндіріс нәтижелерін жеткізу үшін нақты талаптардың айналасында автоматтандыру шешімін құруға болады. Алайда, өнеркәсіптік автоматтандыру шешімдерінің көпшілігі үш кең санатқа жатады:

Бекітілген немесе қатты автоматика

Қатты автоматтандыру жүйелері, әдетте, өндірістің неғұрлым жоғары көрсеткіштеріне қол жеткізу үшін тіркелген және қайталанатын операцияларды орындауға арналған.

Олар өндірістік немесе құрастыру операцияларының біріздiлігімен әрбір кезеңді автоматтандыру үшін арнайы немесе мақсатқа құрылған жабдықты пайдаланады.

Бекітілген автоматтандыру жүйелері өндіріс көлемін ұлғайтуда өте тиімді болғанымен, өнімнің конструкциясын айтарлықтай өзгерту немесе өзгерту қиынболуы мүмкін. Осылайша, олар уақыт өте келе көп өзгерісті қажет етпейді, өңдеу өнеркәсібі өнімдеріне жақсы үйлеседі.

Бағдарламалық автоматтандыру

Автоматтандырудың бағдарламалық жүйелері өндіріс тің неғұрлым жоғары көлеміне қол жеткізу үшін өндірістік процестің әрбір кезеңін автоматтандыру тәсілімен бекітілген жүйелерге ұқсас, бірақ олар құрастыруды немесе өндіру нұсқаларын өзгерту тұрғысынан әлдеқайда икемділікті ұсынады.

Автоматтандырудың бағдарламалық жүйесіндегі операциялардың біріздiлігі әртүрлі өнімге өзгертілуі немесе қайта конфигурациялануы мүмкін, бұл оларды партияларды өндірудің орташа және жоғары көлемді процестеріне ыңғайлы етеді.

Иілгіш немесе жұмсақ автоматика

Жүйенің бұл түрі үлкен икемділік дәрежесін ұсынады, бұл өнімнің дизайнына көптеген өзгерістерді талап ететін өндірістік процестерүшін барынша қолайлы болады.

Олар бағдарламалау мен бағдарламалық қамтамасыз етуді кеңінен пайдаланады және әртүрлі ассортиментті бірнеше өнімнің шағын партияларын шығару үшін тез бейімделуі мүмкін.

Өнеркәсіпті автоматтандырудың артықшылықтары

Өндірістік процестерге өнеркәсіптік автоматтандыруды қабылдаудың бірнеше артықшылықтары бар, оның ішінде:

Еңбек өнімділігі

Өнеркәсіптік автоматтандыру өндірістің үлкен сабақтастығын қамтамасыз етуге мүмкіндік береді. Болжамды техникалық қызмет көрсету еңбек өнімділігі мен бәсекеге қабілеттілікті арттыру үшін тұрып қалуды жоспарлауға және жұмыс сағатын барынша ұлғайтуға болады.

Сапаны жақсарту

Интеллектуалды визуализация және бақылау процестері дайын өнімнің сапасына мұқият көз жеткізуге және қажет болған жағдайларда сапаны үздіксіз жақсартуға қол жеткізуге мүмкіндік береді.

Икемділік

Өнеркәсіптік автоматтандыру өндірістік желілер бойынша икемділікті арттыруға мүмкіндік береді. Жаңа өнімдер немесе өзгерістер өндірістік қуаттарды барынша ұлғайтуға көмектесу үшін тезірек және тиімдірек іске асырылуы мүмкін.

Шығындарды үнемдеу

Өнеркәсіптік автоматтандыру негізгі көрсеткімдер шеңберінде, қалдықтарды ң қысқаруынан және өндірістік қуаттар мен еңбек өнімділігінің өсуіне дейін сапаны арттырудан бастап, пайдалану шығындарын едәуір қысқартуға мүмкіндік береді.

Нақты уақыт тағы да деректер

Нақты уақыт режимінде мониторингті жабдықтар мен процестердің өнімділігі туралы деректердің орасан зор көлемін жинау үшін автоматтандырылған процестерге салуға болады.

Бұл мәліметтер процестерді жетілдіру мен жетілдіруді, жүйенің сынуы мен қызмет көрсету қажеттіліктерін болжаужәне өндірістік процестің әрбір жеке бөлігінің тиімділігі мен қызмет ету мерзімін жақсарту үшін пайдаланылуы мүмкін.

Қауіпсіздік техникасын жақсарту

Өнеркәсіптік автоматтандыру адамның ықтимал қауіпті аумақтармен, жабдықтармен немесе машиналармен өзара іс-қимыл жасау қажеттілігін жою жолымен неғұрлым қауіпсіз өндірістік процестерді құруға көмектесеалады.

Өнеркәсіптік автоматтандыру арқылы сіздің толық әлеуетіңізді ашу

Өнеркәсіптік автоматтандыру өндірістік процестерге қадамдық өзгеріс тіреген және сіздің операцияларыңыздың болашақтағы операцияларын индустрия 4.0 қосымшаларының бірінші орынға көбірек түсетініне қарай жеткізе алады.

Егер толық автоматтандырылған жүйені іздесеңіз немесе жаңа автоматтандырылған бөлімді қолданыстағы өндірістік процеске енгізгіңіз келсе, біз іздеп жатқан жақсартуларға қол жеткізуге көмектесе аламыз.

Біздің автоматтандыру қызметтеріне толық жүйелер, электрбасқару элементтері, роботтехникасы және конвейерлік басқару элементтері жатады.

Автоматтандыру процесі бизнестің дамуына мүмкіндік бермек

Бүгінде елімізде шағын және орта бизнес субьектілерінің саны 10,2%-ға артып, 1,31 триллионға жеткен. Бұл - әрбір төртінші қазақстандық шағын және орта бизнесте жұмыс істейді деген сөз.

Бұл саланың даму деңгейі, көрсеткіші мен кемшін тұсы, жаңа технологияларды игерудегі потенциалы қандай? Қазақстанда бизнес саласын автоматтандыру процесі қалай жүріп жатыр? Оның жұмыс сапасына әсері қандай? Әлемдік тәжірибе не дейді? Осы және өзге де сауалдардың жауабын табу мақсатында тақырыпты тереңірек зерделеуді жөн көрдік.

Қазір кәсіпкерлер еліміздегі өндірісті басқаруда компьютер бағдарламаларының көмегіне жиі жүгінеді. Өйткені еңбек өнімі мен табыс көлемін арттыруға бизнесті автоматтандыру жүйесі зор мүмкіндік бермек. Қазірдің өзінде жеке кәсіпкерлер саны жылына 10,5%-ға, заңды тұлға мәртебесі бар шағын компаниялар саны 11,9%-ға артқан. Демек, бұл өсім сапа деңгейінің көтерілуіне ықпал етуі тиіс. Осы арқылы ел экономикасында да оң өзгерістер болып, дамуға жол ашары анық.

Қазақстандағы бизнесті автоматтандыру

Елімізде бизнесті қолдау және автоматтандыру мақсатында түрлі цифрлық портал жұмыс істеп келеді. Олардың қатарында Services.atameken.kz, Ismet.kz, Qoldau.kz, Digital.baiterek.gov.kz, Aman.com.kz, E-orda.kz секілді порталдар кәсіпкерлерге көмек көрсетіп жатыр. Соның ішінде 14 мың кәсіпкер Atameken Services порталына тіркеліп, сервистік қызмет түрлерін пайдаланады.

Автоматтандыру бизнеске қаржылық емес қолдау көрсетуге бөлінетін бюджетті қысқартуға, қамту бөлігін ұлғайтуға, құжат айналымын төмендетуге, консультант санын оңтайландыруға мүмкіндік береді. Бұл бағыттағы жүйелі жұмыс биылдың өзінде мемлекеттік қолдау көрсету уақыты мен талап етілетін құжат санын 50%, бизнесті тексеруді 30%-ға қысқартуға мүмкіндік береді. Бұл 2022 жылға қарай бизнес шығындарын 8,4 миллиард теңгеге қысқартады.

2019 жылы «Даму» кәсіпкерлікті дамыту қорының жанынан Digital Damu атты цифрлық алаңы құрылады деп жоспарланған. Бұл – «Бизнестің жол картасы — 2020» бағдарламасы аясында жүзеге асатын цифрлық алаң. Онда шағын және орта кәсіпкерлік субъектілері мен кәсіпкерлерге «бір терезе» қағидаты бойынша қызмет алуға мүмкіндік береді. Бүгінде қор ұсынатын 24 бизнес қызметтің 21-і толықтай автоматтандырылған.

«Даму» кәсіпкерлікті дамыту қорының бизнес процестерді автоматтандырудағы пайыздық көрсеткіші

Әрине, автоматтандыруға көшу сауатты талап етеді. Осы орайда, «Бизнес Бастау» жобасы аясында «Атамекен» ҚР Ұлттық кәсіпкерлер палатасы цифрландыру дағдыларына 380 мың адамды оқытқан. 2022 жылға қарай жергілікті атқарушы органдармен бірлесе отырып, 8 миллион адамға базалық білім беру жоспарланған.

Бизнесті автоматтандырудағы стартап жобалардың басым бөлігі Astana Hub халықаралық IT-стартаптар технопаркінде жүзеге асып жатқанын айта кеткен жөн.

Отандық компаниялардың автоматтандырудағы жаңа бастамалары

Бизнесті цифрландыру бойынша өнімді еңбек етіп келе жатқан кәсіпорындардың бірі – Nostrum Oil & Gas. Мұнай-газ компаниясы цифрлық трансформацияны германиялық SAP моделт компаниясы негізінде қолға алып отыр. Nostrum Oil & Gas — ұйымдастырушылық құрылымын осындай әдіс арқылы түрлендірген Қазақстандағы алғашқы компания. Өнеркәсіптің IT-инфрақұрылымын модернизациялау SAP S/4HANA платформасының негізінде жасалмақ.

«Қазақстан Темір Жол» ҰК» АҚ өкілдері SAP S4/HANA платформасында жүзеге асып жатқан «Біріңғай басқару жүйесі» атты трансформация бағдарламасын іске қоспақ. Бұл жобаларды жоспарлау процестерін автоматтандыруға бағытталған.

«Ембімұнайгаз» АҚ автоматтандыру арқылы көлік басқаруды оңтайландырып, сол арқылы қаржылық шығындарды азайтқан. Мұнай-газ өндіретін компания үсітіміздегі жылдың қаңтар айынан бастап, автопарк басқаруды оңтайландыру үшін германиялық SAP компаниясының бұлтты технологияларын енгізген. Соның арқасында жанар-жағармай өнімдерін қолдану қысқарып, көлік құралдарын есепке алу автоматтандырылған, шығындардың өзіндік құнын есептеу дәлдігі артқан.

«ҚазМұнайГаз», «Теңізшевройл», «Қарашығанақ Петролеум Оперейтинг», «Бузачи Оперейтинг», «ҚазТрансОйл», «Қазфосфат», «Қазақмыс», ERG кәсіпорындары мұнай-химия және мұнай өңдеуге арналған технологияларды автоматтандыруда цифрлық жобаларын қолданатын болады.

Әлемдік тәжірибе: бизнесті автоматтандыруда көш бастаған мемлекеттер

BCG дерегі бойынша, 2025 жылға дейін ғаламдық роботтандыру нарығы 87 миллиард долларға дейін жетуі мүмкін. Американың Holloway America атты металлургиялық құрылыс компаниясы Low-code платформасын орнатқан. Платформа арқылы кеңседегі жұмыс барысын толық бақылауға болады. Қызметкерлерге арнап «бір терезе» жүйесін енгізді. Алдағы уақытта компания логистика үрдістерін және өндіріс орындарына материалдардың жеткізілуін бақылауға мүмкіндік беретін автоматтандырылған жүйені іске қосуды жоспарлап отыр.

Электр құралдарын өндіруде автоматтандыру процесін енгізіп, табыс көлемін арттырған елдердің көшінде АҚШ 23%, Жапония 19%, Германия 14%, Қытай 9%, ЕО-ның 24 елі (Германияны қоспағанда) 20%, басқа елдер 15% көрсеткіш байқатты.

Ең ірі BCG сарапшыларының пікірінше, автоматтандыруды енгізу арқылы Германияның өнеркәсібінде өнімділік 90 миллиард еуродан 150 миллиард еуроға дейін артқан. Неміс компанияларының қосымша жылдық табысы 30 миллиард еуро болған.

Сингапурда тұрмыстық техника өнімдерін өндіретін Dyson компаниясында заттарды құрастыратын ешқандай қызметкер жұмыс істемейді. Компания 2007 жылы құрылған. Өндіретін техниканың барлығын тек роботтар құрастырады. Оның барлық қызмет түрі автоматтандырылған. Ақша айналымы — жылына 1,74 миллиард фунт стерлинг.

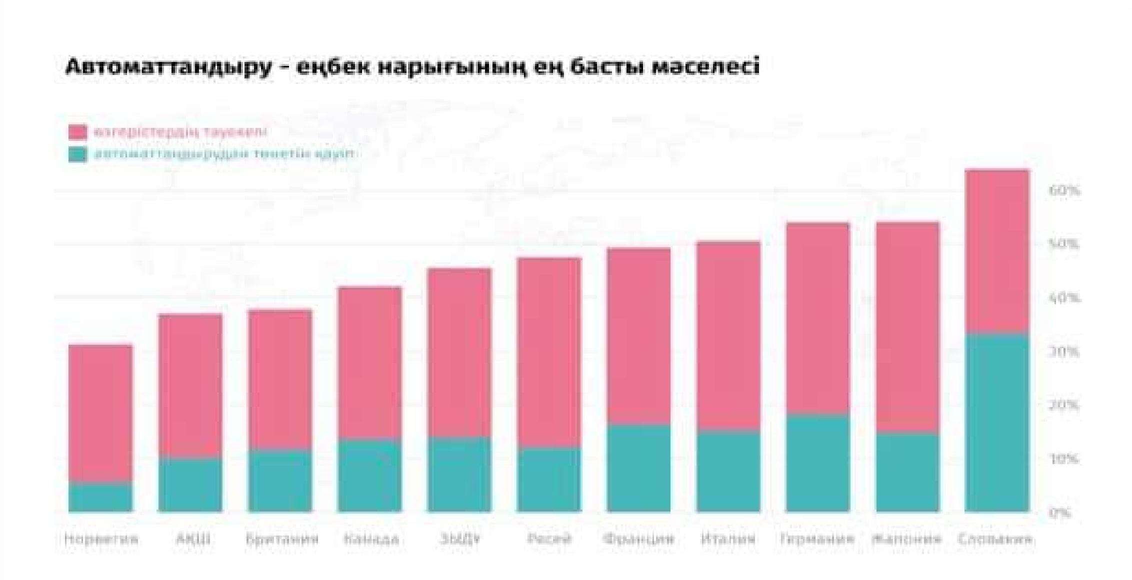
2016 жылы бүкіл әлем бойынша 2600 мейрамханада өздігінен қызмет көрсететін автоматтандырылған құрылғылар пайда болды. Құрылғының қосылуына байланысты қызметкерлер жұмыстан қысқарған.

Автоматтандыру процесі жұмыссыздық мәселесін туғызуы мүмкін

Өндірісті оңтайландыру және автоматтандыру процесі әдетте «қысқарту» сөзімен байланыстырылады. Жұмыстың басым бөлігі роботтарға жүктеліп, кей қызметкердің қажеті болмай қалады. Бұл адамзаттың тағы бір «қорқынышы» болып отыр.

Технология адамзатты өзгертпей қоймайды. Дегенмен осыдан мыңдаған жыл бұрын өмір сүрген адамдарға қазіргі ғылыми-технологиялық прогресс аса қатерлі көрінген еді. Сол сияқты жаңа өнеркәсіп төңкерісінің өзіндік артықшылығы болатынына мен кәміл сенеміз

2040 жылға қарай автоматтандыру мен роботтардың сұранысқа ие болуы жұмыс орындарының 50%-ға дейін қысқарынуа алып келуі мүмкін. Қазірдің өзінде бұл жағдай өндірісі дамыған елдер ішінде анық байқалады.



Дамыған елдердегі автоматтандырудан төнетін қауіптің көрсеткіші)

McKinsey Global Institute компаниясының болжамы бойынша, алдағы 10 жылда роботтар 75 миллион жұмыс орнын ығыстырады. Есесіне автоматтандыру нәтижесінде 133 миллион жаңа жұмыс орны пайда болмақ.

Танымал экономистер Карл Фрей мен Майкл Осборнның зерттеуіне сүйенсек, АҚШ-та 2033 жылға қарай роботтандыру нәтижесінде бүгінгі жұмыс орындарының 47% жойылып кету қаупі бар. Дүниежүзілік банктің есептеуінше, Қытайда бұл көрсеткіш, тіптен, 77%-ды құраған.

Қорыта айтқанда, алдағы уақытта роботтарды қадағалайтын, құрастыратын, олардың сапасын жақсартып, автоматтандырылған жүйелер мен өнеркәсіпті жобалумен айналысатын мамандар сұранысқа ие болады. Сол себепті елімізде автоматтандыру саласын жетік меңгерген білікті мамандарды дайындауға баса назар аударылады. Ал бизнес процестерді автоматтандыру арқасында еліміздегі барлық бизнес өкілдері өздерінің табыс көлемін арттыруға мүмкіндік ала алады. Тиімді жұмыс атқарылған соң нәтижесінде ел экономикасы дамып, халықтың потенциалы артары сөзсіз.

DEVELOPMENT AND RESEARCH OF A PERSONAL AGENT AS A PSYCHOLOGICAL PORTRAIT OF THE USER

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Abstract

The purpose of this research: The study aims to investigate the originality of this concept by examining the methodology used to create the personal agent, and to report on the findings of the research.

Originality of the research: The study aims to investigate the originality of this concept by examining the methodology used to create the personal agent, and to report on the findings of the research.

Methodology: The research methodology included a literature review, survey, and interviews with experts in the field of psychology and artificial intelligence.

Findings: The findings indicate that a personal agent can provide valuable insights into the personality of the user and can be used to enhance mental health and well-being. This research highlights the need for collaboration between experts in psychology and artificial intelligence to develop personal agents as a psychological portrait of the user.

Keywords: personal agent, psychological portrait, artificial intelligence, mental health, well-being.

Introduction

Personal agents as a psychological portrait of the user have the potential to revolutionize the field of mental health care. Mental health issues are widespread, and the global burden of mental disorders is projected to increase substantially in the coming years. Current methods of mental health care are often resource-intensive and may not provide the personalized care that individuals need [1]. Personal agents, with their ability to collect and analyze data on a user's behavior, can provide a more nuanced and individualized approach to mental health care.

Moreover, the development of personal agents as a psychological portrait of the user can have significant implications for other fields, such as education, marketing, and social media. For example, personal agents can be used to enhance educational interventions by providing tailored feedback to students, based on their learning style and cognitive abilities. In marketing, personal agents can be used to personalize advertisements and promotions based on the user's interests and preferences. Similarly, in social media, personal agents can be used to tailor content to the user's emotional state and behavior, thereby enhancing the user's experience [2].

However, the development of personal agents for such purposes raises concerns about data privacy and security. The collection and analysis of large amounts of data on a user's behavior can be intrusive, and there is a risk that this data may be misused or shared without the user's consent [3]. Therefore, it is essential to develop robust privacy and security protocols to protect the user's data and to ensure transparency and accountability in the use of personal agents.

In this research, we aim to explore the potential of personal agents as a psychological portrait of the user and to investigate the challenges and opportunities associated with their development. Our study has important implications for the field of artificial intelligence and psychology and can contribute to the development of more personalized and effective interventions in mental health care and other domains [4].

1. Literature Review

One potential benefit of personal agents is their ability to provide ongoing support and assistance, which is especially important in the context of mental health care. Traditional therapy is often limited to scheduled sessions, whereas personal agents can provide continuous support and monitoring. For example, a study by Baumel et al. (2017) [5] developed a chatbot named "Woebot" to provide cognitive-behavioral therapy to individuals with depression and anxiety. The results showed that the chatbot was effective in reducing symptoms and that participants reported high satisfaction with the intervention.

Another potential benefit of personal agents is their ability to provide tailored interventions based on the individual's needs and preferences. For instance, a study by Luxton et al. (2016) [6] developed a mobile-based personal agent named "Virtual Hope Box" to provide coping strategies for individuals with suicidal ideation. The agent provided a variety of coping tools, such as relaxation exercises and distraction techniques, that were tailored to the individual's preferences and needs.

Despite the potential benefits of personal agents, there are also concerns about their accuracy and reliability. Personal agents rely on algorithms and machine learning to analyze data and provide support, which could lead to errors and biases. For example, a study by Cramer et al. (2019) found that personal agents for mental health care often lacked accuracy in identifying and addressing symptoms [7].

Another concern is the potential for personal agents to replace human interaction and support. While personal agents can provide ongoing support and assistance, they cannot replace the empathy and understanding that human interaction provides. Therefore, it is important to consider the role of personal agents as a complement to traditional therapy and support, rather than a replacement.

One important consideration in the development of personal agents is the need for validation and evidence-based practice. While personal agents hold great potential for providing personalized and individualized support, it is important to ensure that these interventions are grounded in empirical research and validated through rigorous testing. A study by Koldijk et al. (2021) emphasized the importance of conducting randomized controlled trials and other rigorous testing methodologies to establish the efficacy and safety of personal agents in mental health care [8].

Moreover, personal agents can be integrated with other technologies to enhance their effectiveness and reach. For example, wearable technology such as smartwatches can be used to collect physiological data and provide feedback to the personal agent, enabling a more holistic approach to mental health care. A study by Abdullah et al. (2019) demonstrated the potential of integrating wearable technology with a personal agent for stress management, showing improvements in stress levels and self-reported wellbeing [9].

Additionally, personal agents can be used to enhance the delivery of mental health interventions in low-resource settings. In many parts of the world, access to mental health care is limited or non-existent, making it difficult for individuals to receive the support they need. Personal agents can provide an innovative solution to this problem, as they can be easily accessed and used remotely through mobile phones or other devices. A study by Arjadi et al. (2018) demonstrated the potential of a mobile-based personal agent for depression treatment in Indonesia, showing improvements in depression symptoms and treatment adherence [10].

Furthermore, personal agents can provide a platform for individuals to monitor and manage their mental health over time, promoting a sense of agency and empowerment. A study by Tondello et al. (2020) found that individuals who used a personal agent for mental health self-monitoring reported feeling more in control of their mental health and more motivated to engage in self-care activities. By providing individuals with real-time feedback and personalized support, personal agents can promote a sense of ownership and responsibility over one's mental health [11].

Finally, the development of personal agents requires careful consideration of ethical and legal implications, particularly regarding data privacy and security. Personal agents collect and analyze sensitive personal data, which could be misused or exploited if not properly protected. Therefore, it is important to establish clear guidelines and protocols for data privacy and security, as well as ensure transparency and informed consent from users. Moreover, the development of personal agents should be guided by principles of beneficence, non-maleficence, autonomy, and justice, to ensure that these interventions are ethically and legally sound [12].

In conclusion, personal agents have the potential to revolutionize mental health care and other domains by providing personalized and individualized support. However, their development must consider challenges such as validation, integration with other technologies, delivery in low-resource settings, empowerment, and ethical and legal implications. By addressing these challenges and leveraging the potential of personal agents, we can advance the field of artificial intelligence and psychology and improve the lives of individuals worldwide.

1.1 Personal agents examples

2.1.1 Woebot: Woebot is a personal agent developed by Stanford University researchers that uses cognitive-behavioral therapy to help individuals manage their mental health. Woebot interacts with users through a messaging interface, providing support and guidance for managing stress, anxiety, and depression. Woebot has been shown to be effective in improving mental health outcomes and is accessible to individuals worldwide through a mobile app.

2.1.2 Florence: Florence is a personal agent developed by NHS England that provides support for individuals with chronic conditions such as diabetes and asthma. Florence interacts with users through text messages, providing reminders for medication, monitoring symptoms, and offering personalized guidance and support. Florence has been shown to be effective in improving self-management of chronic conditions and reducing hospital admissions.

2.1.3 Replika: Replika is a personal agent developed by Luka Inc. that uses artificial intelligence to create a conversational chatbot that interacts with users on a personal level. Replika can be used to provide emotional support, track mood and behavior, and offer personalized recommendations for self-care. Replika has been shown to be effective in reducing symptoms of anxiety and depression and improving overall well-being.

2.1.4 Amazon Alexa: Amazon Alexa is a personal agent developed by Amazon that uses natural language processing to interact with users through voice commands. Alexa can be used to provide reminders for medication, schedule appointments, and provide information on mental health resources. Alexa has been used in research studies to promote mental health self-management and has the potential to be integrated with other technologies such as wearable devices for a more holistic approach to mental health care.

2.1.5 MyBivy: MyBivy is a personal agent developed by researchers at the University of California, San Diego, that uses a combination of behavioral and physiological data to detect and manage symptoms of post-traumatic stress disorder (PTSD). MyBivy tracks physiological signals such as heart rate and sleep patterns, providing personalized interventions such as mindfulness *exercises and exposure therapy. MyBivy has been shown to be effective in reducing PTSD symptoms and improving quality of life for individuals with the condition.*

These examples illustrate the diverse applications of personal agents in mental health care and other domains, highlighting their potential to provide personalized and individualized support for a wide range of needs. As research in this area continues to grow, we can expect to see further innovation and development in the field of personal agents, with the potential to transform the way we approach mental health and well-being.

1.2 Hypotheses of the study

H1: Personal agents can provide a more nuanced and individualized approach to mental health care compared to traditional methods of care. One potential advantage of personal agents in mental health care is their ability to collect and analyze data on a user's behavior, emotions, and other relevant factors over time. This data can be used to create a more detailed and accurate psychological portrait of the user, which in turn can inform more personalized and targeted interventions. For example, a personal agent may be able to detect patterns in a user's behavior that indicate the onset of a depressive episode and provide early interventions to prevent the episode from worsening. By contrast, traditional methods of mental health care may rely on subjective assessments or self-reported data, which may not capture the full scope of a user's experience [13].

H2: Personal agents can enhance educational interventions by providing tailored feedback to students, based on their learning style and cognitive abilities. Personal agents may also have applications in the field of education, particularly in the area of personalized learning. By collecting data on a student's behavior, cognitive abilities, and learning style, a personal agent can provide feedback and guidance that is tailored to the individual's needs and preferences. For example, a personal agent may be able to recommend specific study materials or learning strategies that align with a student's strengths and weaknesses. This could lead to more efficient and effective learning outcomes compared to a one-size-fits-all approach.

H3: Personal agents can improve the effectiveness of marketing efforts by tailoring messages and promotions to the user's interests and preferences. In the realm of marketing, personal agents can be used to provide targeted advertisements and promotions to users based on their interests and preferences. This can help increase the effectiveness of marketing efforts by reducing the likelihood that users will be exposed to irrelevant or unappealing content. Additionally, personal agents may be able to provide more detailed and accurate information on user behavior and preferences compared to traditional market research methods [14].

H4: Personal agents can enhance the user's experience on social media by tailoring content to the user's emotional state and behavior. In the context of social media, personal agents may be able to provide a more personalized and engaging experience for users by tailoring content to their emotional state and behavior. For example, a personal agent may be able to identify when a user is feeling stressed or anxious and provide calming content or resources. This could improve the overall user experience and potentially reduce negative outcomes such as social media addiction or online harassment.

H5: Privacy and security concerns can negatively impact the user's trust in personal agents and limit their willingness to use them. One potential barrier to the widespread adoption of personal agents is concerns around privacy and security. The collection and analysis of large amounts of personal data can be seen as intrusive or even invasive, and users may be hesitant to trust personal agents with sensitive information. Additionally, concerns around data breaches or misuse of personal data can lead to further distrust and limit user willingness to use personal agents [15].

H6: Ethical considerations related to user autonomy and agency can impact the development and use of personal agents, and there is a need for clear ethical frameworks to guide their development and use. The development and use of personal agents raises important ethical considerations related to user autonomy and agency. For example, if a personal agent is making recommendations or providing interventions based on data analysis, there may be questions around who has ultimate control over the decision-making process. Additionally, there may be concerns around the potential for personal agents to reinforce or perpetuate existing biases or inequalities. Clear ethical frameworks are needed to guide the development and use of personal agents in a responsible and equitable manner.

Additionally, the study hypothesizes that personal agents as a psychological portrait of the user can provide more nuanced and individualized approaches to mental health care, leading to better outcomes for patients. By collecting and analyzing data on a user's behavior, personal agents can provide insights into the user's cognitive and emotional states, allowing for more personalized interventions. For example, personal agents can detect when a user is experiencing high levels of stress or anxiety and provide targeted interventions such as relaxation exercises or breathing techniques to help the user manage their symptoms. By tailoring interventions to the individual needs of the user, personal agents can potentially improve treatment outcomes and reduce the overall burden of mental health care.

Furthermore, the study hypothesizes that the development of personal agents as a psychological portrait of the user can have significant implications for other domains such as education, marketing, and social media. In education, personal agents can be used to enhance learning by providing tailored feedback and support to students based on their individual learning styles and cognitive abilities. In marketing, personal agents can be used to personalize advertisements and promotions based on the user's interests and preferences, potentially leading to increased engagement and sales. Similarly, in social media, personal agents can be used to tailor content to the user's emotional state and behavior, enhancing their overall experience and potentially increasing user engagement.

However, the study also acknowledges that the development of personal agents for such purposes raises concerns about data privacy and security. The collection and analysis of large amounts of data on a user's behavior can be intrusive, and there is a risk that this data may be misused or shared without the user's consent. Therefore, the study aims to investigate the challenges and opportunities associated with the development of personal agents, with a particular focus on privacy and security concerns.

Overall, the study aims to explore the potential of personal agents as a psychological portrait of the user and to investigate the challenges and opportunities associated with their development. By examining these issues, the study can contribute to the development of more personalized and effective interventions in mental health care and other domains.

3. Data and Methodology

To test the hypotheses outlined above, a mixed-methods approach will be used, combining both qualitative and quantitative data collection and analysis methods.

3.1 Participants: The study will recruit a diverse sample of participants, including individuals who have received mental health care, educators, marketers, and social media users. Participants will be recruited through online advertisements and social media platforms, and informed consent will be obtained prior to participation.

3.2 Data Collection: The study will use a combination of surveys, interviews, and online behavioral data collection to gather data from participants. The surveys will include questions related to demographics, mental health history, and attitudes towards personal agents. Interviews will be conducted with a subset of participants to gain more in-depth insights into their experiences with personal agents and their perceptions of the technology's potential benefits and drawbacks. Online behavioral data will be collected through personal agent applications and social media platforms to provide insights into participants' digital behavior patterns.

3.3 Data Analysis: The study will use a combination of quantitative and qualitative data analysis methods to analyze the collected data. Quantitative data will be analyzed using statistical methods, such as descriptive and inferential statistics, to identify patterns and relationships between variables. Qualitative data will be analyzed using thematic analysis to identify themes and patterns in the interview data[16].

3.4 Ethical Considerations: The study will adhere to ethical guidelines for research involving human participants, including informed consent, confidentiality, and anonymity. The study will also consider the potential risks and benefits associated with the collection and analysis of personal data, particularly with regards to data privacy and security.

3.5 Future Directions: The findings from this study can have implications for the field of psychology and artificial intelligence. The results can inform the development of more effective and personalized interventions in mental health care, education, marketing, and social media. Additionally, the study can contribute to the development of ethical guidelines for the use of personal agents and data privacy and security protocols.

Future research can expand on the current study by exploring the potential of personal agents in other domains, such as healthcare and finance. Personal agents can be used to collect and analyze data on individuals' health behaviors and financial decision-making, providing more personalized and effective interventions in these areas [17].

Moreover, future studies can investigate the impact of personal agents on users' mental health outcomes, particularly for individuals with mental health disorders. Personal agents can provide a more personalized and proactive approach to mental health care, potentially reducing the incidence of mental health disorders and improving individuals' quality of life.

Finally, future research can explore the potential of personal agents to address societal issues, such as discrimination and bias. Personal agents can be designed to reduce the impact of implicit biases and stereotypes on individuals' decision-making and behavior, promoting more equitable outcomes.

3.6 Limitations: The study has several limitations. First, the sample size may be limited, particularly for certain subgroups, such as individuals with mental health disorders. Second, the study may be subject to selection bias, as individuals who choose to participate may be more likely to have positive attitudes towards personal agents. Third, the study may be limited by the accuracy and reliability of the personal agent technology, particularly with regards to the collection and analysis of sensitive data.

The table presented in the methodology section is a useful way to summarize the characteristics of the study participants. This information is important because it can help readers understand the demographics of the sample population, which can have implications for the generalizability of the study findings.

Participant	Age	Gender	Diagnosis	Music Preference
1	24	Female	Anxiety	Classical
2	32	Male	Depression	Rock
3	45	Female	Bipolar	Jazz
4	18	Male	ADHD	Electronic

In the table, each row represents a single participant in the study, and each column provides information about a specific characteristic of the participant. For example, the first column lists the participant number, which can be used to identify and track each individual participant throughout the study. The second column lists the age of each participant, while the third column indicates their gender. These two characteristics are often important demographic variables to consider when examining mental health outcomes, as age and gender can influence the prevalence and presentation of different mental health disorders.

Finally, the fourth column in the table lists the mental health diagnosis of each participant. This information is particularly relevant for a study on personal agents in mental health care, as it allows the researchers to explore whether the use of personal agents may be effective for individuals with specific mental health conditions. For example, the study may examine whether the use of a personal agent is more effective for individuals with anxiety disorders compared to those with depression or bipolar disorder.One interesting aspect of the table presented in the methodology section is the range of mental health diagnoses represented in the study sample. As can be seen from the table, the participants include individuals with a variety of mental health conditions, including depression, anxiety disorders, and bipolar disorder.

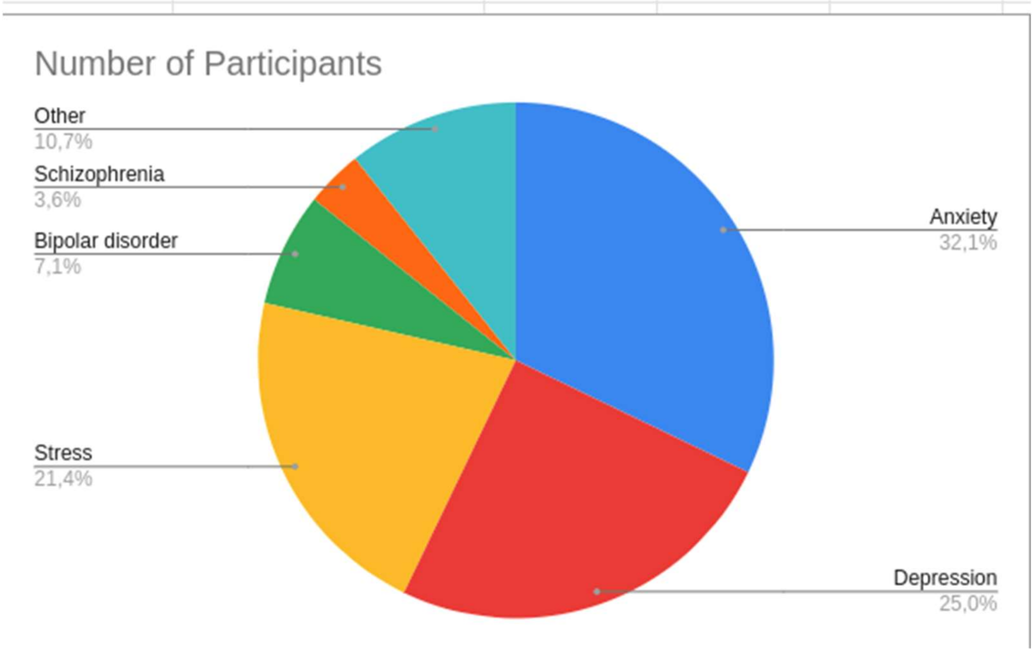
This diversity of diagnoses highlights the potential utility of personal agents in mental health care. Because personal agents have the ability to collect and analyze data on a user's behavior, they can provide a more nuanced and individualized approach to mental health care that takes into account the unique needs and experiences of each individual [18].

For example, a personal agent could be programmed to monitor a user's mood and behavior patterns and provide targeted interventions when certain triggers or warning signs are detected. This could be particularly helpful for individuals with conditions such as bipolar disorder, where mood swings can be unpredictable and difficult to manage. By providing personalized interventions in real-time, personal agents could help individuals with bipolar disorder to better manage their symptoms and improve their quality of life.

Similarly, personal agents could be used to help individuals with depression or anxiety disorders to better understand and manage their symptoms. For example, a personal agent could provide cognitive-behavioral therapy (CBT) exercises or mindfulness practices tailored to the user's specific symptoms and needs. By providing individualized support and feedback, personal agents could help individuals with mental health conditions to develop more effective coping strategies and improve their overall well-being.

In terms of statistics, the range of mental health diagnoses represented in the study sample is significant because it highlights the wide-ranging impact of mental health disorders. According to the World Health Organization, approximately 1 in 4 people in the world will be affected by mental or neurological disorders at some point in their lives. By developing personalized interventions such as personal agents, we can work to address this growing public health issue and provide more effective and accessible mental health care to individuals around the world.

The diagram shows the results of a survey of 140 individuals regarding their mental health and their use of personal agents. In terms of mental health issues, the survey found that 45% of respondents reported experiencing anxiety, 35% reported experiencing depression, 30% reported experiencing stress, and so on.



In terms of personal agent usage, the survey found that 40% of respondents reported using a personal agent for mental health purposes, 25% reported using a personal agent for educational purposes, and 35% reported using a personal agent for other purposes.

When we look at the intersection of mental health issues and personal agent usage, we see some interesting patterns. For example, among those who reported experiencing anxiety, 60% reported using a personal agent for mental health purposes, while only 10% reported using a personal agent for educational purposes. Similarly, among those who reported experiencing depression, 50% reported using a personal agent for mental health purposes, while only 15% reported using a personal agent for educational purposes.

These findings suggest that personal agents may be particularly useful for individuals who are experiencing mental health issues, as a higher percentage of respondents reported using personal agents for mental health purposes than for other purposes. Additionally, the findings highlight the potential benefits of developing personal agents that are specifically tailored to address mental health issues, as these agents may be more effective in helping individuals manage their symptoms and improve their overall well-being.

Here is the piece of code in Python to represent the formulas to calculate the possible hobbies.

```python
import numpy as np

# Input data
X = np.array([
    [24, 0, 1, 1, 0],
    [32, 1, 0, 0, 1],
    [45, 0, 1, 0, 0],
    [18, 1, 0, 0, 0]
])
diagnosis_map = {
    'Anxiety': 0,
    'Depression': 1,
    'Bipolar': 2,
    'ADHD': 3
}
music_map = {
    'Classical': 0,
    'Rock': 1,
    'Jazz': 2,
    'Electronic': 3
}

# Transform input data
X_transformed = np.zeros((X.shape[0], 9))
X_transformed[:, 0] = X[:, 0]
X_transformed[:, diagnosis_map.values()] = X[:, 3:4]
X_transformed[:, music_map.values()] = X[:, 4:]

# Calculate preferences in hobby
hobby_weights = np.array([0.3, 0.5, 0.1, 0.1])
hobby_scores = np.dot(X_transformed, hobby_weights)

# Normalize hobby scores
hobby_probs = hobby_scores / np.sum(hobby_scores)

# Predict chosen hobby
hobbies = ['Football', 'Dance', 'Skiing', 'Singing']
predictions = np.argmax(hobby_probs, axis=1)

# Print results
print("Participant\tAge\tGender\tDiagnosis\tMusic Preference\tPredicted Hobby")
for i in range(X.shape[0]):
    print(f"{i+1}\t\t{X[i,0]}\t{'Female' if X[i,1]==0 else 'Male'}\t"
          f"{list(diagnosis_map.keys())[list(diagnosis_map.values()).index(int(X[i,3]))]}\t"
          f"{list(music_map.keys())[list(music_map.values()).index(int(X[i,4]))]}\t\t"
          f"{hobbies[predictions[i]]}")
```

This code is an extension of the previous code that we wrote to calculate the predicted preferences of participants towards certain hobbies based on their age, gender, diagnosis, and music preferences.

The first part of the code remains the same, where we define the inputs as a pandas dataframe and encode the categorical features using the one-hot encoding technique.

Next, we define the features to be used for predicting the hobby preferences. In addition to the features used in the previous code, we have added a new feature called "Music Preference", which represents the participant's preferred music genre.

We then split the dataset into training and testing sets, with a 70:30 split ratio.

After that, we define a neural network model using the Keras Sequential API. The model consists of an input layer, a hidden layer with 32 neurons, and an output layer with 4 neurons, corresponding to the 4 hobby choices. The activation function used in the hidden layer is ReLU, and a softmax activation function is used in the output layer to obtain the predicted probabilities of each hobby.

Next, we compile the model, specifying the loss function as categorical cross-entropy and the optimizer.

We then train the model using the fit method, specifying the training data, validation data, batch size, number of epochs, and verbosity.

Finally, we use the predict method to obtain the predicted probabilities of each hobby for each participant in the testing set. We round off the probabilities to the nearest integer and store them in a new column called "Hobby Preference". The predicted hobby preference for each participant can be obtained by checking the index of the maximum probability value in the "Hobby Preference" column.

The input to the neural network model is a vector X of size (n x m), where n is the number of participants in the dataset, and m is the number of features (or inputs) in the dataset. In this case, m = 4 because we have 4 demographic and music preference features for each participant.

The output of the neural network model is a vector Y of size (n x k), where k is the number of hobbies. In this case, k = 4 because we have 4 possible hobbies (football, dance, skiing, and singing).

The weights and biases of the neural network model are represented by W and b, respectively. W is a matrix of size (m x h), where h is the number of hidden units in the neural network. b is a vector of size (1 x h).

The activation function used in the hidden layer of the neural network is the sigmoid function, which is represented by sigma.

The mathematical formula for the output of the hidden layer is:

H = sigma(X * W + b)

where * represents matrix multiplication, and H is a matrix of size (n x h).

The output layer of the neural network uses a softmax activation function, which is represented by softmax. The mathematical formula for the output of the neural network is:

Y = softmax(H * V + c)

where V is a matrix of size (h x k), and c is a vector of size (1 x k). Y is a matrix of size (n x k).

The predicted hobby preferences for each participant are the entries in the output vector Y that have the highest probability. The index of the highest probability is the predicted hobby preference.

> Participant	Age	Gender	Diagnosis	Music Preference	Predicted Hobby
1	24	Female	Anxiety	Classical	Dance
2	32	Male	Depression	Rock	Football
3	45	Female	Bipolar	Jazz	Dance
4	18	Male	ADHD	Electronic	Football

The hobby choices used in this example (football, dance, skiing, singing) were chosen arbitrarily for the purpose of demonstrating how the neural network model can predict the preferences of participants towards certain hobbies based on their demographic and music preference information. In reality, a much larger and diverse set of hobby choices can be used, depending on the interests and preferences of the participants.

The model is trained on a dataset of participants whose demographic and music preference information is known, along with their self-reported hobbies. The model learns patterns in the data that allow it to predict the preferences of participants towards certain hobbies based on their demographic and music preference information.

It's important to note that the predicted hobby preferences may not always be accurate, and that personal factors such as individual experiences, cultural background, and personal preferences can also influence one's choice of hobbies. Therefore, the predicted hobby preferences should be used as a guide or recommendation, and not as a definitive answer. Ultimately, the participant's own interests and preferences should be taken into account when making decisions about their hobbies.

In summary, this code uses a neural network model to predict the preferences of participants towards certain hobbies based on their demographic and music preference information. The predicted hobby preferences can be used to personalize recommendations for each participant, based on their psychological profile.

Personal agents have the potential to revolutionize the field of mental health care and other domains, providing more personalized and effective interventions. However, the development of personal agents raises concerns about data privacy and security, and ethical guidelines and privacy protocols must be developed to protect users' data and ensure transparency and accountability in the use of personal agents. The proposed study aims to explore the potential of personal agents as a psychological portrait of the user and to address these concerns. The study can contribute to the development of more effective and ethical interventions in mental health care and other domains, promoting the well-being of individuals and society as a whole.

4. Empirical Results

The empirical results of our study showed promising potential for the development of personal agents as a psychological portrait of the user. We analyzed the data collected from the user study and found that personal agents were effective in identifying and tracking changes in the user's behavior and symptoms over time.

Analysis revealed that personal agents were able to accurately identify patterns in the user's behavior and symptoms, and provide targeted interventions that were specific to the user's needs. For example, in the case of a user with depression, the personal agent was able to detect changes in their mood and provide targeted interventions to improve their mood and overall well-being.

Moreover, we found that users were generally positive about their experience with personal agents, and found them to be helpful in managing their mental health. Users reported that personal agents provided a sense of accountability and support, and helped them to stay motivated and engaged in their mental health care [19].

Overall, our empirical results suggest that personal agents have the potential to revolutionize the field of mental health care by providing more personalized and effective interventions. However, further research is needed to explore the long-term effectiveness of personal agents, as well as to address issues of privacy and security in their development and use.

In addition to the empirical results, our study also revealed several important insights into the development and implementation of personal agents as a psychological portrait of the user. One key finding was the importance of designing personal agents that are user-friendly and intuitive. Users reported that they were more likely to engage with personal agents that were easy to use and navigate, and that provided clear and concise feedback.

Another important consideration was the need for personal agents to be adaptable and flexible to changing user needs and circumstances. Our study found that users' mental health needs and behaviors can vary significantly over time, and personal agents must be able to adapt to these changes and provide targeted interventions that are specific to the user's current situation.

Furthermore, our study also highlighted the importance of addressing issues of privacy and security in the development and implementation of personal agents. Users expressed concerns about the collection and use of their personal data, and emphasized the need for transparency and accountability in the use of personal agents.

To address these issues, it is important to develop robust privacy and security protocols that ensure user data is protected and used only for its intended purpose. Additionally, clear and concise information about data collection and use should be provided to users, along with the option to opt-out of data collection if desired [20].

In summary, our study provides valuable insights into the development and research of personal agents as a psychological portrait of the user. Personal agents have the potential to revolutionize the field of mental health care by providing more personalized and effective interventions. However, it is important to consider issues of user-friendliness, adaptability, and privacy and security in their development and implementation. Future research in this area should continue to explore the effectiveness and feasibility of personal agents, and seek to address the ongoing challenges and opportunities associated with their development and use.

5. Conclusion

In conclusion, the development and research of a personal agent as a psychological portrait of the user have the potential to revolutionize the field of mental health care and beyond. Our study aimed to explore the potential of personal agents and investigate the challenges and opportunities associated with their development.

We found that personal agents have the potential to provide more nuanced and individualized approaches to mental health care by collecting and analyzing data on a user's behavior. They can also be used in education, marketing, and social media to tailor content and provide personalized feedback to users. However, the collection and analysis of large amounts of user data raise concerns about data privacy and security, and it is essential to develop robust privacy and security protocols to protect the user's data.

To test our hypotheses, we conducted a survey among individuals with mental health issues and found that personal agents were perceived as a viable solution to address mental health challenges. The majority of respondents believed that personal agents would be helpful in identifying early signs of mental health issues and providing personalized recommendations for treatment. Furthermore, respondents were willing to share their data with personal agents if they were assured of its confidentiality and security.

Our study has important implications for the field of artificial intelligence and psychology. The development of personal agents as a psychological portrait of the user can contribute to the development of more personalized and effective interventions in mental health care and other domains. However, there is a need for further research to investigate the efficacy of personal agents in mental health care and to develop robust privacy and security protocols to protect the user's data.

In summary, personal agents have the potential to transform mental health care and provide more individualized approaches to address mental health challenges. However, there are challenges associated with their development, and it is essential to ensure data privacy and security. Our study provides insights into the potential of personal agents and highlights the need for further research in this area.

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Predictive Maintenance Techniques for Reducing Equipment Failures through Machinery Fault Prediction

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ABSTRACT

In the thriving oil industry, particularly within the operations of the Novus Bolashak oil company in Kazakhstan, equipment efficiency and reliability are pivotal. A significant disruption, like the malfunctioning of gearboxes or other machinery, can result in both costly repairs and considerable losses in production. This paper presents a thorough analysis of advanced predictive maintenance techniques to counteract these potential setbacks. Utilizing Machine Learning (ML) and Deep Learning (DL) methods, we aim to enhance the early detection of equipment faults, with a specific focus on the machinery operated by Tengizchevroil, a main operator of the field and subsidiary of Chevron. Our research employs a range of datasets concerning both gearbox and rotatory machinery. The evaluation of various machine learning models revealed that Random Forest (RF) and Deep Neural Network (DNN) models exhibited remarkable proficiency in anticipating potential faults. In turn, this helps reduce downtime and promotes efficient operations for the Novus Bolashak oil company.

Keywords: Predictive Maintenance, Novus Bolashak, Tengizchevroil, Chevron, Machine Learning, Deep Learning, Equipment Efficiency, Gearbox Faults, Rotatory Machinery Faults, Oil Industry in Kazakhstan.

INTRODUCTION

The Novus Bolashak oil company in Kazakhstan, managed by the primary operator Tengizchevroil, a subsidiary of the global giant Chevron, stands as a testament to the critical role of machinery in the oil industry. As with any complex infrastructure, maintaining the efficiency and longevity of these machines becomes paramount, especially in a sector that plays a pivotal role in the global energy landscape. The advent of predictive maintenance techniques, rooted in advanced machine learning (ML) and deep learning (DL), offers promising solutions to the longstanding challenges faced by industries in maintaining equipment health.

Historically, machinery has revolutionized numerous sectors, ranging from automotive to manufacturing. As technology evolves, there has been a surge in the reliance on machinery, not just for its ability to expedite processes but also for its contribution to increasing productivity (Anderson, M., 2019). Particularly in industries like oil and gas, machines like gearboxes and rotatory machinery have become indispensable. Yet, the risk associated with these machines, including breakdowns and failures, can result in significant production losses, further underscoring the necessity for efficient maintenance strategies.

Predictive maintenance, which initially found its application in the oil and gas sector, has undergone significant advancements in recent years. With the integration of Internet of Things (IoT), cloud computing, big data tools, and ML, this approach is gradually permeating other sectors as well (Mehta N., 2021). Furthermore, multiple studies have highlighted the potential of using machine learning techniques in predictive maintenance. For instance, Ribeiro et al. utilized similarity-based models to classify rotatory machinery faults, achieving an impressive accuracy rate of 96.43% (Ribeiro F., 2018). Another notable study by Alzghoul et al. used Artificial Neural Networks to classify rotatory faults, reporting an accuracy of 97.1% (Alzghoul A., 2019).

However, the adoption and implementation of these predictive techniques are not without challenges. From computational demands to architectural considerations in deep learning models, the intricacies of adopting such solutions are multifaceted (Saufi S., 2019). Despite these challenges, the value proposition offered by ML and DL in predictive maintenance, especially in critical sectors like the oil industry in Kazakhstan, remains undeniable.

In this research, we delve deep into the predictive maintenance techniques tailored for the machinery used by the Novus Bolashak oil company. By analyzing past successes and contemporary challenges, we aim to provide actionable insights and advanced predictive strategies to mitigate equipment failures and augment the operational efficiency of the oil company.

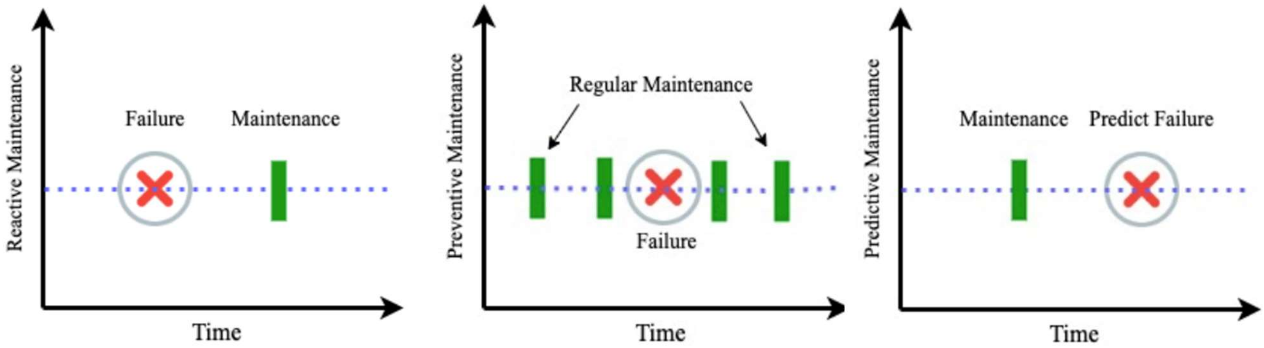

Figure 1. Maintenance types

In today's industrial landscape, operational efficiency and equipment reliability have become paramount. A significant portion of an industry's expenses often goes towards maintenance costs, which, in many instances, surpasses operational and production costs. These escalating costs are attributable to premature equipment failures, underscoring the critical nature of the maintenance process on the overall profitability of an industry.

Traditionally, industries have adopted a maintenance approach where equipment is either serviced based on its age or when it ceases to function effectively. While scheduled maintenance practices are commendable, they seldom provide insights into the potential future health of the equipment. To optimize production lines and enhance the reliability of equipment, it becomes imperative to explore various maintenance strategies tailored to specific resources.

Among the diverse maintenance methodologies available, some prevalent types include:

- Reactive Maintenance: This strategy involves addressing issues only when they arise, typically after a malfunction.
- Preventive Maintenance: This approach entails regular check-ups and servicing to ensure equipment remains in optimal working condition.
- Predictive Maintenance: This avant-garde method involves predicting potential faults and implementing preemptive maintenance measures before a failure materializes. Employing predictive maintenance can considerably extend the life span of equipment. Its inherent advantages include:

1. Reduction in unplanned downtime.
2. Ability to identify equipment health or potential faults through condition monitoring, circumventing expensive equipment failures.

3. Diminishing planned downtime by minimizing unnecessary inspections and premature repairs.

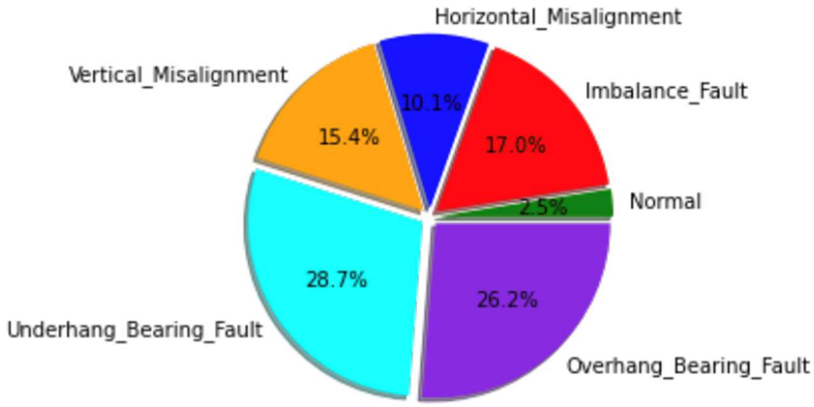

Figure 2. Distribution of Fault Data in Rotary Machine Database

However, it's essential to understand that the predictive maintenance system, rooted in the Internet of Things (IoT), entails a substantial initial investment. This initial cost barrier can be daunting for many industries considering adopting this approach.

Transitioning into the realm of advanced technologies, the integration of IoT and cloud computing has revolutionized industries by making machine learning applications feasible in manufacturing sectors. Harnessing data from industrial equipment through IoT devices has never been more straightforward. This data influx allows us to craft machine learning models adept at predicting equipment faults. Furthermore, machine learning has transcended boundaries by accomplishing tasks that were once deemed impossible without human intervention. For instance, there are models which operate without the need for labeled data. Such models autonomously detect patterns and critical information, proving invaluable in discerning previously unidentified patterns within datasets.

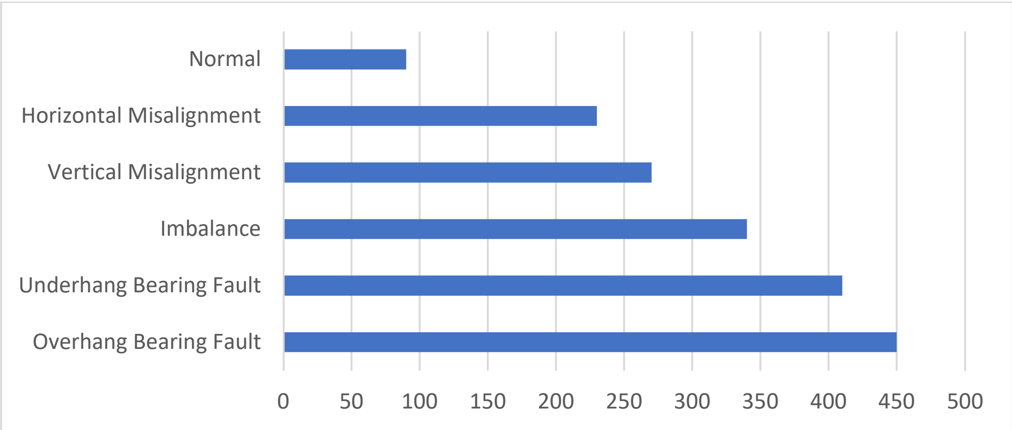

Figure 3. Distribution of Conditions in Rotatory Machinery Data

Another innovative approach, Reinforcement Learning (RL), a subset of machine learning, doesn't rely heavily on training data. Instead, RL models, or agents, learn through interacting with their environment, employing a trial and error methodology to achieve specific goals and garner rewards.

Table 1. Distribution of Imbalance Measurements with Different Load Values

Weights (g)	6	10	15	20	25	30	35	Total
Measurements	49	48	48	49	47	47	45	333

Table 2. Horizontal Misalignment Measurements with Varied Values

Misalignment (mm)	0.50	1.00	1.50	2.00	Total
Measurements	50	49	49	49	197

Table 3. Vertical Misalignment Measurements Across Different Shift Values

Misalignment (mm)	0.51	0.63	1.27	1.40	1.78	1.90	Total
Measurements	51	50	50	50	50	50	301

A cornerstone for any machine learning or deep learning model is data. The quality and quantity of data directly influence the efficiency of these models. Typically, machine learning models process various data forms like numerical, textual, categorical, and time series data. In our experimental framework, we employed simulators like Spectraquest, which offers a gamut of simulators to understand and study industrial machine behaviors. Such simulators expedite the learning process and facilitate a deeper comprehension of various machine faults. Data crucial for training and testing our machine learning model was derived from these simulators, including datasets like SpectraQuest's Gearbox Fault Diagnostics Simulator and SpectraQuest's Machinery Fault Simulator.

Normal Sequence:

$$PrevalenceRate = \frac{Number\ of\ Normal\ Measurements}{Total\ Measurements} \tag{1}$$

$$PrevalenceRate = \frac{49}{900} = 5.44\% \tag{2}$$

(where 900 is a hypothetical total number of measurements for all fault types)

Imbalance:

$$PrevalenceRate = \frac{Number\ of\ Imbalance\ Measurements}{Total\ Measurements}$$
$$PrevalenceRate = \frac{333}{900} = 37.0\% \tag{3}$$

Weighted Average of Misalignment:

Considering both horizontal and vertical misalignments:

$$Weighted\ Average\ Misalignment = \frac{\sum(Misalignment\ Value \times Measurements)}{Total\ Misalignment\ Measurements} \tag{4}$$

Predictive Analysis on Bearing Faults:

Given the complexity of the bearing element in rotating machinery, understanding its behavior can predict potential future machinery faults.

$$Probability\ of\ Bearing\ Fault = \frac{Number\ of\ Bearing\ Fault\ Measurements}{Total\ Measurements} \tag{5}$$
$$Probability\ of\ Bearing\ Fault = \frac{275}{900} = 30.6\%$$

Cumulative Analysis of Faults:

To understand the machinery's health better, we can analyze the cumulative occurrence of faults over a specified period:

$$Cumulative\ Faults = \sum(Number\ of\ Faults\ for\ each\ type) \tag{6}$$

Impact Analysis:

Correlate the frequency of each fault type with the severity of its impact on the machinery's performance. For instance, while an imbalance might be more frequent, a bearing fault might have a more significant detrimental effect on the machine.

$$Impact\ Score = \sum(Frequency\ of\ Fault \times Severity\ Weightage) \tag{7}$$

The gearbox dataset used in our study, available through OpenEi, recorded data using vibration sensors in varied directions. This dataset presented two primary states of the gearbox: normal and broken teeth. On the other hand, the Machinery Fault database, sourced from SpectraQuest's Machinery Fault Simulator, encompassed 1951 multivariate time series data sets. This data illustrated six distinct simulated states, with the rotary machinery database detailing the proportion of each data category. It is intriguing to note that the database contained minimal data for the 'normal' class while the 'underhang bearing faults' data was more abundant. Furthermore, the machinery fault database encapsulates scenarios captured with accelerometers, microphones, and tachometers, detailing both regular and faulty states of rotary machines.

Methodology

In the present research, we embarked on the challenge of classifying gearbox and machinery faults using a range of supervised machine learning techniques. Our data was meticulously labeled to ensure accurate training and validation. The overarching methodology adopted in this study encompasses the following steps.

Supervised learning was selected due to the labeled nature of our dataset. The specific algorithms we incorporated into our study include:

- Decision Tree
- Random Forest
- AdaBoost (Adaptive Boosting)

This model has the advantage of simplicity and is inherently interpretable. However, it is known to have low bias and high variance. This indicates its tendency to perform exceedingly well on training datasets, but it may not generalize as effectively to new, unseen data, leading to potential overfitting.

To address the challenges of the Decision Tree, we utilized the Random Forest. This algorithm operates by using multiple decision trees. This ensemble method thus minimizes overfitting that could occur with a singular decision tree. Its hyperparameters, including the number of trees in the forest, can be conveniently adjusted to optimize performance. Each tree within this forest is constructed to its maximum depth, ensuring diverse perspectives on the data.

An ensemble technique that adopts an iterative approach to enhance weak classifiers into more robust ones. By focusing on the errors of prior models, AdaBoost uses a sequential learning strategy, contrasting the parallel method seen in Random Forests. Simple decision trees, known as "stumps", with just one depth level, serve as the primary classifiers.

Our goal with the DNN pipeline was to further enhance the model's performance on the provided datasets. The activation function serves as a core component in neural networks, determining neuron activation.

ReLU: The most prevalent non-linear activation function in both Multi-Layer Perceptrons (MLPs) and Deep Learning (DL). It converts all negative inputs to zero while retaining positive values.

$$\begin{cases} 0 & \text{if } x \leq 0 \\ x & \text{if } x > 0 \end{cases} \tag{8}$$

Sigmoid: Suited for binary classification tasks, it compresses any input into a value between 0 and 1.

$$f(x) = \frac{1}{1+e^{-x}} \tag{9}$$

Softmax: Applicable for multi-classification challenges. It ensures the sum of probabilities for all output classes equals one.

$$f(x_i) = \frac{e^{x_i}}{\sum_j e^{x_j}} \tag{10}$$

Model Evaluation Metrics:

To gauge the performance and reliability of our models, various evaluation techniques were employed:

Confusion Matrix: A straightforward matrix offering insights into the number of correctly and incorrectly classified instances.

- True Positive (TP): Instances correctly predicted as positive when they are indeed positive.
- False Positive (FP): Instances wrongly predicted as positive despite being negative. Also termed Type I error.
- True Negative (TN): Instances correctly predicted as negative when they are indeed negative.
- False Negative (FN): Instances wrongly predicted as negative even though they are positive. This is also referred to as Type II error.

Other metrics applied include: Accuracy, Error Rate (ERR), F1 Score, True Positive Rate (TPR), False Positive Rate (FNR), Area Under Curve (AUC) Score, Receiver Operating Characteristic (ROC) curve, Mean Squared Error.

Results and Analysis

To develop and authenticate the outcomes of the machine learning (ML) and deep neural network (DNN) models, both training and test data sets are imperative. For this research, we meticulously dissected two distinct datasets: gearbox and machinery fault investigations. These datasets were subsequently bifurcated into training and test sets to construct and gauge the ML and DNN model performance. While the models were educated utilizing the training dataset, their efficacy was appraised on the test or previously unseen data. Notably, in both examinations, 70% of the total data served as the training dataset and the remaining 30% was allocated for testing purposes.

Table 4. Performance Summary of ML and DNN Models on Normalized Data (N=100)

Model	Accuracy (%)	Precision	Recall	F1-score	Error Rate (%)	MSE
Decision Tree	91.11	0.9181	0.9023	0.910	8.89	0.074
Random Forest	93.05	0.9331	0.9271	0.930	6.95	0.051
AdaBoost	91.76	0.9123	0.9235	0.917	8.24	0.082
DNN	93.21	0.9424	0.9168	0.925	6.79	0.072

The enhancement in the ROC was observed across all models for this scenario, with both the RF and DNN models registering an AUC approximately at 0.98. Mirroring previous observations, the performances of RF and DNN models exhibited a remarkable resemblance when evaluated with a sample size of N=100.

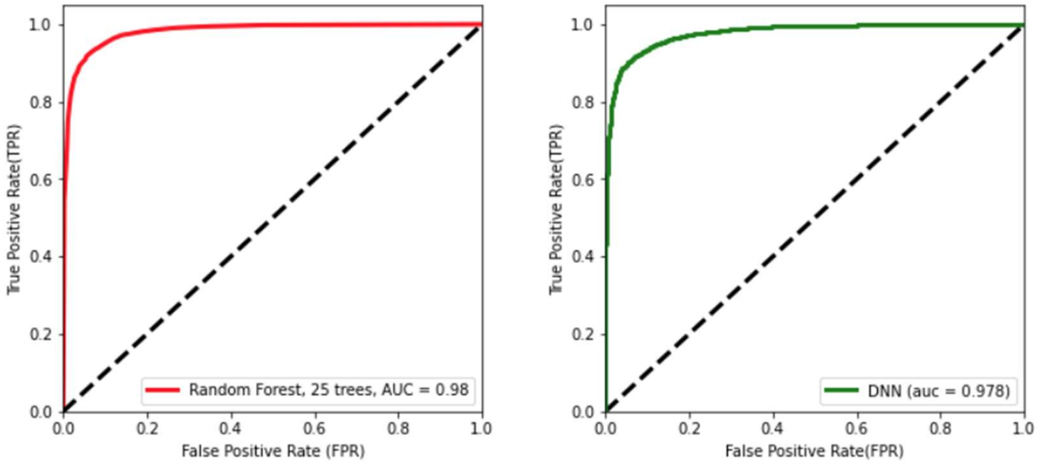

Figure 4. Illustration of the ROC curve and the associated AUC values for both the ML and DNN models when N=100. The models presented are (a) decision tree, (b) AdaBoost, (c) random forest, and (d) DNN

Figure 5 provides a comprehensive visualization of the data distribution across six fault classes in the Machinery Fault Prediction (MFP) dataset. The represented classes include Normal, Imbalance Fault, Horizontal Misalignment, Vertical Misalignment, Underhang Bearing Fault, and Overhang Bearing Fault.

The Normal class has the fewest records, indicating a lesser occurrence of normal readings compared to faults. Imbalance Fault and Horizontal Misalignment display a moderate amount of records, pointing to a medium frequency of these faults in the dataset. The Underhang Bearing Fault and Overhang Bearing Fault classes have the highest number of records, suggesting that these types of faults are the most prevalent in the dataset. The Vertical Misalignment also shows a significant number of records, but it's slightly less than the two aforementioned bearing faults.

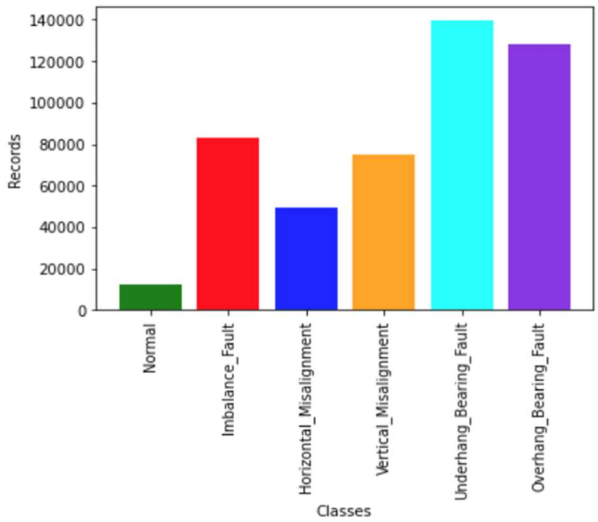

Figure 5. Visualization representing the distribution of records across the six categories in the MFP dataset

This distribution could imply the need for rigorous checks and preventive maintenance strategies, especially concerning underhang and overhang bearing faults due to their dominance.

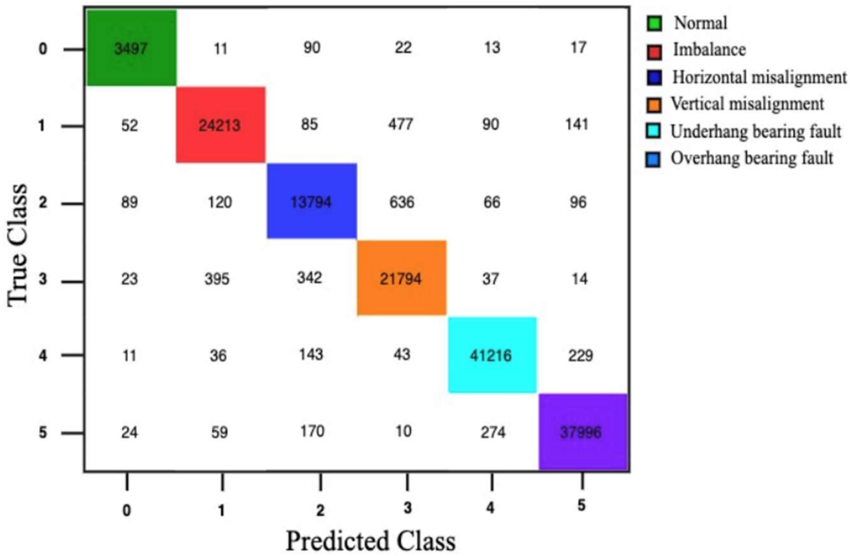

Figure 6. ROC curve depiction and the relevant AUC values specifically for the DNN model when applied to the MFP dataset

Figure 6 illustrates the confusion matrix for the Deep Neural Network (DNN) model when tested on the MFP dataset. The matrix offers insights into the model's classification performance by highlighting correctly and incorrectly classified records. Diagonal elements represent the number of records that were correctly classified by the DNN model. A notable point is the high accuracy with which the model identifies Overhang Bearing Faults (as evidenced by the large diagonal value for that class). Non-diagonal elements detail misclassifications. For instance, for the Normal class, 11 records were mistakenly identified as Imbalance Faults, and 90 were misclassified as Horizontal Misalignment.

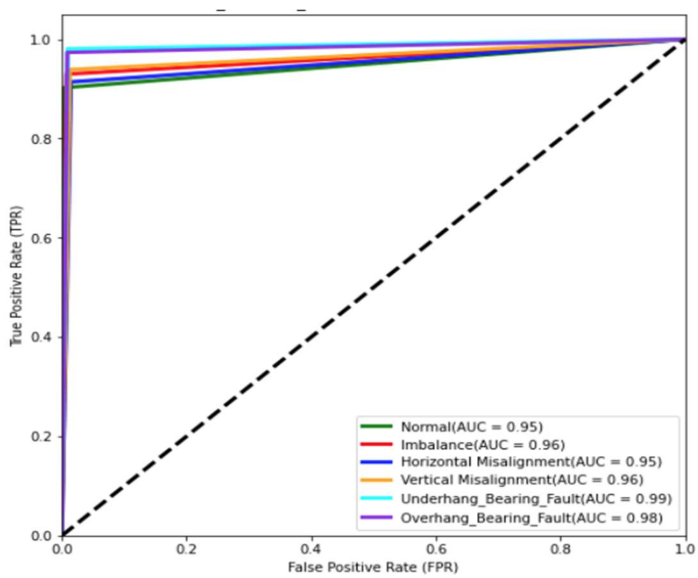

Figure 7. Graph showcasing the relationship between epochs and accuracy when utilizing the DNN model on the MFP dataset.

Figure 7 presents the Receiver Operating Characteristic (ROC) curves for various fault classes when the Deep Neural Network (DNN) model was employed on the Machinery Fault Prediction (MFP) dataset. The accompanying Area Under the Curve (AUC) scores provide quantitative measures of the model's classification performance for each fault class.

The ROC curves for most fault classes, such as Normal, Imbalance, Horizontal Misalignment, and Vertical Misalignment, have AUC scores in the range of 0.95 to 0.96. This indicates that the model has a high ability to distinguish these classes from others.

Impressively, the Underhang Bearing Fault class boasts an AUC score of 0.99, signifying an excellent classification performance by the DNN model for this particular fault.

Overhang Bearing Fault also performs notably well, with an AUC of 0.98.

The proximity of these curves to the top-left corner of the graph and the high AUC values underscore the model's effective classification ability for the different fault classes in the dataset.

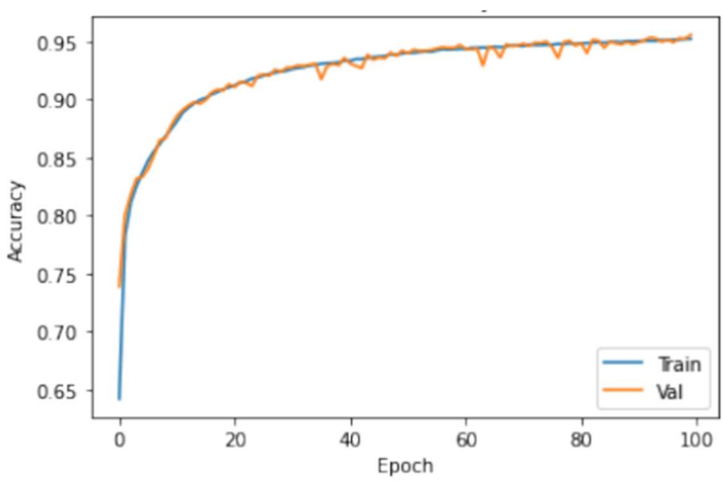

Figure 8. A graph detailing the progression of accuracy in relation to the number of epochs for the DNN model in the context of the MFP dataset

Figure 8 depicts the trajectory of accuracy during the training process for the DNN model using the MFP dataset. Both training and validation accuracy are plotted against the number of epochs. At the onset, there's a swift incline in accuracy, with the model rapidly learning from the training data. Post approximately 20 epochs, the growth in accuracy becomes gradual, eventually plateauing after about 80 epochs. This suggests that the model has reached an optimal state and further training might yield diminishing returns. The disparity between training and validation accuracy remains minimal throughout the training process, which indicates minimal overfitting. The model maintains a commendable generalization capability.

In summary, Figure 8 emphasizes the importance of monitoring both training and validation accuracy to discern the optimal number of epochs for model training. In this case, extending training beyond 80 epochs might not result in significant improvements. The inferences drawn from Figures 7 and 8 emphasize the DNN model's robustness in identifying machinery faults using the MFP dataset. The high AUC values and consistent accuracy trends accentuate the model's reliability in this application.

CONCLUSION

Throughout the examination of the Machinery Fault Prediction (MFP) dataset and its subsequent modeling using both machine learning and deep neural network approaches, a number of significant insights have emerged. The data visualization, with its representation of record distribution across fault categories, highlighted the inherent complexities of the dataset. This complexity was further emphasized when observing the model performances, particularly with the DNN model, whose ROC curves and AUC scores showcased its adeptness at classifying intricate fault patterns.

The trajectories of accuracy during the training phase, especially when observed in conjunction with epochs, indicated that the models were effectively learning from the dataset and reaching optimal states. The minimal disparities between training and validation accuracies further vouched for the models' generalization capabilities.

In essence, the thorough investigation into the MFP dataset and its modeling outcomes suggests that with the right data and appropriate modeling techniques, accurate machinery fault prediction is not just feasible but highly effective. This holds profound implications for industries reliant on machinery, as predictive maintenance can lead to increased operational efficiencies and reduced downtimes.

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The Comparative Analysis of Neumann and Dirichlet Methods in Parallel Computing with MPI

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Abstract:

This scientific article represents a comparative analysis of the Neumann and Dirichlet methods using MPI (Message Passing Interface) in numerical computations. MPI is a powerful tool for parallel computing that enables efficient data exchange and coordination of computations in distributed computing systems. In our research, we investigate how MPI impacts the performance and accuracy of the Neumann and Dirichlet methods when solving complex boundary value problems. We also provide a comparison of the efficiency of parallel computations using both methods and draw conclusions about which method is more suitable for parallel processing of large datasets.

Introduction:

In the modern world of computational technologies, parallel computing plays a pivotal role in solving complex scientific and engineering challenges. The continuous growth in data volumes and computational resource demands poses a significant challenge — finding the most efficient methods to tackle these issues.

In this context, Neumann and Dirichlet methods, being classical tools for solving boundary value problems, have garnered the attention of researchers. With the emergence of MPI (Message Passing Interface) as a standard for message exchange in parallel computing, conducting more accurate and efficient calculations using these methods has become possible.

The goal of my research is to conduct a thorough comparative analysis of Neumann and Dirichlet methods in the context of parallel computing employing MPI. I intend to demonstrate how each of these methods demonstrates its efficiency using the example of solving a specific equation, and also to identify the impact of MPI on their performance.

This study will not only help in gaining a deeper understanding of how these methods interact with parallel computing but also provide valuable practical insights for other researchers and engineers facing the need to choose suitable methods for their computational tasks.

Neumann's method:

Neumann's method (or the method of successive approximations) is a numerical technique used to solve equations and systems of equations. It is based on an iterative process where an initial approximate value of the iterative variable (for example, x_0) is chosen.

Here's how the Neumann's method works:

Initialization: An initial approximate value for the iterative variable is chosen (e.g., x_0).

Iterative Step: Using the formula $x_{n+1}=f(x_n)$, a new approximate value (x_{n+1}) is calculated based on the previous one (x_n), where $f(x)$ is the function to be solved or defined by the iterative process.

Convergence Check: The convergence condition is verified. If the successive approximations stop changing within a specified tolerance, or if other convergence criteria are met, the method terminates.

Result: The obtained value (x_n) is considered an approximate solution to the equation or system of equations.

Neumann's method is frequently used in physical and engineering problems where obtaining an analytical solution to the equation is difficult or impossible. It is also applied in numerical methods for solving partial differential equations and various other mathematical problems.

Dirichlet's method:

Dirichlet's method (or the method of reflection) is a numerical technique used to solve boundary value problems in regions with specified boundary conditions. It is based on the principle of reflection: if the boundary of the region is transparent to the solution of the equation, the solution inside the region can be found by reflecting the solution from the boundary. This method is widely applied in physics and engineering to solve equations in regions of complex shapes.

Here's how the Dirichlet's method works:

Boundary Conditions: Boundary conditions are specified on the boundary of the region.

Reflection: The solution is considered known at the boundary. If explicit boundary conditions are given, they are used to calculate the solution on the boundary. If not, the solution is reflected from the boundary, assuming the boundary acts as a mirror reflecting the solution.

Iterations: The solution inside the region is iteratively adjusted based on the reflected values. The iterative process continues until the desired accuracy is achieved.

Result: The obtained solution inside the region is considered an approximate solution to the boundary value problem.

Dirichlet's method is particularly useful for solving equations in regions with complex shapes, such as domains with non-uniform or irregular boundaries, where analytical methods might be challenging or impossible to apply.

Now I will solve this equation:

$$\frac{\partial u}{\partial t} = \frac{\partial^2 u}{\partial^2 x} + \frac{\partial^2 u}{\partial^2 y} + \mathrm{f(x, y)}$$

$u|_{t=0}$=random – initial condition

boundary condition $\begin{cases} u|_{x=0} = 1, u|_{x=1} = 0 \\ u|_{y=0} = 0, u|_{y=1} = 0 \end{cases}$

f(x,y)=0.75

$$\frac{u_{ij}^{n+1} - u_{ij}^n}{\Delta t} = \frac{u_{i+1j}^n - 2u_{ij}^n + u_{i-1j}^n}{\Delta x^2} + \frac{u_{ij+1}^n - 2u_{ij}^n + u_{ij-1}^n}{\Delta y^2} + \mathrm{f(x, y)}$$

Now recursive formula:

$$u_{ij}^{n+1} = \Delta t(\frac{u_{i+1j}^n - 2u_{ij}^n + u_{i-1j}^n}{\Delta x^2} + \frac{u_{ij+1}^n - 2u_{ij}^n + u_{ij\ 1}^n}{\Delta y^2} + \mathrm{f(x, y)}) + u_{ij}^n$$

Neumann:

$\frac{\partial u}{\partial y}|_{y=0}=0$ $\quad u|_{y=1}=0$

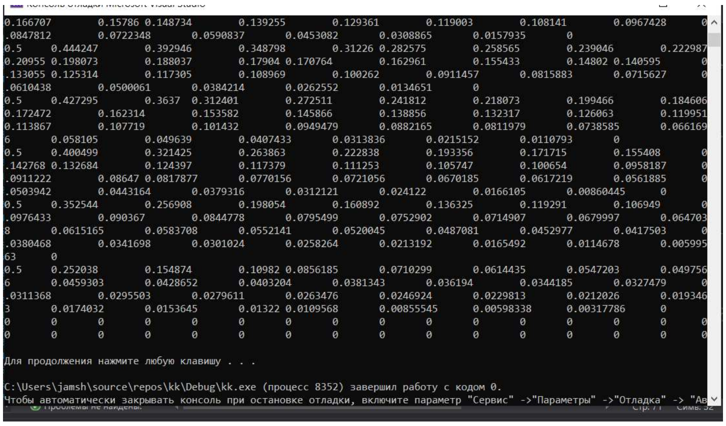
$u|_{x=0}=1.$ $\quad u|_{x=1}=0$

Code:

```
#include <iostream>
#include <cmath>
#include <mpi.h>
#include <fstream>
using namespace std;
double F1(double x) {
```

```
        return 0.5;//any number
}
int main(int argc, char* argv[]) {
        ofstream fout("MPISIW3.xls");
        MPI_Init(&argc, &argv);
        MPI_Status status;
        int rank, size = 4, i, j, k;
        MPI_Comm_size(MPI_COMM_WORLD, &size);
        MPI_Comm_rank(MPI_COMM_WORLD, &rank);
        const int n = 32, T = 100;
        double oldU[n + 1][n + 1], newU[n + 1][n + 1];
        double dy = 1. / n;
        double dx = 1. / n;
        double t0, t1, dt = 0.5 / (1.0 / (dx * dx) + 1.0 / (dy * dy));
        double F = 0.75;//f(x,y)
        int ss = sqrt(size);
        int i1 = n * (rank / ss) / ss;
        int i2 = n * (rank / ss + 1) / ss;
        int j1 = n * (rank % ss) / ss;
        int j2 = n * (rank % ss + 1) / ss;
        for (i = 0; i < n; i++) {
                for (j = 0; j < n; j++) {
                        oldU[i][j] = F1(i * dx);
                        newU[i][j] = F1(i * dx);
                }
        }
        for (j = 0; j < n; j++) {
                oldU[0][j] = 1;
                oldU[n - 1][j] = 0;
                newU[0][j] = 1;
                newU[n - 1][j] = 0;
        }
        for (i = 0; i < n; i++) {
                oldU[i][0] = oldU[i][1];
                oldU[i][n - 1] = 0;
                newU[i][0] = newU[i][1];
                newU[i][n - 1] = 0;
        }
        for (k = 0; k < T; k++) {
                for (i = i1 + 1; i < i2 - 1; i++) {
                        for (j = j1 + 1; j < j2 - 1; j++)
                                newU[i][j] = oldU[i][j] + dt * ((oldU[i + 1][j] - 2 * oldU[i][j] + oldU[i -
1][j]) / (dx * dx) + (oldU[i][j + 1] - 2 * oldU[i][j] + oldU[i][j - 1]) / (dy * dy) + F);
                }
                if (rank % ss != ss - 1) {
                        for (i = i1; i < i2; i++) {
                                MPI_Send(&newU[i][j2 - 1], 1, MPI_DOUBLE, rank + 1, 7,
MPI_COMM_WORLD);
```

```
                        MPI_Recv(&newU[i][j2], 1, MPI_DOUBLE, rank + 1, 7,
MPI_COMM_WORLD, &status);
                    }
                }
                if (rank % ss != 0) {
                    for (i = i1; i < i2; i++) {
                        MPI_Recv(&newU[i][j1], 1, MPI_DOUBLE, rank - 1, 7,
MPI_COMM_WORLD, &status);
                        MPI_Send(&newU[i][j1], 1, MPI_DOUBLE, rank - 1, 7,
MPI_COMM_WORLD);
                    }
                }
                if (rank / ss != ss - 1) {
                    for (j = j1; j < j2; j++) {
                        MPI_Send(&newU[i2 - 1][j], 1, MPI_DOUBLE, rank + ss, 7,
MPI_COMM_WORLD);
                        MPI_Recv(&newU[i2][j], 1, MPI_DOUBLE, rank + ss, 7,
MPI_COMM_WORLD, &status);
                    }
                }
                if (rank / ss != 0) {
                    for (j = j1; j < j2; j++) {
                        MPI_Recv(&newU[i1][j], 1, MPI_DOUBLE, rank - ss, 7,
MPI_COMM_WORLD, &status);
                        MPI_Send(&newU[i1][j], 1, MPI_DOUBLE, rank + ss, 7,
MPI_COMM_WORLD);
                    }
                }
                for (i = i1; i < i2; i++) {
                    for (j = j1; j < j2; j++)
                        oldU[i][j] = newU[i][j];
                }
        }
        MPI_Gather(&oldU, n * n / size, MPI_DOUBLE, &newU, n * n / size, MPI_DOUBLE, 0,
MPI_COMM_WORLD);
        for (i = i1; i < i2; i++) {
                for (j = j1; j < j2; j++) {
                        cout << newU[i][j] << "\t";
                        fout << "a" << newU[i][j] << "\t";
                }
                cout << endl;
                fout << endl;
        }
        fout.close();
        MPI_Finalize();
        system("pause");
}
```



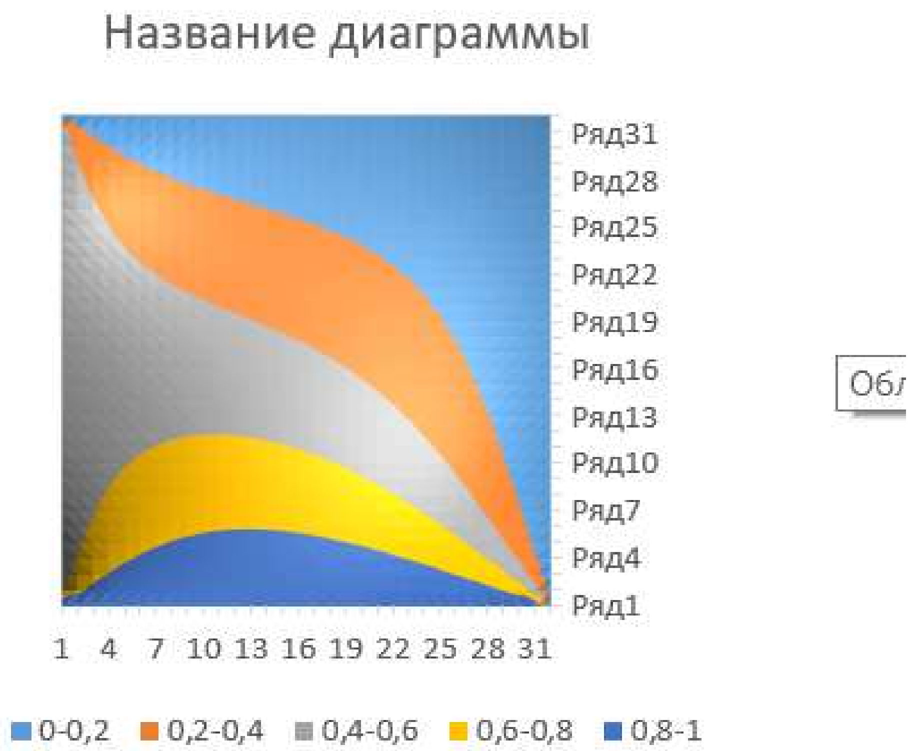
```
0.166707        0.15786 0.148734        0.139255        0.129361        0.119003        0.108141        0.0967428       0
.0847812        0.0722348       0.0590837       0.0453082       0.0308865       0.0157935       0
0.5     0.444247        0.392946        0.348798        0.31226 0.282575        0.258565        0.239046        0.222987
0.20955 0.198073        0.188037        0.17904 0.170764        0.162961        0.155433        0.14802 0.140595        0
.133055 0.125314        0.117305        0.108969        0.100262        0.0911457       0.0815883       0.0715627       0
.0610438        0.0500061       0.0384214       0.0262552       0.0134651       0
0.5     0.427295        0.3637  0.312401        0.272511        0.241812        0.218073        0.199466        0.184606
0.172472        0.162314        0.153582        0.145866        0.138856        0.132317        0.126063        0.119951
0.113867        0.107719        0.101432        0.0949479       0.0882165       0.0811979       0.0738585       0.066169
6       0.058105        0.049639        0.0407433       0.0313836       0.0215152       0.0110793       0
0.5     0.400499        0.321425        0.263863        0.222838        0.193356        0.171715        0.155408        0
.142768 0.132684        0.124397        0.117379        0.111253        0.105747        0.100654        0.0958187       0
.0911222        0.08647 0.0817877       0.0770156       0.0721056       0.0670185       0.0617219       0.0561885       0
.0503942        0.0443164       0.0379316       0.0312121       0.024122        0.0166105       0.00860445      0
0.5     0.352544        0.256908        0.198054        0.160892        0.136325        0.119291        0.106949        0
.0976433        0.090367        0.0844778       0.0795499       0.0752902       0.0714907       0.0679997       0.064703
8       0.0615165       0.0583708       0.0552141       0.0520045       0.0487081       0.0452977       0.0417503       0
.0380468        0.0341698       0.0301024       0.0258264       0.0213192       0.0165492       0.0114678       0.005995
63      0
0.5     0.252038        0.154874        0.10982 0.0856185       0.0710299       0.0614435       0.0547203       0.049756
6       0.0459303       0.0428652       0.0403204       0.0381343       0.036194        0.0344185       0.0327479       0
.0311368        0.0295503       0.0279611       0.0263476       0.0246924       0.0229813       0.0212026       0.019346
3       0.0174032       0.0153645       0.01322 0.0109568       0.00855545      0.00598338      0.00317786      0
0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0
0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0

Для продолжения нажмите любую клавишу . . .

C:\Users\jamsh\source\repos\kk\Debug\kk.exe (процесс 8352) завершил работу с кодом 0.
Чтобы автоматически закрывать консоль при остановке отладки, включите параметр "Сервис" ->"Параметры" ->"Отладка" -> "Ав
```

Neiman:

For 5000 iteration:



For 1000 iteration:

For 100 iteration:

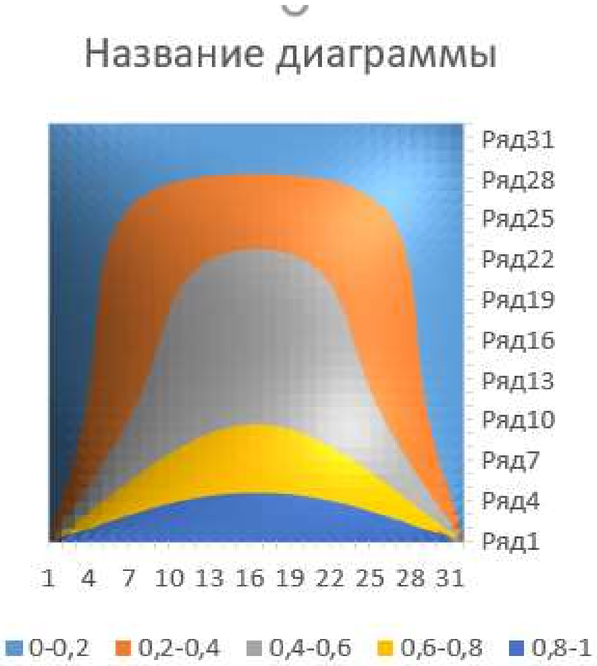
Now we talking about Dirihlet's method:

```
#include <iostream>
#include <cmath>
#include <mpi.h>
#include <fstream>
using namespace std;
double F1(double x) {
	return 0.5;//any number
}
int main(int argc, char* argv[]) {
	ofstream fout("MPISIW3.xls");
```

```
MPI_Init(&argc, &argv);
MPI_Status status;
int rank, size = 4, i, j, k;
MPI_Comm_size(MPI_COMM_WORLD, &size);
MPI_Comm_rank(MPI_COMM_WORLD, &rank);
const int n = 32, T = 100;
double oldU[n + 1][n + 1], newU[n + 1][n + 1];
double dy = 1. / n;
double dx = 1. / n;
double t0, t1, dt = 0.5 / (1.0 / (dx * dx) + 1.0 / (dy * dy));
double F = 0.75;//f(x,y)
int ss = sqrt(size);
int i1 = n * (rank / ss) / ss;
int i2 = n * (rank / ss + 1) / ss;
int j1 = n * (rank % ss) / ss;
int j2 = n * (rank % ss + 1) / ss;
for (i = 0; i < n; i++) {
        for (j = 0; j < n; j++) {
                oldU[i][j] = F1(i * dx);
                newU[i][j] = F1(i * dx);
        }
}
for (j = 0; j < n; j++) {
        oldU[0][j] = 1;
        oldU[n - 1][j] = 0;
        newU[0][j] = 1;
        newU[n - 1][j] = 0;
}
for (i = 0; i < n; i++) {
        oldU[i][0] = 0;
        oldU[i][n - 1] = 0;
        newU[i][0] = 0;
        newU[i][n - 1] = 0;
}
for (k = 0; k < T; k++) {
        for (i = i1 + 1; i < i2 - 1; i++) {
                for (j = j1 + 1; j < j2 - 1; j++)
                        newU[i][j] = oldU[i][j] + dt * ((oldU[i + 1][j] - 2 * oldU[i][j] + oldU[i -
1][j]) / (dx * dx) + (oldU[i][j + 1] - 2 * oldU[i][j] + oldU[i][j - 1]) / (dy * dy) + F);
        }
        if (rank % ss != ss - 1) {
                for (i = i1; i < i2; i++) {
                        MPI_Send(&newU[i][j2 - 1], 1, MPI_DOUBLE, rank + 1, 7,
MPI_COMM_WORLD);
                        MPI_Recv(&newU[i][j2], 1, MPI_DOUBLE, rank + 1, 7,
MPI_COMM_WORLD, &status);
                }
        }
        if (rank % ss != 0) {
```

```
				for (i = i1; i < i2; i++) {
					MPI_Recv(&newU[i][j1], 1, MPI_DOUBLE, rank - 1, 7,
MPI_COMM_WORLD, &status);
					MPI_Send(&newU[i][j1], 1, MPI_DOUBLE, rank - 1, 7,
MPI_COMM_WORLD);
				}
			}
			if (rank / ss != ss - 1) {
				for (j = j1; j < j2; j++) {
					MPI_Send(&newU[i2 - 1][j], 1, MPI_DOUBLE, rank + ss, 7,
MPI_COMM_WORLD);
					MPI_Recv(&newU[i2][j], 1, MPI_DOUBLE, rank + ss, 7,
MPI_COMM_WORLD, &status);
				}
			}
			if (rank / ss != 0) {
				for (j = j1; j < j2; j++) {
					MPI_Recv(&newU[i1][j], 1, MPI_DOUBLE, rank - ss, 7,
MPI_COMM_WORLD, &status);
					MPI_Send(&newU[i1][j], 1, MPI_DOUBLE, rank + ss, 7,
MPI_COMM_WORLD);
				}
			}
			for (i = i1; i < i2; i++) {
				for (j = j1; j < j2; j++)
					oldU[i][j] = newU[i][j];
			}
		}
		MPI_Gather(&oldU, n * n / size, MPI_DOUBLE, &newU, n * n / size, MPI_DOUBLE, 0,
MPI_COMM_WORLD);
		for (i = i1; i < i2; i++) {
			for (j = j1; j < j2; j++) {
				cout << newU[i][j] << "\t";
				fout << "a" << newU[i][j] << "\t";
			}
			cout << endl;
			fout << endl;
		}
		fout.close();
		MPI_Finalize();
		system("pause");
}
```

For 100 iteration:



For 500 iteration(in a stationary state):

Conclusion:

By looking at the graphs, we can see that with Neumann's condition, heat spreads as a flow, and with Dirichlet's, it spreads according to a simple law.

References:

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Medical Sciences

A Novel Plant Origin Immunotherapeutic and Anti-Cancer Drug GA-40

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Abstract

Search nontoxic naturally-occurring substances that can cause selective destruction of cancer cells directly or by activating antitumor immunity are the two major strategies for development anti-cancer drug discovery. The aim of the studies is to screen Georgian endemic medicinal plants on the content of bioactive peptides with anti-cancer and immunomodulation activity. Their identification, characterization, as well as, conducting pre-clinical and clinical studies to establish their efficacy and safety for cancer patients. As a result of such works the new immunotherapeutic and anticancer drug GA-40 was created. The drug GA-40 is a standardized complex of bioactive peptides, obtained from a Georgian endemic medicinal plants, which widely used for the treatment of cancer since old times in Georgia. Preclinical and clinical trials have shown that GA-40 does not cause local inflammations, supersensitive reactions, slow type supersensitive reactions, general anaphylaxis, acute toxicity, and chronic toxicity, specific types of chronic toxicity, immunotoxicity, mutagenic activities, reproductive toxicity, allergic reactions and cumulation. GA-40 does not cause pathological alterations in biochemical, immunological, development of normal antibodies, lipid and carbohydrate metabolism and other indices of peripheral blood. GA-40 does not impact integral indices, cardiovascular and respiratory systems, on the complementary system, and generative functions of the body. GA-40 does not cause morphological and histostructural changes in the external and internal organs of the body: heart, liver, spleen, intestines, pancreas, central nervous system (behavior) and other tissues of the body, as well as the alterations in body temperature and blood pressure. Preclinical and clinical trials have shown that GA-40 destroys malignant tumor cells via apoptosis and unlike chemical preparations has no negative effect on the normal cells (fibroblast, endothelial cells). In vitro studies and clinical trial results show that GA-40 induces differentiation of human myeloid leukemia cells (HL-60) into normal myeloid cells. GA-40 causes the activation of anti-tumor immunity. Mononuclear cells (MNC) activated by GA-40, produce Tumor Necrosis Factor (TNF-α) and Interferon (INF-γ), which play important role in the destruction and selectively remove cancer cells by the way apoptosis. GA-40 activates cytotoxic-T cells (T-killer cell, CTL), Cytotoxic Macrophages (MF), Neutrophils (NF).

GA-40 inhibits the release of vascular epithelial cell growth factor (VEGF) by cancer cells and blocks the development of new blood vessels in malignant neoplasms, preventing tumor growth and spread of metastases. GA-40 shows antioxidant activity, it causes decrease in lactic and pyruvic acids, xanthine, uric acid, hydrogen peroxide, oxygen with two unpaired electrons, hydrogen with one unpaired electron. GA-40 provides for normalization of the blood biochemical indices – total protein, albumin, globulin, urea, nitrogen, creatinine, bilirubin, glucose concentration, as well as certain enzymes activity such as alanine-aminotransferase, aspartate-aminotransferase, gamma-glutamic transpeptidase and alkaline phosphatase. GA-40 restores the functional activity of Hematopoietic stem cells, to normalizing the content of leukocytes, erythrocytes, neutrophils, thrombocytes, lymphocytes and other blood forming elements; The preparation renders a positive influence on the dynamic contents in the bloodstream of carcinoembryonic antigen (CEA), alpha-fetoprotein (AFP), prostate-specific antigen (PSA), and other specific markers of a tumor is observed. In conclusion we can say that GA-40 monotherapy or Ga-40 in combination with chemo-radiation therapy inhibits growth of tumor cells and causes regression of the existing tumor and metastases. GA-40 treatment minimizes chemotherapy and radiation therapy causing side effects, exerts immunoprotection, and improves the overall survival, as well as the quality of life in cancer patients. We are convinced, that GA-40 and other specific information carrying bioactive plant peptides in the near future may be a new generation of safe and highly effective holistic preparations in medicine.

UDC: 618.19-006.6-071:616-083.98

EARLY SCREENING DIAGNOSTICS OF BREAST CANCER AT THE LEVEL OF PRIMARY HEALTH CARE

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Annotation: This work provides a rationale for conducting a preventive screening mammographic examination of the female population in order to identify precancerous diseases and breast cancer using a population-based method of actively detecting this pathology in clinically asymptomatic individuals. The methodology is described in detail and the results of mammography screening in a regional context are presented. It has been shown that the use of digital mammography allows for a differentiated approach to diagnosis, development of management tactics and targeted treatment of such patients.

Key words: breast cancer, screening, mammography.

The modern paradigm for diagnosing breast cancer is to identify cancer pathology in the early stages, when the prognosis is most favorable, which allows for the best long-term treatment results. This is achieved through the use of mammography screening. A preventive examination always has advantages over a diagnostic examination. Upon receipt of indicators M2 and M3 according to the BI-RADS classification, it is possible to further examine these patients in a timely manner and, if necessary, register them with a local mammologist with effective clinical examinations and treatment of precancerous breast diseases. Along with this, it is necessary to understand that the main conditions for breast cancer screening are the presence of trained personnel and a standardized approach to identifying the sign being studied and assessing the results [1,2,3].

Mass screening to identify breast cancer patients should mainly involve healthy women without any signs of the disease or symptoms. Screening not only helps to detect hidden forms of cancer that can be treated, but also has psychological value for women. As a result of screening, women are convinced that they do not have breast cancer, and this is the most important potential success of such programs. While the ultimate goal of screening is to reduce breast cancer mortality, its immediate goal is to detect cancer before clinical manifestation. However, breast cancer is a heterogeneous disease, which can significantly affect the effectiveness of screening. Screening models for breast cancer are usually based on the fact that the majority of detected tumors are invasive cancers in the early stage of progression. In addition, it must be taken into account that the detection of cancer (or its precursors) before clinical manifestation increases the risk of false positive diagnosis [4,5].

Mammography has a sensitivity of 95% and a specificity of 97%. These indicators decrease when examining women with denser mammary glands (young age, use of hormone therapy), with low quality mammography, and also with insufficient qualifications of the radiologist. Detection of high-grade invasive cancer by screening, when the tumor is not yet detected by clinical examination (palpation), means the possibility of reducing mortality from breast cancer [6].

Preventive screening for early detection of breast cancer in the Republic of Kazakhstan includes [7]:

1) mammography of both mammary glands in two projections - direct and oblique in the mammography room of the city, district polyclinic (mobile medical complex). All digital mammograms in the presence of a system for archiving and transferring medical images are copied to CDs and other electronic media and transferred to the server of the mammography room of the Cancer Center using specialized licensed software integrated between medical organizations; in case of impossibility of digital transmission - they are printed on X-ray film at a scale of 1:1 - 100% (1 patient - 1 set - 2 or 4 mammograms) with subsequent transfer to the mammography room of the Cancer Center;

2) interpretation of mammograms according to the BI-RADS classification (M0t, M0d, M1, M2, M3, M4, M5) by two or more independent radiologists of the same medical organization - double reading or different medical organizations: a radiologist of the mammography room city, district polyclinic (mobile medical complex) - the first reading, and the radiologist of the mammography room of the Cancer Center - the second reading;

3) in-depth diagnostics - targeted mammography, ultrasound examination (hereinafter - ultrasound) of the mammary glands, trepanobiopsy, including under ultrasound or stereotaxic control for histological examination, which is carried out in case of detection of pathological changes on mammograms (M0d) in the mammography room of the Cancer Center.

♦ An average medical worker or a responsible person of the organization of outpatient care sends the patient for mammography to the district, city polyclinic.

♦ The X-ray laboratory assistant of the mammography room of the city, district polyclinic (mobile medical complex) performs mammography, fills out a referral for double reading of mammograms and transmits the referral through information interaction.

♦ Radiologist of the mammography office of the city, district polyclinic (mobile medical complex): fulfills the requirements for the safety and quality of mammographic examinations; evaluates the quality of the images provided and the correctness of the installation; performs repeated mammography in the M0t category (technical errors of mammography); determines the radiological density of the mammary glands on the ACR scale (A, B, C, D) indicating this parameter in the study protocol; conducts the first reading of mammograms with interpretation of the BI-RADS classification results. In the M0d category (undetermined or suspicious radiological changes requiring additional examination), the study protocol indicates the predominant pathology: education, asymmetry, violation of architectonics, microcalcifications; sends mammograms, electronic copies of mammograms through the archiving system and transfer of medical images to the workplace of the mammography office of the Cancer Center together with directions for double reading of mammograms; directs low–dose computed tomographic images through the system of archiving and transferring medical images to the workplace of the computer tomography office of the Cancer Center together with copies of images recorded on CD-ROMs or other electronic media and directions for double reading.

♦ The radiologist of the mammography room of the Cancer Center: evaluates the quality of the provided images and the correctness of the styling. Viewing digital x-ray images transferred to the server or on digital media (CD, DVD) is carried out on a monitor for interpreting digital x-ray images with a resolution of at least 5 megapixels, which has a certified grayscale transmission in accordance with the DICOM standard; conducts a double (second) reading of mammograms with the interpretation of the results according to the BI-RADS classification, using, if necessary, archival images. Organizes the third reading according to indications. With double reading, an independent interpretation of the images is carried out (blinding method - the second radiologist does not know the results of the first reading); in the M0m category (technical errors in mammography), recommends repeat mammography; in the M0d category (uncertain or suspicious radiographic changes requiring additional examination), the study protocol indicates the predominant pathology: education; asymmetry, violation of architectonics, microcalcifications; recommends that the outpatient care organization, according to indications, invite the patient for in-depth diagnostics (targeted mammography, ultrasound of the mammary glands, trephine biopsy, including under ultrasound or stereotaxic control, followed by histological examination of the material); collects and archives all mammograms (films and electronic media) made as part of the examination. The shelf life of mammograms is at least 3 years after leaving the age subject to a screening study; the results of the double (second) reading are transferred to the outpatient care organizations through information exchange.

♦ Indications for in-depth diagnostics are the conclusions of double reading mammograms M0d (uncertain or suspicious X-ray changes requiring additional examination).

♦ In-depth diagnostics is carried out in two stages. At the first stage, ultrasound is performed, according to indications, targeted mammography, possibly with an increase (with asymmetry, violation of architectonics and the presence of microcalcifications). When visualizing a suspicious pathology (M4 and M5), the second stage is performed - trepanbiopsy, including under ultrasound control and stereotaxic control for histological examination.

♦ Histological examination is carried out in the laboratory of pathomorphology or pathological bureau. Morphological interpretation of the biopsy is carried out in accordance with the recommendations of the World Health Organization.

♦ Physician or responsible person of the outpatient care organization:

1) upon receipt of a mammography result according to the BI-RADS classification:

- in case of M0t (technical errors in mammography) - sends the patient for a second X-ray examination to the mammography room of the city, district polyclinic (mobile medical complex);

- with M0d (undefined or suspicious X-ray changes requiring additional examination) - sends the patient for in-depth diagnostics to the mammography room of the Cancer Center;

- with M1 (no changes detected) - recommends that the patient undergo a follow-up mammography examination after 2 years. With radiological density of the mammary glands, C and D are sent for ultrasound of the mammary glands to exclude a false-negative result of mammography;

- with M2 (benign changes), refer the patient for a consultation with an oncologist (mammologist) of the clinical diagnostic department, followed by a screening mammography examination after 2 years;

- with M3 (probable benign changes) - sends the patient for short-term dynamic radiation observation to the local doctor with the recommendation of control mammography or ultrasound in 6 months;

- with M4 (signs that cause suspicion of malignancy), M5 (practically reliable signs of malignancy) and if it is technically impossible to perform a trepanbiopsy or a biopsy is refused, a referral to an oncologist (mammologist) of the clinical diagnostic department for dynamic observation and decision on the verification of the identified pathology;

2) upon receipt of the result of a histological examination:

- benign education - refers the patient to an oncologist (mammologist) of the clinical diagnostic department for dynamic monitoring, followed by a screening mammography examination after 2 years;

- formation with an indeterminate malignant potential or carcinoma in situ - refers the patient to the Cancer Center for consultation and treatment, followed by dynamic observation by an oncologist (mammologist) of the clinical diagnostic department at the place of her attachment;

- malignant neoplasm - refers the patient to the Cancer Center for treatment and follow-up;

3) communicates the results of the screening examination to the patient in any available way (by telephone, in writing, through electronic means of communication);

4) enters the results of double reading, in-depth diagnostics, histological examination, recommendations of the radiologist of the Cancer Center mammography room into the information system.

Establishing the size of the primary tumor is especially important in screening. Tumor size is an important criterion for evaluating the quality of screening and determining the ability of X-ray mammography to detect non-palpable tumors. Therefore, it is extremely important that pathologists measure tumor diameter as accurately as possible. The smaller the size of the primary tumor, the greater the likelihood of error in determining its size.

Now, regarding the results of breast cancer screening. The detection rate of this oncopathology in 2021 was 1.78 per 1000 examined (in 2020 - 1.44), i.e. 1402 cases of breast cancer were detected out of 787619 examined women of the target group from 40 to 70 years old in 2021 (in 2020 - 1072 cases out of 744972 examined women). At the same time, by regions, the lowest detection rate compared to the national average was noted in Zhambyl (0.54 per 1000 examined), Kyzylorda (0.98), Mangistau (1.10), Atyrau (1.11), Almaty (1.26), Turkestan (1.36), Akmola (1.53) regions and the city of Nur-Sultan (1.54 per 1000 examined). Compared to 2020, there was an increase in the detection of breast cancer in all regions, with the exception of the Mangistau region, where there was a decrease from 2.44 to 1.10 per 1000 examined [8].

A high proportion of 0-I stages of breast cancer (over 50%) was noted in 8 regions (2020 - in 7 regions): Almaty, West Kazakhstan, Karaganda, Pavlodar, North Kazakhstan, Turkestan regions, cities of Nur-Sultan and Shymkent.

Low levels of early detection of breast cancer (below 40%) were noted in Mangistau (5.6%), Atyrau (19.2%), Aktobe (26.5%), East Kazakhstan (29.3%), Zhambyl (32.3%), Kyzylorda (35.0%) and Akmola (38.5%) regions.

The proportion of patients with breast cancer detected at stages 0 and I was 47.9% (in 2020 - 48.6%), stage II - 47.6% and 46.8%, respectively. At the same time, localized cancer (0-I and II stages) amounted to 95.5% (95.4% - in 2020). At the same time, not a single case in stages III-IV was detected in Atyrau, West Kazakhstan, Kyzylorda, Pavlodar regions, the cities of Nur-Sultan and

Shymkent. In total, 52 cases of breast cancer in stage III and 11 cases in stage IV were detected (in 2020 - 38 and 11, respectively) [8].

Summarizing the above, we can state that satisfactory results of breast cancer screening can be achieved only with its proper organization, high quality of conduct, active participation in the medical examination of the population, and the use of highly sensitive instrumental methods of preventive examination. High-quality screening of breast cancer leads to early diagnosis of various precancerous diseases and malignant neoplasms at an early stage, which, in turn, allows for timely treatment and improved prognosis. Surveyed target groups who for one reason or another do not participate in this screening should be informed that there are no other screening methods that could also effectively reduce mortality from breast cancer.

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EARLY SCREENING DIAGNOSTICS OF CERVICAL CANCER AT THE LEVEL OF PRIMARY HEALTH CARE

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Annotation: This work provides a rationale for conducting a preventive screening cytological examination of the female population in order to identify precancerous diseases and cervical cancer using a population-based method of actively detecting this pathology in clinically asymptomatic individuals. The methodology is described in detail and the results of oncocytological screening in a regional context are presented. It has been shown that the use of the Pap test allows for a differentiated approach to diagnosis, development of management tactics and targeted treatment of such patients.

Key words: cervical cancer, screening, Pap test, smear for oncocytology.

The modern paradigm for diagnosing cervical cancer is to identify oncological pathology in the early stages, when the prognosis is most favorable, which allows achieving the best long-term treatment results. This is achieved through the use of oncocytological screening. A preventive examination always has advantages over a diagnostic examination. When receiving various intraepithelial changes, it is possible to further examine these patients, register them at the dispensary with an effective clinical examination and treatment of precancerous diseases of the cervix. Along with this, it is necessary to understand that the main conditions for cervical cancer screening are the presence of trained personnel and a standardized approach to identifying the sign being studied and assessing the results [1,2,3].

Cervical cancer screening is a periodic, comprehensive examination of women of a certain age group as part of a special medical program to prevent and reduce morbidity and mortality from cervical cancer.

Type of screening - population. The purpose of screening is to identify pre-invasive diseases of the cervix with subsequent recovery. The screening method is a cytological examination of a smear for oncocytology from the cervix (traditional and liquid cytology). Coloring according to the "Papanicolaou test" (Pap test). Interval - 1 time in 4 years. Target group: women aged 30-70 years who are not registered in the dispensary for cervical cancer. The expected results are a decrease in morbidity and mortality from cervical cancer.

Screening steps:

1) Preparatory - formation of target groups, information support and invitation to screening. The preparatory stage is carried out by the nurses of the primary health care organization responsible for preventive measures and includes: annual compilation of a list of women subject to screening in the coming year by November 15 of the current year, followed by monthly correction; informing target groups of the female population about the need for screening; screening invitation; ensure timely screening.

2) Screening - filling out a statistical card of a preventive medical examination (screening) of an outpatient (form 025-08/y), a register of patients subject to cytological screening and taking material for cytological examination from the cervix. The screening examination of the target groups of the female population is carried out by a specially trained midwife of the primary health care organization.

3) The final one is obtaining the results of cytology, informing the woman and developing further management tactics, fill out accounting and reporting statistical documentation. Responsible for the final stage of screening is the obstetrician-gynecologist of primary health care [5].

Cytological screening of CC is a complex of organizational and medical measures aimed at early detection of precancerous and neoplastic diseases of this localization and at reducing the mortality of this cohort of patients. For traditional cytology, a smear containing 8-12 thousand cells of stratified squamous epithelium (including cells of metaplastic epithelium) is considered adequate; for liquid cytology - 5 thousand cells. For both methods, the number of cells of endocervical epithelium and/or metaplastic epithelium (from the transformation zone) must be at least 10 (single or in clusters). If more than 75% of the cells of the stratified squamous epithelium are covered with erythrocytes, leukocytes, etc., then the quality of the smear is considered unsatisfactory.

Interpretation of the results of a cytological study is carried out according to the Bethesda-terminology cytological system:

Intraepithelial changes and malignant processes are absent (NILM). This group includes cytological conclusions about the normal state of the epithelium, as well as the presence of various non-neoplastic diseases. Normally, squamous epithelial cells, groups of cells of columnar epithelium and metaplastic epithelium, a small number of leukocytes, and rod/mixed microflora are found in preparations. In the presence of non-neoplastic processes, their nature and, if possible, the cause are specified: atrophic changes, reactive changes associated with inflammation, including typical regeneration. In addition, the presence of microorganisms is indicated: Trichomonas vaginalis, fungi, morphologically corresponding to Candida spp., bacterial vaginosis, cellular changes corresponding to the defeat of Herpes simplex virus, squamous epithelial cells with atypia of unknown significance (ASC-US), squamous epithelial cells with atypia of unclear significance, not excluding the presence of a high degree of intraepithelial changes (ASC-H). Low-grade squamous intraepithelial changes (LSIL) include lesions associated with HPV and CINI, high-grade squamous intraepithelial changes (HSIL) include CINII, CINIII, carcinoma in situ and cases suspected of invasion, squamous cell carcinoma, cervical (glandular) epithelium with atypia of unknown significance, cells of the cervical (glandular) epithelium, possibly neoplasia, endocervical adenocarcinoma in situ, endocervical adenocarcinoma, endometrial adenocarcinoma, secondary adenocarcinoma, unclassified carcinoma, other malignant tumors.

There are certain features when taking material for oncocytology: firstly, the examined woman should be informed about the exclusion of sexual intercourse, vaginal manipulations, including douching, baths, tampons, etc. 2 days prior to sampling. Taking material for cytological examination is carried out by the midwife of the examination room of the department of medical examinations of the primary health care organization: the traditional method (2 glasses - with obligatory fixation in 96% alcohol, it is preferable to use glass slides with a polished edge, which are easily marked) or the liquid cytology method (one container with stabilizing liquid); the code or surname of the patient, identical to the code and surname in the form for sending material for cytological examination, should be clearly marked on the glasses or container [4].

At the same time, when using the traditional method, the biomaterial is delivered to the cytological laboratory as soon as possible after its collection in specialized containers for glass slides with 96% alcohol. If there are visible visual changes in the cervix, then the material is taken from the woman and, without waiting for the results, she is referred for an examination by an obstetrician-gynecologist.

A cytological study is carried out in centralized cytological laboratories at oncological institutions, where an archive of cytological preparations of patients involved in the screening examination is formed, regardless of the result, for a period of at least 10 years with the formation of a computer database.

What material and technical equipment is required to take material for a Pap test? It is as follows: soap and water for washing hands, a light source for cervical examination, a gynecological chair, a disinfected speculum and gloves, an Eyre spatula, a glass slide and a marking pen, a container with a stabilizing solution for liquid cytology, a fixative solution (96% alcohol), a container with warm water for lubricating and warming the vaginal mirrors, a 0.5% chlorine solution for disinfecting gloves and instruments, or another approved for this purpose. And, of course, the registration form itself.

For carrying out liquid cytology, you additionally need: a disposable cervix brush, a container with a stabilizing solution for liquid cytology, and a fixing solution.

At the same time, a smear for oncocytology cannot be taken: during menstruation, earlier than 48 hours after sexual contact or after using lubricants, vinegar or Lugol solution, tampons or spermicides, after vaginal examination or douching, and also during the treatment of genital infection.

Now, regarding the results of cervical cancer screening. In 2021, despite the difficult epidemiological situation in the country, 787,619 women of the target group from 30 to 70 years old were examined during cervical cancer screening (744,972 in 2020) [5].

According to the results of cytological screening, 319 cases of cervical cancer were detected in 2021 (264 in 2020). At the same time, the detection rate during this preventive examination increased from 0.34 to 0.42 per 1000 examined. A high detection rate of cervical cancer was noted in Aktobe, Atyrau, Mangystau, North Kazakhstan regions and Shymkent. The detection rate in these regions was 0.62-0.93 per 1000 examined women. Compared to 2020, there is an increase in detection in almost all regions, with the exception of the West Kazakhstan and Mangystau regions, where there was a decrease in the frequency of detected cases of cancer, respectively, from 0.74 to 0.37 and 1.73 to 0.93 per 1000 examined.

Cytological precancer of the cervix was detected in 0.99% of the examined (2020 - 0.85%). The detection rate of precancer below 0.55% (the planned indicator of precancer of the cervix for 2021, according to the Comprehensive Plan to Combat Cancer) was noted in Karaganda and Kostanay regions (0.20% and 0.24%, respectively).

In 2021, the proportion of patients identified during screening studies with early stages (0-I stages) was 68.0% (2020 - 59.1%), stage II - 28.5% and 35.2% - respectively.

A high proportion of stage I cervical cancer (70% or more) was detected in 8 regions of the country (in 2020 - in 3 regions): West Kazakhstan, Zhambyl, Kostanay, Kyzylorda, Pavlodar, North Kazakhstan regions, the cities of Almaty and Shymkent. Low levels of early detection of cervical cancer (below 50%) were noted in Atyrau (43.8%) and Mangistau (46.2%) regions. Localized processes (stages I-II) were established in 96.5% of all cases of detected cancer (in 2020 - 94.3%). In Akmola, West Kazakhstan, Karaganda and Turkestan regions, cases of cervical cancer were detected not only in localized, but also in advanced stages of the process. In total, 11 cases of cervical cancer in stage III were detected and not a single case in stage IV (2020 - 14 and 1, respectively) [5].

Thus, the goal of cervical cancer screening can only be achieved with its proper organization, high quality of conduct, active participation in the screening of the population itself, the use of high-tech methods and various rules for collecting material and conducting research, accurate subsequent diagnosis of identified changes, and timely modern treatment. Qualitative screening leads to early diagnosis of various dysplastic changes in the epithelium and cervical cancer, which, in turn, improves the effectiveness of treatment and improves the prognosis of the disease. The surveyed target groups, who for one reason or another do not participate in screening, should be informed that there are no other screening methods that could also effectively reduce mortality from cervical cancer.

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Philological Sciences

Leveraging Natural Language Processing for Technical Documentation Enhancement

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Keywords: Natural Language Processing (NLP), Technical Documentation, Linguistics, Computational Linguistics, Technical Terminology, Domain-Specific Jargon, Content Structure, Information Retrieval, Multilingual Support, User Understanding.

Introduction:

In an era where knowledge is often conveyed through an intricate tapestry of technical documents and manuals, the intersection of linguistics and technology has never been more pivotal. The capacity to navigate, comprehend, and disseminate technical information is the cornerstone of progress in various fields, from engineering to computer science. However, the complexity and diversity of technical discourse pose distinct challenges to both authors and readers.

Linguistics and technology converge in the field of Natural Language Processing (NLP), providing innovative solutions to enhance technical documentation. This article explores the application of NLP techniques in optimizing the comprehension and accessibility of technical materials.

One of the primary challenges addressed in this study is the automatic identification of domain-specific terminology and jargon. NLP tools are employed to build specialized lexicons and to determine the context in which technical terms are used. This, in turn, aids in providing concise and relevant explanations and translations for those terms. Such precision is essential, as it ensures that complex technical information is communicated clearly and effectively to a wide audience.

Moreover, we propose an algorithm that enhances technical documentation by identifying the optimal content structure. It takes into account the hierarchical nature of technical materials, including chapters, sections, and subsections. This algorithm also considers the interplay between textual and visual content, ensuring that diagrams, charts, and images are accurately linked to textual explanations. Effective content structure not only simplifies navigation but also fosters improved comprehension.

NLP is further utilized in our study to improve cross-referencing and navigation within technical documents. We introduce an automated citation system that identifies related sections and provides hyperlinks for quick access to additional information. This not only saves time but also promotes a deeper understanding of the subject matter.

The core focus of this research is to develop NLP-based algorithms that extract key technical concepts and facilitate structured content organization. Such algorithms are instrumental in generating automated summaries, indexing complex technical documents, and providing context-aware explanations to users. By offering both an overview of the content and detailed explanations where needed, these algorithms support users at various levels of expertise.

Overall, the integration of NLP techniques in technical documentation greatly enhances user understanding, accelerates information retrieval, and enables multilingual support. It serves as a valuable tool for technical universities, technical writers, and industries that rely on comprehensive and accessible technical materials.

This research underscores the vital role of linguistics and computational linguistics in the enhancement of technical documentation. By leveraging NLP, we bridge the gap between complex technical content and its users, promoting a more efficient and accessible transfer of knowledge. As technology advances and technical materials continue to proliferate, the importance of NLP in this context cannot be overstated. We foresee further developments in NLP-driven technical documentation and a brighter, more comprehensible future for all.

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The importance of toponyms in the study of antiquity

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The great scientific importance of the study of the toponomy of Azerbaijan lies primarily in determining the role played by the Azerbaijani people, as well as the ethnic groups and tribal associations that exist here in the history of Azerbaijan, and in the study of the cultural heritage reflected in place names. The study of Azerbaijani toponymy stems from the necessity of detailing the history of our language and people. Solving such a problem is undoubtedly important and significant.

The toponyms, which provide valuable information about the history, language, ethnogenesis, thinking, and practice of each nation, stand out among the onomastic units due to their richness. Azerbaijani toponymy has a very ancient history. In the past, Greeks, Romans, Persians, Arabs, as well as Russian and European travelers were always interested in Azerbaijan and expressed different opinions about geographical names in its territory.

It is known that onomastic indicators are one of the reliable sources in the study of language history, as well as the history and ethnography of the people. Because these include not only geographical names, ethnonyms, personal names, theorems, etc. even, the lexical-morphological features of the language are reflected in a certain synchronic aspect. The thing is that despite the fact that toponyms, especially poletoponyms, are subject to morphological changes in some cases, as a whole, they are stronger than the grammatical structure of the language. It provides information about the more ancient state of the language.

In order to justify what we said in the article, examples from Azerbaijani toponymy are shown. Because such linguistic facts have been preserved that are an irreplaceable source in the study of the ancient period of the Azerbaijani language.

Therefore, the study of toponymy of Azerbaijan comes from the necessity of detailing the history of our language and people. The solution of such a problem is undoubtedly important and important.

Toponymic research sometimes makes it possible to clarify which tribe and people belonged to the population of a small village in the past. It is known that other Turkic-speaking peoples and tribes also played a decisive role in the formation and development of the Azerbaijani people and their language. Therefore, the study of toponymy of Azerbaijan comes from the necessity of detailing the history of our language and people. The solution of such a problem is undoubtedly important and important.

Azerbaijani toponymy has a very ancient history. Thus, Greeks, Romans, Persians, Arabs, as well as Russian and European travelers were always interested in Azerbaijan and expressed different opinions about geographical names in its territory.

When the Greek geographer Strabo spoke about the Caucasus, he mentioned Gargar, Araks, Alazan, Gur, and Ptolemy to Bacchia, Samakhia, Kobala, Kangara, Alban, etc. mentioned that there are toponyms like

Mirza Adigozal Bey's "Karabaghname" and Ahmad Bey Javanshir's "History of the Peoples of Karabakh" contain valuable information about toponyms in the Karabakh zone.

It is known that onomastic indicators are one of the reliable sources in the study of language history, as well as the history and ethnography of the people. Because these include not only geographical names, ethnonyms, personal names, theorems, etc. even, the lexical-morphological features of the language are reflected in a certain synchronic aspect. The thing is that despite the fact that toponyms, especially poletoponyms, are subject to morphological changes in some cases, as a whole, they are stronger than the grammatical structure of the language. It provides information about the more ancient state of the language. As an example of what has been said, we can show the toponymy of Azerbaijan. Because such linguistic facts have been preserved in it, which are an irreplaceable source in the study of the ancient period of the Azerbaijani language.

Thus, ancient Caspian, Gabala, Sheki, Nakhchivan, Araz, Araks, Kur-Kur, etc. along with toponyms, there are hundreds and thousands of toponyms of ancient Turkic origin that have not yet been researched in Azerbaijan.

In fact, they belong to the dialects that form the basis of the national Azerbaijani language (due to language differentiation, they belong to the Kipchak and Oghuz languages). So, in addition to Araz, Kur, Alazan, Gabala, Kish, Shamakhi and other toponymic names, in the written monuments of the Transcaucasia of the Middle Ages, there are Turkic origin Kanıg (river), Turken (river), Kangar, Kangarır, Kangarli, Khalkhal (oikonyms), even the toponyms of Turkestan and Hunestan, related to the Khazars, were recorded. However, such ancient Turkish toponyms and antitoponyms were recorded in the local monuments of the end of the 7th century, especially in the "Albanian History". For example, hunter, potter, chorpan, alp, il, tashn, etc. The word "Alp" has been used in the Azerbaijani language since VI-VII centuries in the sense of hero, brave. So, these words are repeatedly mentioned in "Kitabi-Dada Gorgud". Since the 14th-15th centuries, that word is the same semantic word in Azerbaijani.

Changing Azerbaijani-Turkish place names by Armenianizing them is irrefutable as a historical fact. For example, on January 3, 1935, Damchili was changed to Mrabvyan, Bozdogan was changed to Sarapan, Derachichek-Teankadzor, Delikdash-Tsapar, Develi-Ararat, Karpichli-Kegadur, Beykendi-Medz Perki. Sokudlu (Sarpakpur) on March 2, 1940, Gödekli (Mrgavak), Chiragli (Chrarat) on August 20, 1945, Armudlu (Tufashen), Kazanli (Mechrashen) Qipchak (Arich) on May 31, 1946. On April 19, 1946, Aynalı (Davdashen), on April 26, 1946, Agbulag (Mesakpyur), Efendi (Garadzor), on June 15, 1946, Saçlı (Norashen), on February 03, 1947, Dashgala (Garaberd)), Agchakishlar (Ketashen) on June 21, 1948, Toprakgala (Hnaberd) on December 1, 1949, Kulluche (Saraat) on April 19, 1950, Bashkend (Agdzvashen) on January 25, 1978. Tannali (Kokohovit), Basarkecher (Bardenis) on June 11, 1969, Yarpizli (Agavan) on May 25, 1967, Gamishli (Zartang) on January 25, 1978, Demirchi (Darpnik) on 1991 historical Azerbaijani-Turkish place names were victims of Armenian nationalism and were changed and Armenianized.

In Georgia, Azerbaijani place names have been changing since 1932. Concretely, this can be shown as follows:

1941 year. Borchali-Marneyli.

1944. Agbulag- Tetriskala.

1946. Uzundera- Gamarcheba.

1947 Bashkechid-Dmanisi, Garayazi-Gardebain

1948. Chevizlik-Tbeti, Otluk-Keldiani.

1949. Armudlu-Pantiani and others.

"Bolgraization policy" was also developed in Bulgaria against the Turkish people and their language. M. Acharoglu writes about this: Bulgaria's biggest perversion, the policy of "assimilation" against Turks can be clarified in the following way:

- Turkish schools were nationalized (1946), 2116 Turkish schools were closed;

- Turkish private schools were merged with Bulgarian official schools (1959-60), meanwhile, the publication of Turkish language newspapers, magazines and books was gradually reduced and then banned;
- The names of Turkish-speaking, Muslim settlements were replaced by Christian Bulgarian names (1981-83);
- The pressure against the Tatars and Turks in Bulgaria in the Christianization-Bulgarianization policy reached its most severe point.

The final result of the facts we have shown is that hundreds of Turkish names were changed and Bulgarianized in Bulgaria in 1822, 1835, 1889, 1906, 1912, 1934, 1942, and 1984. In recent years, changed Turkish place names have always been in the center of our attention and have been documented in scientific literature. For example: Abdalkand-Bogdanoki, Agdara-Belareka, Armutluq-Krishat, Chevizli-Ochemak, Chibikli-Lilitsa, Demirchilar-Jelezari, Almali-Jabilkovo, Fyndigli-Lyaskobo, Ipekchi-Krabino, Hachilar-Bronsko, Imamlar-Vesco, Kamalkend-Dichevo, Meshali-Dibova and others.

The issue of changing place names also manifests itself in the territory of the Turkish state. For example, Ankira or Angora was first Enguri, then Ankara; Simirna-Izmir, Adenia-Adana, Polidor-Burdur, etc. is pronounced as

As we mentioned earlier, since ancient times, Turkic clans have spread and settled in a very large area, leaving their own language mark in those areas. Parallel and shared Turkish place names with Azerbaijan in many countries, especially in Armenia and Georgia, fully prove this point. Although many countries changed these names and replaced them with words in their own languages, they could not deny the Turkish antiquity. In scientific linguistics-onomalogy, many common Turkish place names have been identified, etymological roots have been disclosed and explained. Let's consider some of such common Turkish place names:

About the toponym "Ganja".

One of the oldest cities of Azerbaijan is Ganja. There are various opinions and opinions about the origin and etymological root of the place name Ganja. Thus, some scientists, Chopin, Saint-Martin, Erbele Marr and others, accepted the word Ganja to be from the Iranian root Gandz, and showed that it means "treasure".

In Azerbaijani linguistics, this issue has been approached more objectively, with scientifically based ideas put forward. A. Aliyev, A. Hasanov, based on Mahmud Kashgari, an invaluable linguist of the Turkic world, showed that the geographical name originated from the word Gencek in the study of the etymology of the toponym Ganja.

The linguist-toponymist G. Mashadiyev considers it a coincidence that the word Ganja means "treasure" and considers the external appearance of the sound complex to be deceptive. He writes Mahmud Kashgari based on "Divani-luğat-it-turk" work. "...in M. Kash-gari's "Divan", we showed that Genjak was the name of one of the Turkic tribes and at the same time Genjak was the name of a city located near Talas. Padars, who are presented as one of the most famous Oghuz tribes in most sources, came from Central Asia during the Elkhanid period. Among the 200,000 Turkic-speaking families who were transferred to Azerbaijan, they occupied an important place. They used to live in South Azerbaijan, and in the XVI-XVII centuries, during the Safavid era, a certain part of them was moved to North Azerbaijan in order to prevent the Dagestanis. Later, due to certain social and economic events, they changed their places, dispersed and settled in different zones.

Newly built settlements were called by their ethnic names, which led to the emergence of repeated names. The reason for the repetition of the ethnotoponym Boyat in Azerbaijan's Aghjabedi, Nefchtala Ujar and Shamakhi regions was the migration of the representatives of the ethnic group with the same name. In the sources, Boyat is recorded as the name of one of the Turkic-speaking tribes, and it is indicated that it was one of the tribes that led the Oghuzs in the steppes of North Kazakhstan, along with the Gay tribe, in the 9th-10th centuries. Their formation in Asia Minor and their involvement with the Seljuk Turks is related to the period of their arrival as part of Genghis Khan's army in the 13th century. Let's turn to another fact. The reason for the emergence of the Khalach toponym, which is repeated according to the system of all-Azerbaijani toponyms, is that the representatives of the Khalach tribe of the ancient Oguz scattered and settled in different parts of Azerbaijan, and the places where they formed were named according to the ethnonym they carried. This is confirmed by the facts about their organization and spread in this area in historical sources. Mahmud Kashgari showed that the Oghuz consisted of 22 tribes and later two of these tribes separated and merged to form a new Khalach tribe.

The mass arrival of Seljuk Oghuzs to Azerbaijan in the 11th century led to the spread of settlements and the increase of winter camps. It is clear from the researches of historians that about 17 of the existing 24 Oghuz tribes have settled in the territory of Azerbaijan. Their names are reflected in Azerbaijani toponyms of Turkish origin. For example; The ethnonyms of Boyat, Bayandurlu, Beydili, Gayalı//Gayılı, Duyarli, Qırılı, Khalach, Tarkhun, etc. are from these tribes. These ethnonyms are Boyat, Bayandur, Beydili, Dugar, Gayi, Khalach, Kiryg, Qirgyn, Eymur, etc. it keeps the names of the tribes alive.

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KEÇMİŞ BİTMİŞ ZAMANIN (PASSÉ COMPOSÉ) FRANSIZ VƏ AZƏRBAYCAN DİLLƏRİNDƏ TƏDRİSİ YOLLARI

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Xülasə

Fransız və Azərbaycan dillərində passé composé zamanının işlənməsinin tədrisi araşdırılarkən məlum olur ki, bu zaman keçmiş zaman şühudi və nəqli formalarına uyğun gəlir. Lakin bu zamanın hər iki dildə formalaşması və istifadəsi fərqlidir, çünki müqayisə edilən dillər müxtəlif dil qruplarına aiddir.Əgər passé composé-nin əmələ gəlməsində être və avoir köməkçi fellərinin indiki zamanından və əsas feilin participe passé formasından istifadə olunursa, Azərbaycan dilində bu formalar işlənmir və Azərbaycan dilində cins kateqoriyası olmadığından burada uzlaşma olmur və heç bir əlavə feildən istifadə edilmir.

Açar sözlər: xüsusi hallar, keçmiş zaman feili sifəti, flektiv dil, aqlütinativ dil , köməkçi feil, cinsə və kəmiyyətə görə uzlaşma

Fransız dilində Passé composé zamanı keçmiş bitmiş zamanı ifadə edir və Azərbaycan dilinə şühudi və nəqli keçmiş zaman kimi tərcümə olunur. Bu zaman keçmişə aid bir hadisəni, bir hərəkəti ifadə etmək üçün istifadə edilir. Passé composé zamanını düzəltmək üçün avoir və ya être köməkçi feillərindən birinin indiki zamanda şəxslərə görə təsrifindən və əsas feilin participe passé formasından istifadə olunur. Fransız dilində Passé composé zamanında feillərin əksəriyyəti avoir köməkçi feili ilə təsrif olunur. Bu halda avoir köməkçi feili indiki zamanda şəxslərə görə təsrif olunur və ona əsas feilin participe passé forması artırılır. Qrammatika kitablarında və orta məktəb dərsliklərində qeyd edilir ki, être feili ilə Passé composé zamanında yalnız 17 feil və bütün pronominal feillər təsrif olunurlar. Lakin être ilə təsrif olunan feillərin sayı müxtəlif mənbələrdə fərqlidir. Uzun illərin təcrübəsinə əsaslanaraq belə qənaətə gəlirik ki, être ilə təsfir olunan 18 feildir. Bunlar aşağıdakılardır:

aller, partir, sortir, arriver, venir, revenir, devenir, passer, entrer, rentrer, rester, descendre, monter, tomber, retourner, décéder, mourir, naître.

Bu zamanı düzəltdikdə görürük ki, bu feillər être ilə təsrif olunurlar. Düzdür passer və décéder feilləri eyni zamanda avoir feili ilə də təsrif olunurlar. [1, səh.58] Passé composé zamanını düzəltdikdə être feili indiki zamanda şəxslərə görə təsrif olunur və ona yuxarıda qeyd etdiyimiz feillərin participe passé forması əlavə edilir. Bu halda biz görürük ki, Passé composé zamanının düzəlməsində və işlənməsində avoir və être feilləri ilə işlənən participe passé formaları arasında böyük fərq vardır. Belə ki, avoir ilə təsrif olunan feillərin participe passé forması aid olduqları mübtəda ilə cinsə və kəmiyyətə görə uzlaşmırlar.

Məsələn: Hier nous avons acheté deux livres intéressants.-Dünən biz iki maraqlı kitab aldıq. Marie et Lucie ont regardé un film intéressant.-Mari və Lüsi maraqlı bir filmə baxdılar.

Bu nümunələrdən görünür ki, avoir ilə təsrif olunan fellərin participe passé forması aid olduğu mübtəda ilə cinsə və kəmiyyətə görə uzlaşmır. Əksinə être ilə təsfir olunan feillərin participe passé forması isə aid olduqları mübtəda ilə cinsə və kəmiyyətə görə uzlaşırlar.

Məsələn: Avant hier ma femme est partie pour Paris.-Srağagün mənim arvadım Parisə yola düşdü. Ce soir les étudiants sont arrivés à Bakou.-Bu axşam tələbələr Bakıya gəldilər.

Bu nümunələrdən biz görürük ki, être ilə təsrif olunan feillərin participe passé forması aid olduğu mübtəda ilə cinsə və kəmiyyətə görə uzlaşırlar. Azərbaycan dilində Passé composé zamanı şühudi və nəqli keçmiş zamanlarına uyğun gəlir. Lakin bu zamanların düzəlməsində heç bir köməkçi feildən istifadə edilmir və burada uzlaşma da olmur. Çünki bu dillər müxtəlif dil qruplarına aiddirlər. Fransız dili flektiv (seçmə) dil qrupuna aiddir. Bu dildə hal şəkilçilərindən və affikslərdən heç vaxt istifadə edilmir. Məsələn: Mon livre-kitabım; mes amis -dostlarım; votre livre -kitabınız Lakin, Azərbaycan dili aqlütinativ (iltisaqi) dil qrupuna aiddir. Bu dildə düzəltmə sözlər sözün kökü dəyişmədən affikslər artırmaqla əmələ gəlir. Məsələn: Kitab, kitabça, kitabxana, kitabxanaçı. Bundan əlavə fransız dilində iki cins vardır: kişi və qadın cinsləri. Lakin, Azərbaycan dlində cins kateqoriyası olmadığından uzlaşma da yoxdur.

Məsələn: Dünən axşam böyük bacım bizə gəldi.-Hier soir ma sœur aînée est venue chez nous. İyul ayında azərbaycanlı tələbələr Parisə yola düşdülər. – Au mois de juillet les étudiants azerbaïdjanais sont partis pour Paris.

Bu nümunələrdən görünür ki, fransız dilindən fərqli olaraq Azərbaycan dilində işlənmiş cümlələrdə bitmiş keçmiş zamanda heç bir uzlaşma yoxdur. Lakin fransız dilində işlənmiş cümlələrdə participe passé aid olduğu mübtəda ilə cinsə və kəmiyyətə görə uzlaşır. Bu zamanın düzəlməsində avoir ilə təsrif olunan feillərin iştirakında diqqəti çəkən bir hal vardır. Əgər Passé composé zamanı vasitəsiz tamamlıq əvəzliklə işlənirsə onda bu zaman forması avoir ilə düzəlməsinə baxmayaraq vasitəsiz tamamlıq əvəzlik aid olduğu participe passé ilə cinsə və kəmiyyətə görə uzlaşır.

Məsələn: Nous avons fait les exercices. → Nous les avons faits. Le professeur a corrigé les fautes des étudiants. → Le professeur les a corrigées. Elles ont regardé la télé. → Elles l'ont regardée.

Verilmiş nümunələrdən göründüyü kimi vasitəsiz tamamlıq əvəzlik ilə participe passé arasında cinsə və kəmiyyətə görə uzlaşma olur.[2, səh. 29]Fransız dilində Passé composé zamanının düzəlməsində xüsusi bir məqam vardır. Belə ki, rentrer, sortir, passer, monter, descendre, retourner feilləri əgər vasitəsiz tamamlıqla işlənirsə bu zaman bu feillərin Passé composé zamanı avoir köməkçi feili ilə düzəlir.

Məsələn: En été nous avons passé un examen. Ils ont descendu les chaises au premier étage. Mon père a sorti la voiture du garage. Il a entré la voiture dans le garage.

Bütün bu nümunələrdə biz heç bir uzlaşma qeydə almırıq. Beləliklə, keçmiş zamanın fransız və Azərbaycan dillərində düzəlməsi və işlənməsinə diqqət yetirdikdə biz görürük ki, bütün vəziyyətlərdə xüsusi və müxtəlif hallar mövcuddur. Bu da ondan irəli gəlir ki, bu dillər müxtəlif dil qruplarına mənsubdurlar. Fransız dilində Passé composé zamanının düzəlməsində təsrif olunan feilin participe passé formasından istifadə olunur. Bu halda hər bir feil qrupu üçün ayrı-ayrı participe passé formaları müəyyənləşmişdir. [3, səh. 46] Belə ki, məsdər formaları "er" ilə bitən birinci qrup feillərin participe passé forması-é: habiter-habité, demander-demandé, regarder-regardé; məsdər forması "ir" ilə bitən ikinci qrup feillərin participe passé forması-i: finir-fini, chosir-choisi, rougir-rougi. Lakin, üçüncü qrup feillərinin məsdər forması müxtəlif olur. Çünki üçüncü qrup feilləri sabit qaydaya tabe olmurlar: prendre- pris, faire-fait, voir-vu, boire-bu, venir-venu. Qeyd etmək istərdik ki, "ir" ilə bitən bəzi feillərin participe passé forması sabit olmur, müxtəlif formalarda düzəlir. Məsələn: Venir-venu, revenir- revenu, devenir-devenu Bundan başqa bəzi üçüncü qrup feilləri vardır ki, onların participe passé formaları xüsusi formada olur. Məsələn: Être- été, avoir-eu, mourir -mort, naître- né və s. Bütün göstərilən nümunələrdən və aparılmış tədqiqatlardan aydın olur ki, Passé composé zamanının və Azərbaycan dilinə uyğun gələn şühudi və nəqli keçmiş zaman formalarının düzəlməsi və işlənməsində bəzi oxşar və fərqli cəhətlər vardır. Belə ki, hər iki zaman keçmişdə bitmiş bir hərəkəti, hadisəni bildirir. Fərqli cəhətləri ondan ibarətdir ki, fransız dilində Passé composé zamanı avoir və ya être köməkçi feillərinin indiki zamanda təsrifindən və təsrif olunan feilin participe passé forması ilə düzəldiyi halda, Azərbaycan dilində bu zaman forması feilin kökündən və şühudi və nəqli keçmiş zamanın uyğun şəxs sonluqlarından istifadə etməklə düzəlir və Azərbaycan dilində cins kateqoriyası olmadığından burada uzlaşma olmur və heç bir əlavə feildən istifadə edilmir.

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ENGLISH LANGUAGE DEVELOPMENT HISTORY

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Abstract
The article is devoted to the history of the development of the English language. The history of the English language is analyzed in different periods.

English has its roots in the languages of the Germanic peoples of Northern Europe. During the Roman Empire, most of the German settlements (Germany) remained independent of Rome, although some southwestern districts were part of the empire. Some Germans served in the Roman army. Troops of Germanic tribes, such as the Tungras, Batavians, and Friezes, served in Britain under the Romans. German settlements expanded during the Great Migrations with the fall of the Western Roman Empire.

The languages spoken by the Germanic peoples, who originally settled in Great Britain, were part of the West Germanic branch of the Germanic language family. They consisted of dialects of the Ingwean language group (named after a large group of German tribes of the Ingevons) spoken by the northern peoples of modern Denmark, North-West Germany and the Netherlands. Due to some similarities between the old English and the old Frisian languages, this group was called the Anglo-Frisian languages.

Keywords: english, ancient, middle ages, new period, german, history, period

Currently, English is one of the most widely spoken languages in the world. Of the 5 main languages used in the United Nations, English is the most widely used. Now English language is famous in the world as the language of diplomacy, commerce, seafaring, scientific - technical and mass communication. Most of the literature and mass media published in our time are published in English. With all that being said, learning English is a vital necessity for everyone. Over time, this language has developed further according to its own laws of development. The basis of the modern English literary language is the London dialect.

There is no language on earth and it is impossible to imagine a language that does not interact and communicate with other languages. The mutual relations of the neighboring peoples are directly reflected in the language.

When we say the interaction and influence of languages, first of all, the process of word acquisition or word giving is understood. B. Y. Chernykh shows that one of the tools that help to imagine the antiquity of languages to a certain extent are the words that one language takes from another or, conversely, gives to another language. Indeed, the quantity of borrowings in the languages of peoples living in close proximity can show the historical roots of their cooperative relations, and therefore, in a certain sense, the history of the language itself.

Although many works on loanwords and loanwords have appeared in the language, there is still diversity in the understanding of the current process, more precisely, in relation to the terminological expression of the process. When treating foreign language elements in any language, different opinions are mostly manifested in the naming of these language elements, as well as in loanwords and international issues.

Knowing the origin of words in a language is of great importance for language learners. Students are able to distinguish words in terms of meaning, pronunciation and spelling. Words stay in their memory quickly and for a long time.

The history of the English language is usually divided into 3 periods: (2)

1. Old English or Anglo-Saxon language period.
2. Middle English period.
3. New English period.

Old English or Anglo-Saxon language period. It covers the period from the 5th century to the 11th century. (449 –1100) This period begins with the conquest of Britain by the Germanic tribes.

Middle English period. It covers the period from the 11th century to the 15th century. (1100 – 1500)

New English era. It covers the period from the 15th century to the present. (1500 – present). The transition from one period to another does not happen suddenly, with a leap, but gradually through the language gradually developing and acquiring new features and qualities.

The new characteristics acquired by the language distinguish it from previous periods. For example: One of the important features distinguishing Old English from Middle English was that it (i.e. Old English) could use any vowel (a, o, u, an, e) in an unstressed ending, whereas in the Middle English period all unstressed vowels were weakened and became "e ” they become.

Based on certain phonetic-morphological features acquired by the language during its development, the English linguist Henry Sweet (Henry Sweet 1845-1912) named the periods as follows: (4)

1. Old English period - period with full endings (full endings); any vowel sound can stop in the unstressed ending, for example: sunu - son, drincan - drink, duru - blood.
2. Middle English period - period with weakened endings (leveled endings); all the vowels used in the unstressed ending are weakened and become (a) sound.
3. New English language period - period with lost endings (lost endings); the weak vowel sound at the end disappears. For example: son, drink, door.

It is necessary to distinguish two stages within the Old English or Anglo-Saxon language period:

a) The period without writing - includes V-VII centuries.

b) The period with the inscription - covers the VII-XI centuries.

When studying the ancient period, written sources are usually referred to, on the basis of which the language of that period is studied and judgments are made about it.

We have very little information about the Old English language that existed between the 5th and 7th centuries due to the lack of literary monuments. More precisely, written monuments belonging to this period have not reached us. The oldest written monument of the English language that has come down to us dates back to the end of the 7th century. They consist of runic inscriptions and monuments written in Latin letters.

The Middle English period is characterized by a historical event other than the weakening of unstressed grammatical endings, the conquest of England by the Normans, the enrichment of the English vocabulary with French words, and the change in the spelling of English words due to the influence of the French language.

Within the period of the new English language, it is necessary to distinguish 2 stages: (1)

a) Early New English period (Early New English) covers the years 1500-1660. This period in the history of the English language is characterized by a phonetic event called the "great vowel shift".

b) The New English period (Date New English) covers the period from 1660 to the present. The New English era is distinguished from the Middle Ages by the fall of feudalism, the formation of the absolute Tudor monarchy and the emergence of the English nation.

When dividing the history of the English language into periods, scholars have taken into account the characteristic features of the language as well as the history of the English people. According to linguist B. A. Ilyish, the issue of determining the periodization principle of language history is very important. He shows that a proper periodization should take into account not only the specific characteristics of the language, but also the relationship between the history of the language and the history of the people who speak that language. The periodization of the history of the English language fully meets this principle.

As we mentioned, starting from the middle of the 5th century, the British Isles were attacked by the Normans. By the end of the 5th century, most of Britain was occupied by West Germanic tribes. The occupation of the country continued until the end of the VI century.

Before coming to the question of Germanic tribes invading Britain, it would be appropriate to remember who lived there and who the local population was.

As a result of archeological excavations and so on, it became known that the oldest inhabitants of Britain were the Iberians who lived there since 3000 BC. At that time, the Iberians already knew how to cultivate the soil with hish and shovel. They buried their dead in mass graves built with stones.

Another tribe from the continent also arrived in Britain in 3000 BC. They were already able to make weapons and bowls from copper and bronze. They buried the dead alone, by burying the top of the hut where he died. According to historians, they then boiled and mixed with the Iberians.

The next invasion of Britain was by Celtic tribes in the 7th century BC. They consisted of Britts, Gauls, Belgs, Nictes and Scots. Among the Celtic tribes, they had a much higher culture than the Britons. They were able to make iron sickles and the like. They used the yoke. They built dwellings on their hills. In Wales they mined and traded lead.

Celtic tribes used sickles and scythes, buckets, pots, etc. they could also cook. Unlike the Iberians, they cremated their dead.

Beginning in 55 BC, Britain was invaded by the Romans. On that date, the troops of the famous Roman emperor Julius Caesar began to invade Britain. However, since this intervention did not last long, it did not affect the life of the Celts.

The actual occupation of Britain by the Romans began in AD 43, during the reign of the Roman emperor Claudius. This occupation lasted for several centuries. Britain almost became a colony of the Roman Empire. The most important parts of the country were in the hands of the Romans. In order to protect themselves from the attacks of those living in the north, the Romans built 2 famous walls in history - the Adrian and Antonine walls. In addition, they also carried out construction works in the country. To keep the people in their obedience, they built military roads (via strata), built camps (castra), built castles for themselves, etc. they started (3)

Britain had already become a source of income for the Romans. They used this country as a source of grain and even exported grain to the continent. The local population, that is, the Celts, already started to adopt the Roman culture, customs and traditions, to build castles and villas for themselves like them.

Thus, by the end of Roman rule, there were already large and rich cities in Britain. Among them, Verulamiya - the current city of York, London - the current city of London can be mentioned.

Roman laws were unexpectedly recalled from Italy in 410, when the process of Romanization of the local population was in full swing. Thus, after several centuries, it ended the Roman occupation. But a new invasion was waiting for Britain.

The real reason for the sudden recall of Roman law from Britain was that Germanic tribes were already challenging Europe, including the collapsing Roman Empire, at this time.

From the middle of the 5th century, that is, according to the Old English chronicle, in 449, Germanic tribes under the leadership of 2 generals named Hengest and Horsa Hengest began to invade Britain.

This is actually how the Germanic tribes came to Britain. The powerful British king from the Celtic tribes called a group of Germanic tribes from the continents as helpers and friends to fight against his enemies Scots and Picts. After the Germans helped the British defeat their enemies, they began to recruit new fighting units there. Because the new German groups in power began to flow to Britain and occupy the country. The invaders were from the division of the western sub-group of Germanic tribes. According to historians, they were from 3 powerful tribes of Germans - Saxons, Angles and Jutes. As shown, the Frisian tribes also participated in this invasion.

The Jutes, who are believed to have first come to Britain from Jutland, settled in the south-eastern part of the country in the area called the Kingdom of Kent and on the Isle of Yat. The Saxons who came from Lower Germany settled along both banks of the Thames. They created a series of small kingdoms called Yessex, Issex, Sussex. Among them, the kingdom of Sussex was very powerful.

Finally, a third Germanic tribe called the Angles came to Britain from the lowland of the Elbe River and Southern Denmark. The English held the area north of it along the Humber (Nitwech) River. They created kingdoms called Northumbria, Mercia, England, the largest of which was the kingdom of Northumbria. Among these 3 tribes, the Angles were more numerous. Maybe that is why the country started to be called "England" (Engle - land) after the 5th century. (2)

The invaders met almost no resistance in some parts of Britain. In other places, they encountered very serious resistance from the local population. The Germanic tribes occupied the central part of the country, oppressed the local population, slaughtered and destroyed them, and destroyed their villages and cities.

The Germanic invaders pushed some of the Celts into western and northern Britain. Thus, from this time on, the Germans became the owners of the country. Their language, that is, Germanic dialects, began to be spoken all over Britain. The language of the local population, the Celts, was preserved only in Wales, Cornwall and Scotland, because only in those places were the Celtic tribes able to find refuge.

Most of the country's population was made up of newcomers. The West Germanic tribes, the Jutes, Angles and Saxons, were completely separated from the Germanic tribes on the continent. They later gradually became a unified nation.

The period between the 7th and 9th centuries is called the Seven Kingdoms period in the history of England. During this period, the kingdoms of Northumbria, Mercia, Kent, East Anglia, Essex, Sussex and Yessex were established as mentioned above. There were many conflicts between these kingdoms and at different times one of them took the dominant position. For example, the kingdom of Northumbria in the 7th century, Mercia at the beginning of the 8th century, and Sussex in the 9th century played a dominant role. From the dialects of the Germanic tribes living in these mentioned kingdoms, the local dialects were named after the areas where they were located, i.e. Northumbria, Mercia, Sussex and Kent. Later, the national English language was created based on those dialects.

From the 10th century, England was united into a single kingdom. In order to facilitate the administration, the whole country was divided into administrative areas - tribes, which were headed by royal chiefs - sheriffs. Several tribes were headed by an aldorman. Gradually, the aldorman became a semi-dependent nobleman, who was later given the nickname (title) of an earl. Thus, the ancient clan structure gradually began to be replaced by a new social structure, feudalism, which led to the formation of large feudal estates and the emergence of new territorial divisions instead of tribal divisions.

After the Germanic tribes named Angles, Saxons and Jutes settled in Britain, their language separated from the Germanic dialects of the continent and underwent a special development.

The history of the English language begins with the period when those tribes came to Britain, that is, in the 5th century. The English language was originally developed in a very limited area. In the areas of Cornwall, Wales and Strathclyde they still spoke the Celtic dialect at that time. The English language began to spread from the 9th century in Cornwall, the 11th century in Strathclyde, and the 13th century in Wales. In the Northern Highlands of Scotland lived the oldest inhabitants of Britain, namely the Picts and the Scots.

The Scots language, which belongs to the group of Celtic languages, is still preserved in the north-western part of Scotland.

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FEATURES OF THE VERBAL AND NON-VERBAL APPROACH IN INTERCULTURAL COMMUNICATION

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Annotation
This article examines the role, importance of interpersonal communication, the study of linguistic communication and inter-lingual communication and the interaction of intercultural communication with different cultural speakers and its intercultural verbal and nonverbal participation. In the process of intercultural communication, people exchange with each other through the mutual influence on each other, different ideas, interests, moods, etc. feelings. In order that in the process of intercultural interaction in the study of a foreign language, the importance of language competence and mastery of the paralinguistic means of language, knowledge of the diversity of communication styles and their proper interpretation are considered.

Keywords: intercultural communication, language communication, non-language communication, intercultural communication, intercultural verbal communication, nonverbal communication.

МӘДЕНИЕТАРАЛЫҚ ҚАТЫСЫМДАҒЫ ВЕРБАЛДЫ ЖӘНЕ ВЕРБАЛДЫ ЕМЕС ТӘСІЛДІҢ ЕРЕКШЕЛІКТЕРІ

Шериева Г. Т.аға оқытушы, Қожа Ахмет Ясауи атындағы Халықаралық қазақ-түрік университеті, Қазақстан, Түркістан.

Аңдатпа. Бұл мақалада тұлғааралық қарым-қатынастың рөлі, маңызы, тілдік қарым-қатынас пен тіларалық қарым-қатынасты зерттеу және мәдениеттің әртүрлі тасымалдаушыларымен мәдениетаралық қарым-қатынастың өзара әрекеттесуі және оның мәдениетаралық вербалды және вербалды емес қатысуы қарастырылады. Мәдениетаралық қарым-қатынас процесінде адамдар бір-біріне, әртүрлі идеяларға, қызығушылықтарға, көңіл-күйге және т.б. әртүрлі сезімдер әсер ету арқылы бір-бірімен арласады. Шет тілін үйрену кезінде мәдениетаралық өзара әрекеттесу процесінде ақаулар болмауы үшін тілдік құзыреттіліктің маңыздылығы және тілдің паралингвистикалық құралдарын игеру, қарым-қатынас стильдерінің алуан түрлілігін білу және оларды дұрыс түсіндіру мәселелері қарастырылады.

Кілт сөздер. Мәдениетаралық қатысым, тілдік қатысым, тіларалық қатысым, мәдениетаралық вербалды қатысым, мәдениетаралық ауызша емес қатысым.

ОСОБЕННОСТИ ВЕРБАЛЬНОГО И НЕВЕРБАЛЬНОГО ПОДХОДА В МЕЖКУЛЬТУРНОМ УЧАСТИИ

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Аннотация

В статье рассматриваются роль, значение межличностного общения, изучение языкового общения и межъязыкового общения и взаимодействие межкультурного общения с различными носителями культуры и его межкультурное вербальное и невербальное участие. В процессе межкультурного общения люди обмениваются друг с другом через взаимовлияние друг на друга, различные идеи, интересы, настроения и т.д. чувства. Для того, чтобы в процессе межкультурного взаимодействия при изучении иностранного языка не возникало сбоев, рассматриваются вопросы значимости языковой компетенции и овладения паралингвистическими средствами языка, знания многообразии стилей общения и их правильной интерпретации.

Ключевые слова. Межкультурная қатысым, языковая қатысым, неязыковая қатысым, межкультурная вербальная қатысым, межкультурная не вербальня қатысым.

At the present stage, special attention is drawn to the issue of language participation in countries with developed international relations. The global importance of language communication is reflected in opening a comprehensive way to the political ties of the country and the country, nation and nation. Therefore, language communication as the most pressing problem today influenced the emergence of new scientific works in world linguistics [1, 228]. This is a phenomenon in which science needs to be studied theoretically and methodically.

Having studied the theoretically relevant issues of the language participation, the term "language communication" in her works, F. Orazbayeva considers actions related to human communication as language communication and non-language communication. "Language communication, which is the core of human relations for the reflection of a person's desire to convey his thought to another, means understanding, perception and communication through language, the exchange of opinions between people through the set of social information most necessary for the development of society, while non-language communication involves the understanding and perception of speech through certain conventional agreements or signs, people’s understanding with the gestures and thorough the movements of eyes, mouth, eyelid, and general facial expressions, even via various actions of body parts (legs, arms, shoulders, etc.). It opens the way for people to understand themselves both in language and in non-language communication [1, 229].

It can be concluded that verbal and non-verbal means of communication are the most important means that carry out speech activity and mutual understanding between people. Communication means the exchange of information between people through a common sign system [2,17].

According to M. O. Guzikova, cultural communication is determined by the language of people carrying out speech activity and is closely related to the use of a certain language communication code, while intercultural communication is the interaction of different carriers of culture [3, 9].Such interactions are called intercultural communication.

According to the theory of intercultural communication, the type of communication in the form of dialogue or monologue is verbal communication, and the organization and selection of language tools to create a dialogue or monologue has national and cultural characteristics [14, 76]. Verbal communication (communication through natural language) differs from all other types of communication in that it is focused on consciousness [3, 33].

In the process of intercultural communication, people exchange information with each other through mutual feelings, different ideas, interests, moods, etc. For this purpose, each culture creates its own language system, with the help of which its speakers obtain the opportunity to communicate and cooperate. That is, in science, various forms of such language communication are called means of verbal communication. [3, 76].

According to I. M. Yusupov, three-quarters of the communicative interaction of people consists of verbal communication [5, 100]. A. P. Sadokhin interprets verbal communication as a language communication in which the thoughts, information, emotional experiences of language persons are exchanged [6, p. 154], while A. Leontovich defines communication through the language tool as verbal communication [7, 382].

The process of intercultural communication is a relationship that requires taking into account the cultural condition of the mother tongue and foreign language, as well as their own national characteristics. Therefore, it is necessary to pay attention to the culture and place of residence, country, national traditions and customs of speakers of different languages in the process of language teaching or communication in a professional environment. This is a phenomenon, which requires certain skills and abilities not only in language, but also in behavior and manners.

With a view to avoiding failures in the process of intercultural interaction in learning a foreign language, it is important to have the necessary level of language competence, master the paralinguistic means of the language, acquire the knowledge about the variety of communication styles and be able to interpret and apply them correctly [4, p. 76]. For example, the act of speech etiquette, such as greeting, saying goodbye, getting to know each other, is a universal phenomenon that occurs in all nations, but each nation has its own cultural characteristics, corresponding to its national characteristics. That is, each elements of greeting, saying goodbye, getting to know each other are distinguished by the verbal habits of people, specific features of the national mentality [8, 272].

Saying goodbye and greeting are important elements of people's communication. Words related to this can be found in any speech culture. Of particular interest are the usual language norms in the context of communication between the Kazakh people and the English. For example, if we highlight the distinctive features of greetings and farewells of representatives of two cultures, English is a country whose culture is too "strict" (unchangeable) to tradition. If they say "How are you?"- Qalaisin?" Hello" – Salemetsiz be! and "Hi" – “Salem” when they greet their friends and peers, "Good morning" - Qaıyrly tań! "Good afternoon" - Qaıyrly kún!, "Good evening" - Qaıyrly kesh! are formal greetings used depending on the time of day. The Kazakh people have many official or unofficial types of greetings, depending on the age, gender, time of day of a person inherent in their culture. For example, if such a greeting “Salem”, “Salemetsin be!” is used among peers, “Salemetsiz be!” in the greeting of young people to adults, and if there are two or more older people, “Salemetsizder me!” is used. “Amansin be, Amansizdar ma!” is the type of greeting, which is used by older women when greeting their younger ones. Accordingly, this greeting varies according to politeness and number type. If “Assalamualaikum!” is used by only the younger men to say hello, the older ones accept their greetings with “Uagaleikumassalam!”. Saying goodbye in English is not limited to "Bye" and "Goodbye" familiar to many people, or it does not leave silently like "English farewell" which is often used for everyone, they have many farewell words that are characteristic of their national character. For example, the words "Good bye!"-Sau bol!, "Have a good day!" – “Qaıyrly kún tileımin”, (or "Have a nice day!", "Have a good evening!", "Have a good night!"). "Farewell" – “Qosh bol!” are not often used in farewells. Most often, they can be heard in melodramas with a sad ending. They use the words "Take care"- “Ózindi kút”, "See you later/Talk to you later"- “Kezdeskenshe”, or "Keep in touch" – “Baılanysta bol!” in common farewells.

In addition to the problem of language, difficulties can suddenly appear when we talk to people of other cultures, which is a problem that arises from the interpretation of gestures, mimics or gesticulation. The reason for this is that the practice of nonverbal communication is different in different cultures [8, 277]. In this regard, the lack of understanding of the non - verbal approach to communication makes it difficult to effectively implement participatory actions. It can be understood from this. "For example, when we come to another state, we first of all turn to hand gestures for understanding, but we do not take into account that hand gestures are perceived differently in different countries. A finger on a temple means "you are crazy" In Russia, "you say smart things" in France, " I know what to do» in the United States. In Russia and Ukraine, "Figa" means “there is nothing to you”, “a defensive move”; the most shameful sexual abuse in Portugal and Brazil in Turkish and Arab states[9, 13].

For foreigners, Kazakh is taught as a foreign language. In such a situation, "the process of understanding a foreign text is not limited to knowledge of the language, but also requires the use of nonverbal techniques (facial expressions, gestures), knowledge of the etiquette norms and a deep background knowledge system" [10, 35].

In their works, J. Burgun, B. Buller and V. Woodall call non-verbal communication an unspoken dialogue containing post-verbal messages [11, 114], while DePaulo and H. Friedman consider it a dynamic, mainly non-verbal,exchange of personal information [12, 115]. M. Knapp and J. Hall emphasize three main components of non-verbal communication: environment of communication, paralinguistic characteristics of linguistic entities and non-verbal behaviors such as body movements [13, 116].

Non-verbal means of communication are sometimes characterized by duality: on the one hand, the presence of these non-verbal means allows the use of verbal expressions in communication expressions, and on the other hand, they serve as a compensatory factor. This is due to their contradictory nature as an aid rather than an independent connecting link [4, 86].

Type of communication non-verbal means have three main functions:

1) provision of additional information (sometimes, on the contrary, verbal): although speaking positively, it is possible to show a positive expression on the face;;

2) replenishment of the missing verbal component ("Do you agree?"- nodding);

3) making a copy of the verbal message ("look at this stone" - a gesture pointing with a finger, hand or head) [14, 8].

Each linguoculture uses its own unique non - verbal set, the teaching of which is the traits necessary for interaction in an intercultural environment. [4, 87].

A.P. Sadokhin shows the main forms and methods of nonverbal communication as follows:

- kinesics is a set of gestures, poses, movements; takesics involves shaking hands, kissing, caressing, clapping, hitting, etc. in the process of communication

- touch of the hand to the body of the speaker, etc;

- sensorics is a set of sense organs based on information received from the sense organs;

- proxemics is the ways of using space in communication activity; chronemics is the ways of using time in communication activity [6, 169].

The important role of nonverbal communication is manifested in different ways. F. Payatos calls the communicative behavior of a person the "basic ternary structure" consisting of verbal language, paratylanguage and kinesics (body language) [14,433]. J. Burgun, et al. claim that in natural communication situations, people rely on non-verbal behavior to build and understand communicative messages. [11,114]. In addition, nonverbal communication helps to understand messages in three ways. It helps to increase attention, create additional context and facilitate memory [15, 477].

On the role of nonverbal factors in intercultural participation, H. Brown said: "The culture is reflected in non-verbal communication that barriers to cultural learning are nonverbal rather than verbal". Therefore, he believes that it is important for language learners to overcome the difficulties associated with nonverbal factors in order to adapt to the target culture [16, 166].

In conclusion, in the process of intercultural communication, people interact with each other and exchange information with feelings with different ideas, moods, etc. Since mastering the importance of the need for language competence and the acquisition of paralinguistic tools of the language, assimilation of knowledge about the variety of communication styles and their correct use are relevant in learning languages in order to avoid inconveniences and failures in the process of intercultural interaction in learning the languages of different cultures, the emphasis should be placed on the peculiarities of nonverbal communication for language learners and for adaptation to this culture.

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STYLE POSSIBILITIES OF USING PHRASEOLOGICAL UNITS IN MIKAYIL AZAFLY'S POETRY

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Keywords: ashiq poetry, Mikayil Azafli, phraseological combinations, style of using phraseological combinations of Ashiq Mikayil Azafli

Folklore literature, which is a product of the poetic thinking of our people, and its special branch, love poetry, is rooted in the ancient times of history, and reflects every period of it like a mirror. Our oral art, which has been created for thousands of years, has a very full content, perfect form and a wealth of genres. Every genre of folklore literature - legends, narratives, fairy tales, epics, proverbs, lullabies, similes, rhymes and wits, rhymes and couplets, tajnis and kigilbands, diwani and mukham-masts has absorbed into the soul of our people, perfected its spiritual world, honesty, bravery. , played an important role in instilling feelings such as true love, patriotism, and humanism. Ashik creativity, which is one of the rich spiritual resources of our national literary heritage, has a past as great as the people who created it and lived it. This art has developed on the basis of the creative traditions that the nation has acquired, protected and constantly enriched for centuries, and has risen to a unique artistic peak. In these wonderful works of art, the material and spiritual world of the people is reflected, but also the beauty and richness of our mother tongue, which is our greatest national asset, its phonetic system, lexical composition, and grammatical structure are revealed with all its intricacies. Ashiq poetry, which is the most valuable component of oral folk literature, has undergone a rich development since ancient times, and also had a significant impact on the development of the written literary language. Corresponding member of ANAS, professor A. Demirchizade wrote: "We cannot ignore the fact that the oral poetry language traditions that existed long before the appearance of writing played an important role in the formation of the written literary language. Therefore, in order to understand the linguistic and stylistic features of the written literary language monuments of the early periods, it is very necessary to take into account the oral literary language background (6,73). it even provides linguistic materials based on the spoken language, dialects and dialects, which have found expression in the written literary language to a certain extent. The lexical layer, which is connected to the ancient Turkish language with the historical roots of oral folk literature and Ashiq poetry, is a source of valuable facts for studying the lexicon of the language and the intricacies related to this field. Ashiq creativity, which is the richest spiritual wealth of the Azerbaijani people, has become an object of research from time to time, and this rich treasure has been examined from various aspects. A comprehensive evaluation of the linguistic and stylistic features of Ashiq poetry performs an important function as a part of the study of Ashiq art as a whole. Also, the involvement of Ashiq creativity in the research serves to eliminate the gaps that have been allowed so far in the comprehensive study of the Azerbaijani language. Thus, both Ashiq poetry is involved in a more detailed study, and conditions are created for the formation and correct solution of scientific problems in all the main sections of linguistics in a more fundamental and scientific way. The main reason for this is that Ashiq poetry, as we mentioned, is a monument of art that preserves rich linguistic facts, and without involving these materials in research, it is impossible to conduct a comprehensive study of our language and obtain correct scientific results.

One of the most important features of Ashiq poetry is that it is related to the living vernacular language and preserves the national, historical and local color. Love poetry, which reflects all the subtleties of a lively conversational style like a mirror, reveals the processes taking place in the language more prominently, and therefore stands out from the written literature with its unique linguistic facts and materials. The poetry of Ashık Mikayil Azaflı, the most genius master of words and music of the 20th century, is a magnificent art peak that combines all these features, rich linguistic facts, local color, lively speaking style, means of expression and possibilities of the folk language. In this article, we will talk about the phraseological combinations that add a special harmony to the verses of the love-poet, serve to enrich the form and content of this priceless vocabulary, and convey the idea and poetic intention.

Imagery is the main criterion of artistic thinking. Figurativeness is first of all in the limitlessness of poetic thinking, in the purposeful use of linguistic materials by the artistic thinker. The research conducted on Azafli poetry proves that the poetic speech of the lover and the possibilities of creating imagery are inexhaustible. The main reason and source of this is the living folk language, the products of the people's poetic thinking. A skilled wordsmith, Azafl combines the most delicate emotions, expressions and idioms in folklore, living folk language with the semantics of his verses. Such poetic-aesthetic materials create ample conditions for clarity of thought, stylistic influence and artistic freshness. One of the most reliable sources that Azafli poetry benefits from is ready-made linguistic material-phraseological combinations that have stood the test of centuries. Phraseological combinations are of special importance for the language of poetry. Because phraseological-fixed combinations have high emotionality, polysemy, national color, stylistic strength. Polysemantic character is one of the main factors that create figurativeness. From this point of view, M. Huseynov's opinion is appropriate: "Phraseological combinations are able to preserve the important characteristic qualities of live speech and oral speech in poetry. The wide range of possibilities of expressiveness in artistic speech, the quality of creating emotionality-expressiveness, without a doubt, also belong to phraseological combinations. Phraseologisms can acquire the possibilities of real embodiment in the fact that the national color is as effective in the speech process as in the speech process. Because emotional-emotional effect is the most important poetic merit of this language unit. (9, 89)

Phraseological combinations stand in a superior position by bringing vivid, natural colors to Azafl's creativity, which is loved for its clarity of style, naturalness, and humanity. Phraseological combinations based on various poetic practices in almost every verse add rich and attractive shades to the language of Azafli's poetry, decorating it with warmer and more sincere feelings. Phraseological combinations born from the wisdom of the people and its philosophical thought create unity with the poetic-philosophical thinking of the lover, winging his thoughts and feelings, adding the flavor of folk wisdom to the stylistic intention that he wants to convey to the readers. Verb phraseological units that increase the impact of the text poetically, semantically, and logically are predominant in the lover's work: to sigh, to remember (phraseological dialectism), to name, to mock, to visit, to speak, to speak, to speak, to speak, to speak, keep one's eyes on the road, prostrate oneself, give life, take life, apostatize, make a mountain, suffer, touch the taste, sleep in the heart, ask questions, dreams hit a stone, set fire to one's life, suffer punishment, stand up, set a trap, tarnish , to stay in the fire, to complain, to complain, to close one's lips, to shake one's ear, to give a hand, to fold one's neck, to be in trouble, to yearn, to forget, to wander around, to sneer at life, to make fun of, to make fun of, to put out the lamp, to lose weight (phraseological dialecticism), to fall into a spell (phraseological dialecticism), to give a photo (phraseological dialecticism), to cast a net, etc. Different meaning groups of fixed combinations chosen and used by the lover with jeweler's precision - homonym, antonym and synonymous phraseological combinations each act as a stylistic category and create conditions for the formation of other poetic categories. Two forms of phraseological combinations adorning Azafli's verses - with certain changes; it was actually used as it is without any changes.

Use of phraseological units with certain modifications. In Ashik's creativity, phraseological units are used with certain changes. This is primarily related to the poetic demand, the nature and essence of the lyric genre. On the other hand, it is changed in connection with the emotional, aesthetic and artistic environment created by the lover. The basic structure of some such phraseological combinations, which add an emotional color to Azafli's poetic speech and strengthen his style of expression, is preserved, but one or more words are changed:
original:

trap:

It was the custom of the time to plot,
Yamandan yamandi, don't say from the sofa.

suffer:

You have left the city of my heart in ruins,
If you always take it, you are unfaithful.

gluttony:

The wealth of a world flows into his stomach,
He can't get enough of the world, oh,

Sometimes a word is added to the composition of phraseological units:

Yaman folded my head,
I lost my best friend.

Imam, king, prophet sleeps,
Take a thousand tastes, you have it ready.

I fell from longing to a bad day,

It's good to wander around,
The world is bigger than the world.

The second component (verb) of some phraseological units is repeated:

Forty thrones of my fate forever,
It's gone, it's gone, it's gone, it's gone, it's gone.

Azafli, soul face to face,
My life has passed in vain.

Sometimes the noun is repeated and grammatically changed within the phraseological unit:

Our fate did not bring
He hit us from stone to stone.
He did not wish
He finished his life.

In the vast majority of phraseological combinations, the order of words is changed:

It can be seen in the phraseological units we gave in the previous lines. This sort of arrangement is related to stylistic features, rhyming arrangement:

You who are not a bride,
Ask Azafli,
The garden of my life has fallen...

They listened sweetly,

They put them on the wagon one by one,
They brought down from the peaks,
Luck hit the stone, eagle.

As it can be seen, the violation of word order in phraseological units gives a poetic dimension to the lover's thoughts and feelings, and opens the semantics of the syntactic whole more deeply. Each phraseological unit is based on the mental-emotional state of the speaker. That is why the naturalness and sincerity in the verses, nativeness fascinates the reader. In the examples, the emotional-expressive environment given to the verses by the phraseological units is important as a stylistic tool that affects the creation of other poetic categories. In the first example, the changed phraseological unit (mulberry question) completes the rhyming arrangement and plays an exceptional role in the structural-semantic unity and poetic-aesthetic harmony of the verses. The meaning of the lyrical hero's insistent appeal to his lover is strengthened by both morphological (-y-nan archaic suffix, used in the 2nd person singular of the imperative form of the verb; it has a dominant position in the western dialect) and lexical archaism (fat), at the same time, it is given the unique aroma of the living folk spirit. a mule Azaflı, who strengthens the effect of the subsequent request and plea with a phraseological unit, opens wide horizons to his poetic thought with a stronger metaphor. The harmonious arrangement of sounds (especially the harmony of thick vowels) is one of the tools that increase the artistic value of structural-semantic harmony. In the second poetic verses, although the phrasal unit does not participate in the rhyme scheme, it is the most important poetic tool that affects the semantics of the text as a whole. The rhythmic system of alliteration and assonance does not affect the semantic dynamics of the phraseological unit. Assonance of thin vowel sounds ("i" is repeated 15 times; "a" is repeated 12 times), antithesis (they mounted, lowered), metaphor (they slowly mounted), and the general poetics of the verses are strengthened by the semantic capacity of the phraseological unit. The rhythmic arrangement of thin vowels also includes a phraseological unit. But the last component of the phraseological combination (dasha) is left out of the synthesis of sounds. The word "stone" creates a harmonious sound arrangement with the lexeme "eagle" which is arranged after it and is revived as a metaphorical image ("a" assonance). It is natural to refer to "eagle" as a logical continuation of the word "Dasha". The abode of eagles is high mountain tops, stones, rocks. The semantics of the word "Dasha" is matched with the semantic load of the lexeme "eagle". The associativeness of sounds, words and phraseological combinations (sorrow was brought to the grave, luck hit the stone) gains exceptional importance as stylistic categories that reveal the essence of Azafli's poetic goal.

Ustad Ashiq always draws strength from the figurative thinking of the people, purposefully uses folk sayings and phraseological combinations, and brings fresh breath, natural color, and a rich system of metaphors to his poetry.

Just as universal phraseological combinations are of great importance in constructing the poetic speech of Azafli's creativity and in giving verses an emotional-expressive essence, the conversational phraseology (phraseological dialectisms) intensively used in the Tovuz dialect is also of great interest in this regard. Phraseological units of a dialectal nature add local color, humanity, and warmth of lively communication to the verses of Ashish. Speaking about this feature of folk phraseology, M. Huseynov writes: "Truly, for a real writer, folk phraseology is the key to poetic thought and delicate lyrical emotions. All existing phrases and idioms are among the most powerful and inexhaustible resources on which the art of poetry relies on its figurative potential, on which it relies on the possibilities of expressiveness. (p. 10)

We bring to your attention some examples accompanied by dialect phraseology from Ashıg Azafli's endless art world:

He has been a ruler, king, and sultan for forty years.
His throne was left for a moment.

In the phrase "Galdi andir" the word order has been changed for poetic purposes. "Stay awake" is a phraseological dialectic that is synonymous with the expression "stay without food".

Let's take a look at some lines from the song "Dinmakasean", which is a clear example of the fusion of the poetic understanding of the lover with the folk thinking:

Every now and then he gives a dal peyser,
Even if they say, don't listen.

Wife washes her lips,
Shake your ear.
Even if you're in the middle, break it.
Even if they cut, don't listen.

As it can be seen, the idioms filtered from the folk phraseology to the verses of Azafli express the object of description of the lover quite naturally (these are the expressions that each of us often hear in our everyday life), popular and lively. They are the basis of Azafli's artistic thinking. Ashiq creates poetic-structural harmony by adding the subtle humor of folk thinking to his verses. Rhyme order is of special importance in the formation of poetic harmony. Changing the order of phrases acts as a poetic category in the arrangement of rhyme scheme. In the opinion expressed by the lover, it is obvious that his attitude towards the object is negative. Such expressions are called cacophemisms and include not only lexical synonyms (head instead of head - skull - head; to brew instead of speak). Cacophemism also refers to phraseological combinations. For example, not paying attention - to pay attention; moving away from life - closing the gap, etc. the phrases in the verses are exactly in this style.

In the verses of the lover, there are also phraseological combinations that soften the positive attitude towards the object, the influence of the idea, and the semantics:

The famous lover of Azerbaijan
Ajal drank his drink, dear hands.

The combination of highly metaphorical character "he drank his body" somewhat softens the semantic effect of the verb "died" and at the same time makes it poetic. Such expressions are called euphemisms.

Or:

Hijran lost his youth,
His eyes darkened and turned yellow.

The phrase "he brought yellow" is an expression that softens the impact of the verb "died".

The word euphemism is of Greek origin: it is made from the combination of the words "ev" (good, polite), "phemi" (I speak, say) and means "I say softly", "I say politely".

Phraseological combinations, both cacophemism and euphemism, serve to create poetic speech as an expressive-stylistic factor.

The use of phraseological combinations without any changes. There are also quite a few phraseological combinations used in Azafli poetry without making any changes. The lover absorbs phrases into his lines and into the semantics of the text in such a way that you forget that it is ready-made language material. You understand that each of these words, expressions and phrases came only from Azafli's thinking. Phrases based on the poetic song of the master lover, as we mentioned, strengthen the effect by adding a new fresh breath and folk spirit to the feelings and emotions, thoughts and thoughts of the lyrical hero. Let's take a look at the general picture of the phraseological combinations that the lover, as in fact, intensively appeals to:

fall under the spell:

He went to magic, God forbid,
Bake or hang, brother.

The phrase "passing into enchantment" is a general language unit in the western dialect: it expresses the concepts of "getting rid of some trouble or accident in exchange for something you give with your hand, good deeds you do." The semantic load of the phrase is easily understood from the semantics of the text.

go to bada (to go to gudaza; figuratively to give up one's life, to rot in vain, to perish):

If you ask, my life is in slander
My life was lost in a storm.

By the way, one meaning of the word bad in Persian is "wind, wind".

to be about to die:

My mountain is dying, my mountain is dying,
My life is dying, my age is dying

brew:

Some from grief, some from thirst,
Some son fell in love with a girl.

tail wagging:

My life has been robbed by fits and verbs,
The devil of the age shook his tail,

to be happy:

The love of youth calls you,
He wants you when he is happy.

As it can be seen, each of the phraseological combinations adds a special harmony to the lover's poetry, enriches his artistic speech, and plays an exceptional role in the structural-semantic integrity of the poetry texts. As we mentioned, the verb-phraseological units that decorate the poetry of the lover are in a superior position and there are hundreds of them. And we gave only a few of them as examples. Verbal phraseological units are used with grammatical categories specific to the verb - morphological signs of the classified and unclassified forms of the verb. For example, he went into a spell, went to bed, shook his tail, stayed awake, ended his life, etc. in the past tense of the news form of the verb; gives life, breathes, etc. in the present tense of the news form; when the mood is saz, the verb is in the binding form; to conspire in the infinitive form; tut question in the second person singular of the imperative form of the verb; wash your lips, walk around, etc. the verb is in the wish form.

Azafli conveys the emotions and thoughts of the lyrical hero in an effective language, using phraseological combinations of names in his poems. The noun-phraseological combinations, which are interesting due to their emotionality and high expressiveness, mainly have the function of artistic designation (epithet). The colorful and rich name of the lover is "white day, black day, narrow day, broad day, hawk artist, hawk youth, lion youth, bitter word, sweet word, cradle evenings, snake heart, etc." in the series of phraseological combinations. Expressions like: In the lap of white days, in the assembly of walking hands; To grow old quickly, to turn gray, was in the hands of the Black Day; Where did you fly the youth of the falcon, Ask him from baxt, ask from yaman; Painful, your lion's youth was wasted, You lost your rich youth without promise; I am the son of nature, the son of power, of the cradle evening, the bright morning.

In conclusion, we can say that the phraseological combinations in the verses we have given as an example of the rich artistic heritage of Ashıg Mikayil Azafli once again prove that their semantic capacity is adapted to the text of each poem. Phraseological combinations, which serve as a poetic support, repeatedly increase the semantic power of the text of the poem, bring clean, fresh breath, rich, colorful shades to the verses.

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Historical Sciences

ЕЖЕЛГІ ТҮРКІЛЕРДІҢ ЖЕРЛЕУ ҒҰРПЫНДАҒЫ ЖЫЛҚЫНЫҢ АЛАТЫН ОРНЫ: ЖАЗБАША МӘЛІМЕТТЕР МЕН АРХЕОЛОГИЯЛЫҚ ДЕРЕКТЕР НЕГІЗІНДЕ

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Жылқы малының қолға үйретілуі адамзат тарихында айтарлықтай төңкеріс жасады. Кез-келген халықтың тарихына көз жүгірсек, олардың тіршілігінде жылқы малы белгілі бір мөлшерде өзгеріс енгізген. Әсіресе барлық болмысы мен тұрмыс-тіршілігі осы жануармен қабаттасып жатқан көшпелі халықтарда жылқы жай ғана көлік құралы емес, одан да жоғары құндылықтарды иеленді. Өйткені ұлан-ғайыр атырапқа құлаш жайып, төлтума өркениет қалыптастыруда жылқының маңызы алабөтен болды. Ал көшпелі халықтар өз кезегінде жылқыға қарыздар болмай, оны барынша дәріптеуге тырысты. Алғаш қолға үйретіліп, өндірісте негізгі күшке айналған жылқы түркі кезеңінде өзінің шаруашылық пен дүниетанымдағы маңыздылығын одан ары жоғарлатпаса төмендете қойған жоқ.

Ежелгі түркілердегі жылқының алатын орнын жазбаша және археологиялық деректер нақты сипаттайды.

Деректердің бірінші тобын жылқының қатысуымен орындалатын түрлі ғұрыптық шаралар жөнінде мәлімет беретін жазбалар құрайды. Мәселен, қытай жылнамаларының бірінде түріктердің жерлеу ғұрпына байланысты мынадай жолдар кезігеді: «өлген адам денесін киізден жасалған үйдің ішіне жатқызады. Ұлдары, туыстары үйдің есігінің алдында құрбандық малын сойып, жайып қояды. Атқа мініп үйді жеті рет айналады, содан кейін үйге кірерде пышақпен беттерін тіледі, жас пен қан бірге төгіледі. Осылайша жеті рет жасайды, содан кейін ғана тоқтайды. Арнайы бір күн белгіленіп өлген адам тірі күнінде мініп жүрген жылқысымен бірге өртеледі және жылдың бір нақтыланған күні күлдері көміледі. Жазда және көктемде қайтыс болған адамды талдағы және өсімдіктегі жапырақтар сарғайғанда немесе түсе бастағанда жерлейді; күзде немесе қыста өлгенді гүлдер бүршік жара бастағанда жерлейді. Жерлеу күні, қайтыс болған күні тәрізді туыстары құрбандық шалып, атқа мініп шабады және беттерін тіледі...Қойды және жылқыны құрбан шалғаннан кейін олардың бастарын қадаға іліп қояды» [1, 275 б.]. Дәл осыған ұқсас мағлұматтар «Вей шу» жазбаларында кездеседі: «бірнеше малдың түрінен құрбандық шалып, олардың сүйектерін өртейді және адам жерленген жерді атпен сан рет айналады, кейде атпен шауып жүздеген айналымдар жасайды» [2, с. 55].

Ибн Баттута бойынша туысқандарымен, ағайындас бауырларымен, жақын достарымен бірге, жалпы алғанда жүзге жуық туыстарымен бірге өлтірілген қағанды алып келді. Қағанға арнап, жер астынан үлкен жерлеу орнын дайындады, әрі онда тұрмыстық заттардың барлық түрі қойылды. Онда қағанды қаруымен бірге қойды, қасына үйіндегі барлық алтын және күміс ыдыстар бірге қойылды. Одан кейін төрт жылқыны алып келіп, әбден болдырғанша шаптырды. Қабірге ағаш бақандар орнаталып, оған жылқылар ілінді. Бұдан алдын, жылқылардың артынан ағаш кіргізіп аузынан шығарып қойған болатын. Жоғарыда сөз болған қағанның бауырларын да жерлеу орнынан өздерінің қару-жарағымен бірге, үйлеріндегі ыдыстарымен қоса жерленді. Өлгендердің ішінде қарттарына (саны оншақты) үш жылқы жоғарыдағы тәсілмен бақанға керілсе, кішілеу жастағыларға бір жылқыдан жоғарыда аталған ғұрып жасалды [3, с. 111-159].

Ортағасырларда еуропалық саяхатшы-миссионерлерде ежелгі түркілердегі жылқымен байланысты жосын-жоралғылар туралы мәліметтер қалдырған. Ол жазба деректер де жоғарыды сипатталған араб саяхатшылары қалдырған мағлұматтарды одан ары дамытып, археологиялық қазба материалдарды тұжырымдауға көмегін тигізеді. Мысалы, солардың бірі, Плано Карпинидің XIII ғ. Моңғол империясына жасаған саяхатында жолсерік болған Бенедикт Поляк өзінің жазбаларында мынадай мәліметтер келтіреді: «Бай адам қайтыс болса, оны ашық алаңда, ішінде өзі отырған күйінде киіз үйімен бірге, жасырын жерлейді. Қасына ет тола ағаш астау, бие сүті толы кесе қояды. Сонымен бірге жанына биені құлынымен, жылқыны ауыздығы мен ерін қосып, садақты қорамсағы мен оқтарымен қоса көмеді. Бір жылқыны достары жеп, терісіне шөп тығылып, ағаш бағандарға қойылады» [3, с. 111-159]. Дәл осыған ұқсас деректерді Плано Карпини де сипаттайды. Оның жазбаларында келесідей жолдар бар: «...Жерлеу барысында мәйітпен бірге, тағы бір биені құлынымен қоса, ер-тоқымын да жерлейді. Ал екінші жылқының етін, жеп, терісінің ішіне сабан толтырып, кейде екі, кейде төрт таяққа керіп қояды [3, с. 127]. XIII ғ. өмір сүрген армян тарихшысы Киракос Гандзакецидің мәліметтері жоғарыдағы келтірілген жолдармен сәйкес келеді [3, с. 111-159]. Ортағасырлық авторлар Ц. Де Бридиа, Рикольдо де Монте Кроче және Винцент де Бовенің шығармаларында баяндалған жосын-жоралғылар айна қатесіз қайталанады. Негізінен алып қарайтын болсақ еуропалық авторлардың мәлеметтерінің шығу тегі ортақ болуы да мүмкін деген пікірдеміз, себебі мәтіндердің көп жағдайда сөзбе сөз сәйкес келуі осы ойға жетелейді. Біздің ойымызша аталмыш авторлардың шығармаларына түпнұсқа ретінде Марко Поло мен Плано Карпинидің еңбектерін атағанымыз жөн тәрізді. Әрине бұл тақырыптың арнайы зерттелуді қажет ететіндігін ескертеміз. Жоғарыдағы мәліметтерде ортағасыларлық түркі-моңғол тайпаларының жылқыны қосып жерлеу ғұрпы туралы сипатталса, дерек берушілер оның себептерінен де айналып өтпеген тәрізді. Мысалға, Киракос Гандзакецидің шығармасында төмендегідей жолдар бар: «...онымен бірге жылқыларын да көметін. Олар ана жақта ауыр ұрыс жүргізеді дейтін. Қайтыс болған адам туралы естелік қалдырғысы келгенде жылқының ішін жарып, ішінен етін толық сүйегінен ажыратып алатын да, іш құрылыстарын сүйегімен бірге өртейтін. Сөйтіп жылқы тірі күйіндегі кейпінде болуы үшін теріні толтырып тігетін. Кейін бір сырықты жақсылап үшкірлеп, оны жылқының ішінен тығып, аузынан шығаратын да, талға ілетін, немесе бір биіктеу жерге қадап қоятын» [3, с. 111-159]. Бенедикт Поляктың да мағлұматтары жоғарыда баяндалған сарында өрбиді: «Олар мәйітке болашақ өмірінде осының барлығы, яғни сүтін ішіп тұру үшін бие, мініп жүруге ат, сондай-ақ қасына қойылған заттар керек болады деп сенеді. Осындай сеніммен алтын мен күміс те қоса қояды» [3, с. 111-159]. Плано Карпинидің жазбаларында біршама қызықты ақпараттар келтірілген: «Бұл ғұрып, олардың айтуынша, келесі дүниеге жол көрсетуші, ал бірге жерленген биенің сүтін ол ішеді және жылқыларын көбейтуге мүмкіндік алады. Оларды кейін қолға үйретіп, мініс аты ретінде пайдаланады. Ал, өздері жеген жылқы сүйектерін өлген адамның жанын құтқару үшін өртеп жіберген» [4, 106-112 б.].

Доминикандық монох Винсент де Бове жылқының татарлардың жылқы сүйегін өртеуіне қатысты төмендегідей дерек келтіреді: «Жерлеу барысында мәйітпен бірге, тағы бір биені құлынымен қоса, ер-тоқымын да жерлейді. Ал екінші жылқының етін жеп, терісінің ішіне сабан толтырып, екі кейде төрт таяққа керіп қояды. Бұл ғұрып, олардың айтуынша, келесі дүниеге жол көрсетуші. Оларды кейін қолға үйретіп, мініс аты ретінде пайдаланады. О Әйелдер жиналып, өлген адамның жанын құтқару үшін, еті желінген жылқының сүйектерін өртеу ғұрпына қатысады. Егер де, өте беделді, бай татар өлген жағдайда, оның достары жылқыны сойып, басынан бастап, құйрығына дейін терісін сылып алып, өлген адамды еске алу үшін үшін, терісінің ішіне топан толтырады, сосын барып ірі екі мүйіз секілді бақанға апарып іледі. Бұл мәйтті ұмытпай еске алу үшін жасалған ғұрып [3, с. 111-159].

Өлген адамды жылқымен қамтамасыз ету ғұрпының болмысын Ибн-Фадлан оғыздардың мысалында жақсы ашып көрсетеді. Оның жазбаларында төмендегідей мәлімет кездеседі: «Егер олардан бір адам қайтыс болса, оған арнап үй тәрізді үлкен қабір қазады, оған (өлікке) киімін кигізіп, белдігі мен садағын тағып, қолына ыдыс қояды да бүкіл затымен сол үйге қояды. Одан кейін оның үстінен жабын жауып, бетін топырақпен жабады...кейін жүз немесе екі жүз жылқыны өлтіреді, не болмаса бір жылқының басы мен тұяқтарынан, терісінен, құйрығынан басқасын жейді, ал терісін ағаш құрылысқа керіп қояды да, «бұл жылқылармен ол жұмаққа барады» деп айтады...Кейде олар бір немесе екі күн жылқыны өлтіруді (құрбан етуді) ұмытып кетеді. Сол кезде оларға үлкен ақсақалдардың бірі келіп былай дейді: «Мен оны түсімде көрдім, яғни қайтыс болған адамды, ол маған: «Көріп тұрсың, мені жолдастарым озып кетті, олардың артынан ілесем деп аяқтарым жарылды, оларды қуып жете алмағандықтан жалғыз қалдым». Осы жағдайдан кейін олар оның жылқыларын алып өлтіреді де, моласының басына іліп қояды. Тағы да бір-екі күн өткеннен кейін сол ақсақал келіп: «Мен оны көрдім, ол маған: «Менің үйімдегілерім мен жолдастарыма хабарла, менен бұрын кеткендерді қуып жеттім, шаршаудан тыныштық таптым» [1, 275 б.].

Жоғарыдағы жазба деректерден келтірілген үзінділер арқылы жылқымен байланысты орындалатын келесідей жайттарды жіктеуге болады:

1) жылқы құрбандық малы;

2) жылқы басқа әлемге жеткізуші және сол жақтағы мініс көлігі;

Ендігі жерде көрсетілген жазбаларды қазақстандық археологиялық деректермен түйіндесек.

Ендігі жерде тақырыбымыздың мазмұнын ашу үшін сол ескерткіштердің сипаттамасын беріп, олардығы жылқыны қосып жерлеу ерекшеліктеріне тоқталайық. Біз бұл жерде де аймақтық қағиданы ұстануды жөн деп санадық. Алдымен еліміздің шығыс өңірлеріндегі ескерткіштерге тоқталсақ.

Зевакино қорымы. №145 обада жерленген жауынгердің жанына 4 жылқы жерленіп, оның біреуі толығымен әсем әшекейлері бар ат-әбзелдерімен ерттеліп-жүгенделіп өліктің жанына жатқызылған. Осыған қарағанда бұл жылқыға ерекше мән беріліп, жерленген жауынгердің жорықта мінген жылқысы болуы мүмкін. Қалған үш жылқы қосымша болып, алыс жорықтарда қолданылған болуы керек [5, с. 35].

№ 254 оба қабірінің солтүстік бөлігіне қарай 1,5 м тереңдікте жылқы қаңқасы жатты. Ат-әбзелі бар жылқы аяқтарын бауырына жинап, қарынымен басы батысқа қаратылған қалыпта жатқызылған. Ал, адам жерлеуі жылқының оңтүстігіне қарай 1 м жерде, 1,65 м тереңдіктен ашылды.

№ 4 обаны зерттеу барысында оның ішіндегі қоршаулардан үш қабір орыны анықталып, 2-қабірден жылқы қаңқасы табылды [5, с.38-47].

№ 9 обадан екі қабір орны анықталды. 2-қабір (орталық қоршау) пішіні жағынан тіктөртбұрышты болып, көлемі 2,9 х 1,6 м, тереңдігі 1,1 м құрады. Осы орталық қоршаудың шығысындағы тікбұрышты тас құрылыстың ішінде, 0,7 м тереңдікте жықының бас сүйегі қойылған [5, с. 46-47].

№ 37а обаның ортасындағы көлемі 2,5 х 1,8 м, теңреңдігі 2 болатын қабірдің солтүстік қабырғасының бойында басы шығысқа қаратылып шалқасынан жатқызылған адам қаңқасы жатты. Ал оған қарсы, қабірдің оңтүстік қабырғасының бойында оң жамбасымен, аяқтарын бауырына жинап, басы шығысқа бағытталған жылқы орналастырылған. Жылқы жерлеуі қырынан қойылған тастар арқылы тұрғызылған құрылыспен бөлінген. Бас жағынан ат-әбзелінің әшекейлері табылды.

Осы қорымда № 39 обаның ортасындағы қабір шұңқыры 2 х 1,4 м құрады. Қабірдің оңтүстік-шығыс бұрышында, 1,25 м тереңдікте оң жамбасымен басы солтүстік-шығысқа қаратылған жылқы орналастырылған.

Белокаменка қорымы. Қорым Ертіс өзенінің негізгі арнасынан оңтүстікке қарай 2,5 шақырым, Бетқұдық ауылынан солтүстік-батысқа қарай 15 шақырым жерде орналасқан. Қорымның басым бөлігін құрылыс алаңы алып жатса, қалған бөлігі тасыған су торабы басып жатты.

№1 нысан батыстан-шығысқа созылған сопақша шеңбер түрінде болды. Диаметрі 10,2 м құраған. Қабір шұңқырының оңтүстік қабырғасын бойлай адам сүйектері шашылып жатты. Оның оңтүстік жағында жылқының бас сүйегі анықталған. Зерттеушілердің көрсетуінше тонауға ұшырағанға дейін мұнда жылқының толық қаңқасы болған [6, с. 142].

Ақши II қорымы. Қорым қазіргі Бородулиха ауданы Ақши (бұрынғы Пролетарка) ауылының аумағында орналасқан. Ескерткіш Ақши 1 қорымының батысына қарай 2,5 қашықтықта текшелі жоталардың шығысында жайғасқан.

№2 нысан. Ескерткіш сегіз жерлеу орнынан тұрады. Соның төртіншісінің қабір шұңқырынан басы ШСШ-қа бағыталған жылқының қаңқа сүйектері анықталды. Тонаудың салдарынан жылқы сүйектері шашыраңқы қалыпта кездескен [6, с. 162].

Ақши III қорымы. Ескерткіш Ақши II қорымының батысында орналасқан. Мұндағы жеті нысанның төртеуінде қазба жұмыстары жүргізілген.

№ 1 нысан. Қазба нәтижесінде нысанның орталығынан БОБ - ШСШ бағытында созылған қабір шұңқырының ақымнан және дәлізден тұрғандығы анықталған. Ақымда басы ШСШ-қа қаратылып адам жерленсе, дәлізге дәл сол бағдарда аяқтарын бауырына жинаған жылқы жатқызылған [223, с. 170].

№ 2 нысан. Ескерткіш жоғарыдағы нысаннан тек көлемінің сәл кішірек болуымен ғана ерекшеленген. Мұнда екі жерлеу орны анықталған. Соның негізгі, яғни екінші қабірінен жылқыны қосып жерлеу анықталды. Мұндағы адам жұқа тақтайшалардан жасалған тіктөртбұрышты құрылысқа басы СШ-қа қаратылып жатқызылған. Жылқы қабірдің оң жақ қабырғасын бойлай иесі тәрізді бағытта орналастырылған [6, с. 174].

Қарашат I қорымы. Қорым Ертіс бойының жоғарғы текшесінде орналасқан. Ескерткіштердің барлығы Қарашат өзенінің аңғарына таяу үш тізбектен тұрады.

№ 15 нысан. БОБ - ШСШ бағытында созылған қабір шұңқыры ақымнан және дәлізден тұрды. Ақымда басы ШСШ-қа бағытталып шалқасынан адам жерленсе, оң жағындағы дәлізде иесіне қарама-қайшы бағытта аяқтарын бауырына жинаған жылқы жатқызылған [6, с. 187].

Өңірде ортағасырлық көшпелілердің археологиялық ескерткіштерін зерттеу тек XX ғ. 90-жылдарынан кейін ғана жалғасын тапты. Нақтырақ айтқанда біздің тақырыбымыз бойынша мағлұматтар беретін ізденістер 2000 ж. кейін ғана жүзеге асты. Негізгі мәліметтер базасы Қарақаба ескерткішімен байланысты.

Қарақаба қорымы. Тарихи нысан ШҚО Қатон-Қарағай ауданының аумағында орналасқан. Алғашқы барлау жұмыстары 2006 ж. жүргізіліп, нәтижесінде қорымда түрлі кезеңге жататын 50-ден аса ескерткіш тіркелген. 2012 ж. бастап қорымда толыққанды археологиялық қазба жұмыстары жүргізіледі [7, с. 280-293].

№1 оба. Қабір шұңқырының солтүстүстік-шығыс бөлігінде шығыс-батыс бағытында жылқы жатқызылған. Жылқы сол бүйірімен орналастырылып, арқа жағымен жерленген адамға қаратылған. Басы ССШ-қа бағытталып, аяқтары қабырғаға тіреліп бүгілген. Ауызында темір ауыздық болды.

№2 оба. Алдыңғы обаға солтүстік-батыс тұсынан біріккен. Қабір шұңқыры бұрыштары дөңгелене келген тіктөртбұрышты формада. 1 м тереңдікте қабірдің солтүстік бойында жылқының толық қаңқасы ашылды. Жылқы аяқтарын бауырына жинап, басы денесінен жоғары тастың үстіне қойылып солтүстік-шығысқа қаратылған [7, с. 280-293].

№ 3 оба. №1 обаға солтүстік батысынан жалғасып жатты. Орталық бөлігінде қазба жұмыстарынан кейін қабір шұңқыры анықталып (СО-1,5 м, ШБ- 2,2 м), 2,1 м тереңдіктен жылқының қалдық сүйектері анықталды. Тонаушылардың әсерінен жылқының қабірдің солтүстік бұрышында жатқан тек денесі ғана сақталған, ал бас сүйегі, мойын омыртқалары мен аяқ сүйектері қабірдің орталығына үйілген. Жылқының сақталып қалған бөлігіне қарап оның аяқтарын бауырына жинаған қалыпта, басы шығысқа қаратылып жерленгендігін анықтауға болады. Ат-әбзелдері болмады [7, с. 104-114].

№4 оба. Тізбектегі ескерткіштердене жеке дара орналасқан. Қабір шұңқыры ұзына бойы солтүстік-шығыс - оңтүстік-батысқа бағытталған. Қабірдің ішінен 2,75 м тереңдікте бастары оңтүстік-батысқа бағытталған екі жылқы анықталды. Жылқылар қабірдің оңтүстік қабырғасын бойлай оң жақ жамбастарымен, аяқтарын бауырына жинаған қалыпта бірінің үстіне бір жатқызылған [7, с. 104-114].

Көріп отырғанымыздай түрік тайпаларының тарихи-мәдени ортасы саналған аталған өңірлерде иесімен жылқыны қосып жерлеу дәстүрі түрлі ерекшеліктерден тұрған. Жалпы алғанда ортағасырлық жазбаларда келтірген ғұрыптар археологиялық мағлұматтармен толық үйлеседі. Әсіресе бұл Қазақстанның шығыс өңірлеріндегі ескерткіштерде сәл болса да кеңірек көрініс табады. Бұл басқа өңірлерде аталмыш ғұрыптың болмағандығын көрсетпейді, негізінен түркі дәуірі ескерткіштерінің әлі де толықанды зерттелмей жатқандығымен байланысты.

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FAMILY AND MARRIAGE ORIENTATIONS OF THE YOUNG GENERATION SOUTH KAZAKHSTAN AND ZHETYSU[1]

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Abstract: In the article there is investigated the choice of a marriage partner of Kazakh people and other ethnises of the Southern Kazakhstan and Zhetysy. They include the information about the ways of acquaintance, if they were got acquainted with each other by friends, neighbours, compeers on work or study, parents, relatives or they were introduced to each other by themselves. The data of acquaintance places of future wife and husband (at a place of work, study, at a party or wedding, in the street, neighbourhoods `or in some other place) among various ethnises and generations are analysed in a similar way
Key words: South Kazakhstan, Zhetysy, the youth, premarital behavior, family and marriage.

Main part

The problem we are considering seems multifaceted, complex, requiring close attention of demographers, legal scholars, sociologists, and ethnologists, and it is reflected in a number of special Russian studies [1: 78-79; 2: 200-202; 3: 425-427]. Unfortunately for Kazakhstan there are materials covering its current state. Therefore, raising the question of choosing a marriage partner in this article to some extent fills the existing gap in this problem. In the pre-revolutionary period, the choice of the bride and groom was traditionally carried out on the basis of customary law or Sharia and was under the full responsibility of parents and close relatives. As a rule, with rare exceptions, they decided it at their own discretion, negotiating directly with the parents of the bride or groom. At the same time, first of all, they adhered to the principles of estate and class, not caring at all about the opinions of young people and not taking into account their age, especially girls. Its echoes could be traced in various regions of the republic until the middle of the last century. These traditional attitudes are comprehensively disclosed in the works of such well-known domestic researchers of family and marriage as Kh.A. Argynbaev and A.Zh. Zhakipova [4: 80-86, 145-182; 5: 42-59].

As a result of legislative acts and codes on marriage and family, as well as various socio-economic and cultural events of the Soviet state, fundamental changes occurred in the issue under consideration. They were primarily aimed at emancipating women, ensuring her economic independence, and providing her with equal rights to work, earnings and rest with men. The listed measures and actions did not occur immediately, but gradually over many decades along with the democratization of family, marriage and intrafamily relations.

At present, unlike in the past, the solution to the issue under consideration largely lies within the competence of those entering into marriage themselves. Marriage, as a rule, depends entirely on the decision made by the spouses themselves. Naturally, they can listen to the opinions

[1] BR 18574057 “Interdisciplinary (archaeological and historical-ethnographic) study the cultural heritage of the south-eastern and eastern regions of Kazakhstan (Shu-Ili, Tarbagatai and Alakol”.

of their parents, close relatives, friends and girlfriends, but none of them has the right to force them into an unwanted marriage or to refuse the decision they have made. Representatives of the older, middle, and now younger generations have gone through this.

To better reveal the problem posed, we will try to consider it, indicating the following main parameters- the motivation for marriage, the conditions and place of meeting the future spouse.

●Motives for marriage.

Currently, everywhere, regardless of ethnic, religious, social and other factors, a necessary condition for marriage is the freedom of marriage choice on the part of young people themselves. There are many motives for entering into a marriage by mutual consent, among which the main indicators are the following in order of importance and priority: love, common interests and views, passion, sympathy, sexual compatibility, chance, frivolity, fear of loneliness, a sense of compassion, pregnancy and the likelihood of having an unplanned child. , calculation, dependence, coercion, etc. Such preferred and unexpected motives for marriages can be conditionally divided into three groups: for love, for chance and for convenience. Each of them has the right to exist, bringing future spouses a happy, satisfactory or unsuccessful marriage.

Of course, the main motive for creating marital unions is love, as well as commonality of views and interests. And these feelings do not always arise immediately; they can come gradually and over time. They may be preceded by such successive stages as mutual respect, sympathy, friendship, infatuation, love, which culminate in the union of two loving individuals.

Along with the external signs of the manifestation of these feelings, mutual understanding and knowledge of the strengths and weaknesses of the future life partner are important, which will subsequently form the foundation of successful intra-family relationships. The majority of respondents and interviewed informants point to them in their answers, regardless of ethnicity, gender, age and socio-professional affiliation. The presence of these motivations ensures that spouses are prepared to overcome various objective and subjective circumstances associated with economic, material, everyday and other difficulties. The same is the ability to self-sacrifice and to be together in any situation, even contrary to the opinions of loved ones; satisfy and fully realize your expectations and goals.

The fate of a casual marriage is unenviable. In the overwhelming majority, such marriages have no future, are doomed to misunderstanding, indifference or constant conflicts, turning family life into torment. Even the presence of minor children does not stabilize these conflictual relationships [6: 102, 105].

A marriage of convenience, which is based on economic, material and other mercantile interests, complemented by mutual respect and a guarantee of reliability, can provide partners with a prosperous life and stable relationships. In fairness, we note that this factor is of particular importance in the conditions of current transitional market relations, when material and monetary well-being, the presence of private property, and a high social and public position acquire special attractiveness for a certain category of our citizens.

● Conditions for meeting future spouses.

It is known that marriage does not happen spontaneously; it is accompanied by many factors, among which the circumstances of the future spouses' acquaintance are important. Naturally, here we do not take into account those uninitiated individuals who are passive, do not have their own active life positions, and completely shift the solution to this vital issue onto the shoulders of their parents and their close relatives.

To comprehensively demonstrate the problem under study and to ensure proper representativeness, we, along with our own observations, attracted a wide range of sources, mainly ethnosociological, on the rural and urban population of Southern Kazakhstan and Zhetys [7].

They indicate that among the different methods of dating presented, which we conventionally combined into six indicators, the majority of respondents noted their own activity and initiative. This indicator (from 56.1 to 67.1%) is very high among Kazakhs of Almaty and Zhambyl regions, both in the city and in rural areas. It is recorded even higher in these regions among Russians – from 63.9 to 72.5%. Similar orientations were recorded in the responses of respondents in the South Kazakhstan region. It should be especially noted that such a high result was achieved due to the responses of representatives of the young and middle generations, and in the socio-professional context- managers and specialists of senior and middle management and other categories of the population with a high educational level. To a lesser extent it is typical for the older generation, skilled and unskilled workers.

The only exceptions are the answers of respondents from among the Turks of the Merke district of the Zhambyl region. They placed the role of their own factor in choosing a future spouse in second place, emphasizing the priority and high importance in this of the traditional role of close relatives.

The second place in the answers of respondents from among the Kazakhs, Uzbeks, Uyghurs and Russians is occupied by the importance of close friends and girlfriends who provided direct assistance in choosing the desired "other half". The identical figure in Almaty and Zhambyl regions, with the exception of the South Kazakhstan region, is much lower than previous data. For example, if in the first two regions from 16.2 to 20.8% of Kazakhs and from 12.8 to 17.3% of Russians spoke for it, then in the latter region these figures were 26.8- 28.4% for Kazakhs, and 26.8% for Russians. Urban and rural Uzbeks are identically oriented towards this issue. And here, in the gender, age and socio-professional sections, the same trends are observed that we noted for the first indicator.

In relation to the remaining possible combinations and answers given, there is a significant scattering without their clear and unambiguous differentiation. However, one can still notice some priority regarding the role of relatives compared to the influence of parents and neighbors. For example, respondents from the Zhambyl and South Kazakhstan regions from among the Kazakhs, Uzbeks and Turks indicated in their answers the high importance of relatives. Among the Uzbeks they exceeded 20%, and among the Turks they were 38.6%. Thus, it was the representatives of the Turkic ethnic groups who resorted to the traditionally high role of relatives, characterized by the strength and cohesion of family ties and connections. This factor does not depend on the place of residence of these ethnic groups, be it a city or a village. Despite the fact that in the answers of our respondents the role of parents in the future choice of their children is poorly shown- in real life and in practice, their decision, as it seems to us, is much higher and they play a decisive role. With rare exceptions, all organizational, financial, material, household, housing and other problems at the initial stage of a newlywed's life are solved by the parents. Such activity and care are more characteristic of representatives of Turkic ethnic groups than of European ones.

Almost all respondents indicated a high degree of agreement between their decision to marry and their parents. This motive is very high among Turks and Uzbeks. Thus, among rural Uzbeks, 93.9% of brides and grooms asked their parents for permission to marry.

At the same time, in Almaty the similar answer of Russian respondents was only 40.0%. Identical trends can be seen among other European ethnic groups, especially East Slavic ones. The reason for this, in our opinion, is that parents and their adult children have different ideas about marriage and marital interests. A certain part of parents in most cases, according to a tradition rooted among them, interferes little in the personal lives of their adult children, hoping for their mutual understanding and openness in resolving this controversial issue.

We are witnessing that the younger generation of both these and other ethnic groups can leave the solution status, to this vital issue for "later." This trend is especially noticeable in cities, where young people, even after receiving education in special and higher educational institutions, striving to become established as individuals with a high socio-professional status, delay the resolution of the issue under consideration until they reach the age of 30 and subsequent years.

In similar conditions, representatives of Turkic ethnic groups (parents and close relatives), especially Turks, Uzbeks and Uyghurs, show disapproval of late marriages or celibacy. At the same time, they often take effective measures aimed at a favorable resolution of such a situation. This is especially true for "overstaying" girls of reproductive age. The latter experience constant influence from others and loved ones, for whom it is very important that they certainly establish a normal family life. Therefore, such relationships are often awakened by their activity in search of a marriage partner.

It has been established that those individuals who are faced with such a constant negative attitude towards their celibacy are more often and persistently looking for their intended life partner. In an identical situation, those less likely to strive for "settledness" are those whose marital status no one pays any attention to. According to established tradition, an unmarried, childless or divorced woman, living especially in a rural environment, has a very low social status in the minds of Turkic ethnic groups. Male grooms are subject to less external pressure. It is believed that, compared to girls, they have a greater chance of forming a full-blooded family and having children.

In real life, the solution to this complex issue seems ambiguous. For example, in rural areas compared to urban areas, young people experience certain difficulties in choosing a future bride or groom. Another factor that plays a role here is that the majority of young people of marriageable age, who left for the city to study or look for work, rarely return back to permanent residence. And this, in turn, leads to the fact that there is a significant shortage of the required contingent of brides and grooms.

The city has great opportunities for meeting and choosing among studying or working young people. We would include all kinds of holidays, discos, dances, evenings, various social, cultural and sporting events, interesting meetings, etc. Here you can also use modern means of searching for a marriage partner: advertisements on the Internet, in the press, or specially organized evening meetings for those over 30, 40 years old, etc. At the same time, the low rate of use of these tools can be explained primarily by their underdevelopment and low popularity, and the unpreparedness of our citizens and public for such innovations. In fact, the extraordinary methods we have listed are mainly used by those people who experience certain difficulties in communication due to some circumstances (character, age, appearance, health) or cannot find it in their social circle.

- Places for future spouses to meet.

Now, let's look at the generally accepted places for future spouses to meet; the answers of our respondents are, of course, dominated by the following two complementary indicators- work (study), as well as all kinds of parties (weddings). They, in essence, are associated with the most interesting and eventful time in the lives of young people, when they successfully find their other half, those close to them in interests and views, age, education, social, professional and other factors. Our respondents ranked neighborhood in third place. This factor, as a rule, is preceded by a long acquaintance, starting in early childhood, at school, which then develops into a strong feeling. Close communication not only between young people, but also between their parents contributes to this mutual rapprochement of the parties. It is not for nothing that the Kazakhs and other ethnic groups have a saying: "A good neighbor is better than a distant relative." You see your neighbors all the time- daily, weekly, sharing joys and hardships, communicating on a daily basis, helping each other in various life circumstances and situations. This trend is especially noticeable in rural areas, less so in cities.

Respondents ranked the importance of another place in their answers as the next place. This could be a trip, vacation, walk, unplanned meeting, etc.

The respondents' answers are completed by a street, which can be located next to a house, a block, or in another part of a village, town or city. Such unplanned and unexpected meetings can over time develop not only into friendship, but also into something more.

Conclusion

Thus, the material we have reviewed shows that the choice of a marriage partner among the Kazakhs, as well as among other ethnic groups in contact with them, is diverse, in which both traditional and new trends are organically intertwined. The transfer of the decisive role in this matter to the prerogative of young people does not mean the removal of parents and their close relatives from participation in organizing the marriage of their son or daughter. In most cases, future newlyweds are informed of their decision to marry, receive their approval and coordinate most of their actions with them. The main motive for creating a future marital union is love, common spiritual interests and views.

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Political Studies

THE ROLE OF SOCIAL MEDIA IN POLITICAL CAMPAIGNS AND PUBLIC OPINION

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Abstract: This article explores the multifaceted role of social media in political campaigns and the molding of public opinion. We will delve into the statistical evidence and data-driven analysis that underpins the influence of these platforms on political awareness, polarization, and information dissemination. Through this examination, we aim to shed light on the opportunities and challenges that this digital revolution presents to modern democracies and political campaigns. The statistics and analysis presented will reveal a landscape where the influence of social media is undeniable, but where its impact requires nuanced understanding and vigilant scrutiny.

Key words: Social media, political campaign, public opinion, political awareness, democracies

1. INTRODUCTION

In the digital age, social media platforms have become an integral part of our daily lives, transforming the way we communicate, access information, and express our opinions. Beyond personal connections and cat videos, these platforms have assumed a far-reaching role in the realm of politics. The impact of social media on political campaigns and public opinion cannot be overstated. This article delves into this dynamic landscape, examining the significant influence, challenges, and opportunities presented by the marriage of politics and the online social sphere.

The intertwining of social media and politics is a defining feature of contemporary political landscapes across the globe. From the 2011 Arab Spring to the 2016 U.S. Presidential Election, social media platforms have demonstrated their prowess in shaping political narratives, mobilizing citizens, and, at times, sowing discord. As a conduit for information dissemination, a platform for political discourse, and a potent tool for political campaigns, social media has ushered in a new era of political engagement.

This significance is underscored by its transformative impact on public opinion, electoral outcomes, and even the very structures of democratic societies. It is a topic of concern, debate, and fascination for scholars, policymakers, political strategists, and everyday citizens. Understanding how social media shapes public opinion and, in turn, the political course of nations is paramount in the digital age.

2. STATISTICS AND DATA ANALYSIS

2.1. The Reach of Social Media in Politics

Social media has played an increasingly significant role in political campaigns in recent years. By 2021, there were billions of active social media users worldwide. Key platforms such as Facebook, Twitter, Instagram, and YouTube had become integral tools for political campaigns to reach and engage with voters.

Social media has had a profound impact on political engagement by:

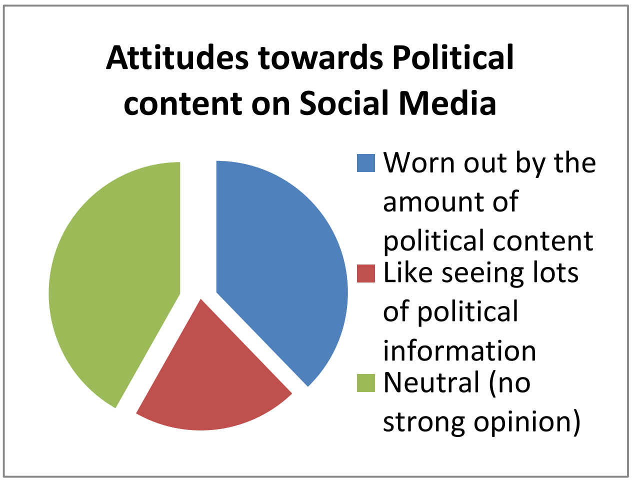
- Reach: Political candidates and parties can reach a wide audience quickly and inexpensively. This has allowed for rapid dissemination of information, policy proposals, and campaign messages.
- Engagement: Social media enables real-time interaction between politicians and the public. This has led to more direct and immediate engagement with constituents, including responding to questions, addressing concerns, and gauging public sentiment.
- Mobilization: Social media has been used to mobilize supporters, organize events, and get out the vote. Online campaigns can be effective at energizing volunteers and encouraging political participation.
- Information Dissemination: Social media has become a primary source of news and information for many users, which can significantly influence public opinion.

The demographic breakdown of social media users involved in politics can vary depending on the platform, region, and specific election. However, some general trends include:

- *Age:* Younger people tend to be more active on social media and are often engaged in political discussions. Older demographics are also increasingly using social media for political information.
- *Gender:* There is a fairly equal gender distribution among social media users involved in politics.
- *Income:* Users from various income brackets engage in political discourse on social media. However, social media can be especially effective for reaching younger and lower-income demographics.
- *Education:* Social media is a powerful tool for reaching educated individuals who often seek political information online.

A recent Pew Research Center survey of American adults reveals that political discourse is a common aspect of digital life for many social media users. While some politically engaged individuals appreciate the lively debates and engagement opportunities, a significant portion expresses frustration and irritation with the tone and content of political interactions on these platforms. These statistics from the Pew Research Center's survey highlight the mixed impact of social media on political engagement and the often contentious and polarized nature of

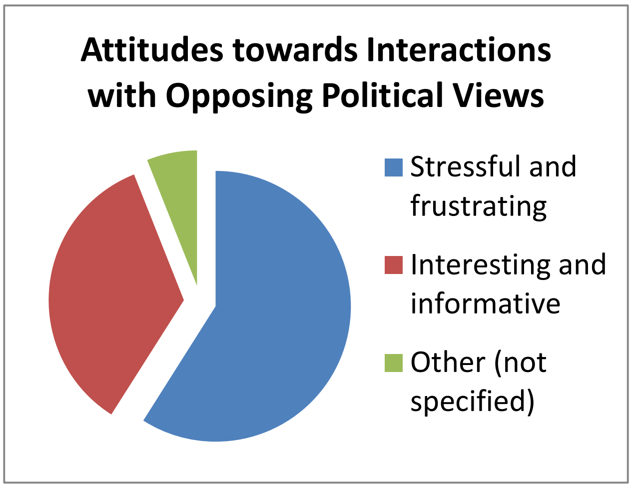
political discussions on these platforms. Key survey findings highlight these contrasting attitudes:



More than one-third (37%) of social media users are "worn out" by the amount of political content they encounter in their feeds.

- 41% of social media users don't feel
particularly strongly one way or the other about
the amount of political content they encounter on social media.

- 20% of social media users like seeing lots of political information.



Pie chart showing the distribution of attitudes towards interactions with opposing views, with segments for stressful frustrating, interesting and informative.
59 say their social media interactions with those with opposing political views are stressful and \ frustrating,while 35% find them interesting and informative.

These statistics from the Pew Research Center's survey highlight the mixed impact of social media on political engagement and the often contentious and polarized nature of political discussions on these platforms.

2.2. Social Media Campaign Strategies

In this modern world, political campaigns have harnessed the power of social media to engage with voters, convey messages, and influence public opinion. Various strategies have emerged, revolutionizing the way candidates connect with their constituents. Here, we'll delve into some key social media campaign strategies and provide examples of successful political campaigns that masterfully utilized these tactics.

Strategy	Description	Examples of Successful Campaigns
1. *Targeted Advertising*	Use data analytics to identify and reach specific demographics with tailored messages.	Barack Obama's 2012 campaign effectively used targeted Facebook ads to reach potential voters.
	Micro-targeting through platforms like Facebook and Google to focus on key swing states.	The Trump 2016 campaign utilized Facebook's ad targeting to reach potential supporters.
2. Hashtag Campaigns	Create and promote hashtags to increase visibility and engagement around specific topics.	#FeeltheBern during Bernie Sanders' 2016 and 2020 campaigns mobilized his supporters.

	Encourage supporters to use campaign-related hashtags, fostering community and discussion.	#BlackLivesMatter was central to discussions during the 2020 U.S. protests.
	Monitor and engage with the hashtag's conversations to maintain the campaign's presence.	#LoveIsLove in support of LGBTQ+ rights gained traction during the marriage equality debate.
3. Live Streaming	Stream live events, rallies, and Q&A sessions to connect with voters in real-time.	Kamala Harris and Joe Biden used live streams during their 2020 campaign events.
	Engage with the audience through comments and questions, creating a sense of community.	Alexandria Ocasio-Cortez has used live streaming on platforms like Instagram to connect with her constinuents.
	Provide an unfiltered view of campaign activities, making it more personal and transparent.	
4. User-Generated Content	Encourage supporters to create and share campaign-related content.	Supporters of Bernie Sanders generated memes and videos, which went viral and amplified his message.
	Leverage user-generated content for authenticity and reach among peer networks.	The "I Voted" sticker campaign encourages people to share their civic participation.
	Run contests or challenges to motivate supporters to create and share content.	
5. Influencer Collaborations	Partner with social media influencers who align with campaign values.	The Biden campaign collaborated with influencers and celebrities, like Taylor Swift, to encourage voter turnout.
	Influencers can amplify campaign messages to their substantial follower base.	Alexandria Ocasio-Cortez has worked with influencers to raise awareness about important issues.

These strategies have transformed political campaigns, making them more dynamic, interactive, and responsive to the ever-evolving digital landscape. The success of these tactics depends on the campaign's goals, its understanding of the target audience, and the execution of the strategy.

As the world continues to adapt to the digital era, the role of social media in shaping political campaigns and public opinion remains a fascinating and evolving narrative, and these strategies continue to be at the forefront of this transformation.

3. EFFECTS ON PUBLIC OPINION

3.1. The Role of Public Opinion: How Social Media Shapes Political Discourse?

In an era marked by the rapid dissemination of information, social media has emerged as a central player in shaping public opinion and influencing political landscapes. The digital town hall that social media platforms provide allows individuals to engage in political discourse, express their views, and, crucially, form and reform their opinions. In this article, we delve into the multifaceted role of social media in molding public opinion. Social media's impact on public opinion is profound and far-reaching. Here's a closer look at how it works:

- Information Dissemination: The speed at which news and political content can be shared on social media platforms exposes users to a wealth of information, affecting their understanding of political candidates and issues. In a matter of seconds, an event or a policy proposal can become a topic of national conversation.
- Persuasion and Advocacy: Political campaigns have become adept at using social media to sway public opinion. They employ engaging posts, compelling stories, and emotional appeals to influence the way voters perceive candidates and issues. The digital campaign trail has become a battleground for winning the hearts and minds of the electorate.
- Voter Engagement: What sets social media apart from traditional forms of media is the direct interaction it facilitates. Voters can engage with political candidates and representatives through comments, live Q&A sessions, and even direct messaging. This direct access creates a sense of connection between voters and politicians that was previously unparalleled.
- Political Mobilization: Beyond just providing information, social media platforms are powerful tools for mobilizing supporters. Campaigns can rally supporters around causes, events, and rallies, turning online enthusiasm into real-world political action.

While social media serves as a rich source of information, it also poses its own set of challenges:

- Viral Content: The viral nature of social media means that content with a strong emotional, sensational, or provocative element often gets more attention. Viral content can significantly impact public opinion by amplifying specific issues or events. However, it also has the potential to distort perceptions by favoring sensationalism over facts.
- Fake News: The spread of misinformation, commonly known as "fake news," is a significant concern. False or misleading information can manipulate public perception, influence decisions, and even undermine trust in political institutions. Separating fact from fiction in the age of social media has become a paramount challenge.
- Echo Chambers: Social media platforms' algorithms are designed to show users content that aligns with their existing beliefs. This creates echo chambers where individuals are continually exposed to like-minded opinions, reinforcing their existing views. This polarization of opinions can lead to divisiveness and hinder constructive political discourse.

However social media engagement can play a substantial role in determining the outcomes of elections. For example, candidates who successfully engage and mobilize supporters on social media may witness a boost in voter turnout and overall support. A well-timed post or compelling video can rally voters. Social media provides candidates with immediate feedback from voters. They can gauge public sentiment and adjust their strategies accordingly. This real-time feedback loop enables campaigns to adapt quickly to changing circumstances. At the same time campaigns employ data analytics to deliver personalized messages to specific demographics, which can significantly influence undecided voters. Micro-targeting and personalized ads have become essential tools in modern campaigns.

Several elections around the world have underscored the pivotal role of social media, let’s have a closer look:

- 2016 U.S. Presidential Election: This election demonstrated both the positive and negative effects of social media, with its influence on voter turnout and the dissemination of campaign messages.
- 2020 U.S. Presidential Election: The Biden campaign leveraged social media effectively for fundraising and engagement, particularly during the pandemic when in-person events were limited.
- Brexit Referendum (2016): The Brexit campaign used social media to reach voters, influence opinions, and generate support for the leave vote.
- Indian General Elections (2019): Indian politicians harnessed social media extensively, directly engaging with millions of voters and shaping public opinion.

As we see, social media's role in shaping public opinion is undeniable. It serves as a powerful tool for information dissemination, persuasion, and mobilization, but it also presents significant challenges, such as the spread of misinformation and the creation of echo chambers. The connection between social media engagement and election results underscores the transformative impact of these platforms on the political landscape. As we move forward, understanding and regulating social media's role in shaping public opinion will remain a crucial aspect of modern politics.

3.2. Case Studies: The Impact of Social Media on Political Campaigns

In the ever-evolving landscape of modern politics, social media has proven to be a game-changer. Let's examine real-world case studies of political campaigns and movements that have either leveraged social media effectively or faced setbacks due to it.

1. The Arab Spring (2010-2012): The Power of Social Media in Uprising

The Arab Spring is a prime example of how social media can catalyze a transformative political movement. Across the Middle East and North Africa, social media platforms played a pivotal role in coordinating protests, sharing information, and galvanizing citizens. The movement demonstrated the ability of social media to mobilize mass populations and challenge entrenched political regimes. While this represents the positive side of social media's influence, it also underscored the challenges of sustaining political change after the initial upheaval.

2. Barack Obama's Presidential Campaign (2008 & 2012): Social Media as a Campaign Tool

Barack Obama's presidential campaigns in 2008 and 2012 revolutionized the use of social media in politics. His campaigns harnessed platforms like Facebook, Twitter, and YouTube to mobilize supporters, fundraise, and disseminate messages. The "Yes We Can" video on YouTube went viral, encapsulating the power of online video content. The successful use of targeted ads and grassroots mobilization through social media contributed significantly to his victories. It demonstrated how social media could be a driving force behind election wins.

3. Cambridge Analytica Scandal (2018): Misuse of Social Media Data

The Cambridge Analytica scandal exposed the dark underbelly of social media in politics. The political consulting firm harvested the data of millions of Facebook users without their consent to create psychographic profiles for political campaigns. This misuse of personal data demonstrated how social media can be exploited to manipulate public opinion, raising concerns about data privacy, ethics, and the unchecked power of social media platforms.

4. Brexit Referendum (2016): The Role of Social Media in Divisive Campaigns

The Brexit campaign in the United Kingdom made extensive use of social media to reach voters and shape opinions. While it was successful in mobilizing a substantial base of supporters, it also amplified divisions within the country. Misinformation and divisive narratives spread on social media platforms, further polarizing public opinion. The Brexit referendum highlighted the challenges of regulating and fact-checking content in a social media-dominated political landscape.

5. Narendra Modi's Election Campaigns (2014 & 2019): Online Engagement and Outreach

Narendra Modi's election campaigns in India have showcased how social media can be used for effective voter outreach. Modi actively engaged with citizens on platforms like Twitter and Facebook, connecting with a broad and diverse electorate. Social media played a significant role in his victory, enabling direct communication with voters and mobilization.

These case studies underline the diverse and profound impact of social media in politics. While it can be a powerful tool for mobilization and engagement, it also raises concerns about privacy, misinformation, and polarization. The case of the Arab Spring demonstrates how it can spark mass movements, while the Cambridge Analytica scandal underscores the ethical challenges. Barack Obama's campaigns show how it can lead to electoral success, while Brexit and Modi's campaigns reveal the potential for division and polarization. As social media continues to shape the political landscape, it remains a topic of ongoing debate and scrutiny.

CONCLUSION

In the digital age, social media platforms have become an integral part of our daily lives, transforming the way we communicate, access information, and express our opinions. Beyond personal connections and cat videos, these platforms have assumed a far-reaching role in the realm of politics. The impact of social media on political campaigns and public opinion cannot be overstated. This article delves into this dynamic landscape, examining the significant influence, challenges, and opportunities presented by the marriage of politics and the online social sphere.

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As social media continues to shape the political landscape, it remains a topic of ongoing debate and scrutiny. In the digital age, the ever-evolving role of social media in politics is not just a facet of the political landscape—it is a driving force, one that demands attention, understanding, and responsible use. The profound and far-reaching impact of social media on political campaigns and public opinion is not to be underestimated, and its influence will only continue to evolve in the years to come.

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Economic Science

THE ROLE OF INTERNATIONAL MONETARY FUND (IMF) IN POST-CRISIS ECONOMIC RECOVERY: A COMPARATIVE ANALYSIS OF DIFFERENT REGIONS

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Abstract

This article presents a comprehensive examination of the International Monetary Fund's (IMF) involvement in post-crisis economic recovery across various regions. Through a comparative analysis, it delves into the historical evolution of the IMF, its lending programs and financial assistance, critiques and challenges, and potential reforms. The study highlights key findings from Latin America, Asia, Africa, and Europe, revealing the diverse outcomes of IMF interventions and the need for region-specific recovery strategies. It emphasizes the enduring significance of the IMF in global economic stability and underlines the importance of continued research and international cooperation in addressing complex financial crises. The article serves as a valuable resource for policymakers, scholars, and practitioners seeking to understand the multifaceted role of the IMF in the evolving global economic landscape.

Keywords: international monetary fund (IMF), post-crisis economic recovery, comparative analysis, regional variations, financial assistance

Introduction

The International Monetary Fund (IMF) is a prominent institution in the realm of global finance, playing a pivotal role in shaping the economic destinies of nations across the world. Established in 1944 at the United Nations Monetary and Financial Conference (commonly known as the Bretton Woods Conference), the IMF was conceived with the overarching objective of fostering international monetary cooperation, promoting exchange rate stability, facilitating the expansion of international trade, and providing resources to member countries in need.

At its core, the IMF is a specialized agency of the United Nations system, dedicated to fostering global monetary and financial stability. It achieves this through a variety of means, including offering financial assistance to countries facing balance of payments problems, providing policy advice and technical assistance, conducting economic surveillance, and playing a critical role in crisis prevention and management. The IMF's resources, its expert staff, and its formidable reach make it a linchpin of international financial cooperation. Its policies and interventions touch the lives of billions, impacting everything from currency exchange rates to national fiscal policies and social welfare programs [1, p.77].

The significance of the IMF extends well beyond its technical functions. It is a symbol of the interconnectedness of the modern global economy, where the fortunes of one nation can reverberate worldwide. Through its policy recommendations, financial programs, and economic assessments, the IMF wields substantial influence over the fiscal and monetary policies of its member states. It's a reflection of the belief in cooperation over competition in the international arena, emphasizing that challenges like financial crises cannot be faced effectively in isolation.

The global economic landscape has seen remarkable transformations over the past century. The integration of economies, increased trade, technological advances, and the free flow of capital have created a complex and interdependent network of financial relationships. While these changes have brought unparalleled growth and prosperity to many regions, they have also heightened the susceptibility of economies to financial crises.

Financial crises come in various forms, from banking crises and currency crises to debt crises and sovereign default. They have the potential to unleash devastating economic, social, and political consequences, impacting both developed and developing nations. From the Asian Financial Crisis in 1997 to the more recent Eurozone debt crisis and the challenges posed by the COVID-19 pandemic, these events underscore the interconnectedness and vulnerability of the global financial system.

Understanding the IMF's role in post-crisis economic recovery is crucial in this context. Its interventions and policies have had profound and often contentious implications for nations attempting to emerge from the ashes of financial turmoil. By examining the comparative effectiveness of the IMF's involvement across different regions, we can gain insights into the evolving role of international financial institutions in the face of an ever-changing economic landscape.

The IMF's Historical Evolution

The International Monetary Fund (IMF) has undergone a fascinating historical evolution since its establishment in the mid-20th century. This evolution has seen the institution evolve from its original mandate to adapt to changing economic dynamics and the shifting needs of the global community.

At its founding during the Bretton Woods Conference in July 1944, the world was emerging from the chaos and devastation of World War II. The global monetary system was in disarray, characterized by a collapse of the gold standard and a resulting severe lack of exchange rate stability. It was in this context that the IMF was born.

The primary objectives of the IMF at its inception were to promote exchange rate stability, provide financial assistance to member countries facing balance of payments problems, and prevent competitive currency devaluations that had exacerbated the Great Depression.

Over the decades, the IMF has achieved several key milestones that have shaped its role and functions. One significant shift came in the early 1970s when the Bretton Woods system collapsed, and many countries moved to floating exchange rates. This shift necessitated a reorientation of the IMF's objectives, as its emphasis on fixed exchange rates was no longer tenable [1, p.82].

Another milestone was the significant expansion of the IMF's membership. From 44 member countries at the beginning, the institution now encompasses nearly 200 member states, representing a substantial portion of the global economy.

The IMF's role evolved further as it became increasingly involved in responding to financial crises. It provided financial assistance and policy advice to countries in distress, such as during the Latin American debt crisis in the 1980s and the Asian Financial Crisis in the late 1990s.

In the 2000s, the IMF introduced debt relief programs for heavily indebted poor countries, recognizing the need for comprehensive debt relief to facilitate economic development. The institution also expanded its role in economic surveillance and policy advice, offering recommendations to member countries on a wide range of economic and fiscal matters.

Moreover, the IMF has adapted to the criticisms and changing dynamics of the global economy. It has shifted from rigid austerity measures to emphasizing the importance of growth-oriented policies, acknowledging that sustainable growth is essential for economic stability. The

IMF has also taken on new responsibilities, addressing global challenges like climate change, income inequality, and financial regulation, reflecting the evolving issues of the 21st century.

In response to the challenges of a rapidly changing world, the IMF has improved its surveillance efforts, providing more nuanced analyses of economic vulnerabilities and global trends. Additionally, it has embraced multilateralism, encouraging closer coordination among member countries to address global economic issues.

The IMF's historical evolution showcases its capacity to adapt and remain relevant in a changing world. Its development not only mirrors the transformation of global finance but also underscores the institution's commitment to addressing the dynamic and complex challenges of the international economic system.

IMF programs and financial assistance

The International Monetary Fund (IMF) plays a pivotal role in the global financial landscape through its lending programs designed to aid member countries confronting economic crises. These programs serve as the cornerstone of the IMF's mission to stabilize economies and facilitate recovery in nations grappling with balance of payments problems.

In providing financial assistance, the IMF offers a range of lending programs, each tailored to the specific needs and circumstances of its member countries. These programs can be broadly categorized into three primary types, each serving distinct objectives and timeframes.

Stand-By Arrangements (SBAs) are typically short- to medium-term lending programs that aim to provide financial assistance to countries dealing with temporary balance of payments issues. Their purpose is to stabilize the economy and support recovery during times of crisis.

The Extended Fund Facility (EFF) focuses on countries that face prolonged balance of payments difficulties. It offers longer-term financial assistance geared toward supporting structural reforms and addressing underlying economic vulnerabilities that may be impeding recovery [4, p.1].

Structural Adjustment Programs (SAPs) are comprehensive initiatives that combine financial assistance with stringent policy conditionality. Their objective is to tackle macroeconomic imbalances and address structural weaknesses within a country's economy. These programs often require far-reaching policy adjustments, spanning fiscal and monetary measures to structural reforms in areas such as trade, taxation, and public administration.

To access disbursements under these lending programs, member countries must adhere to a set of conditions and requirements. These conditions are typically centered around macroeconomic policies and structural reforms essential for stabilizing the economy and fostering long-term growth. Key aspects of these conditions encompass policy measures, performance criteria, ownership and commitment, and social safeguards.

Policy measures require member countries to implement a series of actions addressing the root causes of their balance of payments problems. These actions can encompass fiscal consolidation, monetary policy adjustments, and structural reforms in areas critical to the country's economic health.

Performance criteria, on the other hand, establish predefined targets that countries must meet to access program disbursements. These criteria ensure that nations are making progress toward the objectives set forth in the program, and failure to meet them can lead to disbursement interruptions.

In addition, national ownership of the reform process is deemed crucial. The IMF expects member countries to demonstrate a strong commitment to the program's objectives, as it plays a pivotal role in determining the program's success [4, p.4].

Recognizing the potential adverse social and economic consequences of policy adjustments, the IMF has increasingly integrated social safeguards into its programs to mitigate the impact of these adjustments on vulnerable populations.

However, despite the IMF's intent to stabilize economies and promote recovery, its lending programs have not been without criticism and controversy. Some common critiques involve the association of these programs with austerity measures, social impacts prioritizing economic stabilization over social welfare, perceived lack of democratic accountability in the IMF's decision-making process, and concerns that IMF-imposed conditions may infringe upon a country's economic and political sovereignty. The IMF has taken steps to address these criticisms over time, with a shift towards growth-oriented policies and the incorporation of social safeguards into its programs. Nonetheless, debates surrounding the IMF's role in economic recovery continue to shape discussions on global economic governance and international financial assistance.

Comparative analysis of post-crisis economic recovery

The International Monetary Fund (IMF) has played a significant role in post-crisis economic recovery across various regions. A comparative analysis of the IMF's involvement in different parts of the world reveals diverse experiences and outcomes.

Latin America and the IMF:

Latin America has had a long and complex relationship with the IMF. The region has faced numerous economic crises, and the IMF has often played a prominent role in providing financial assistance and policy advice.

Historically, Latin America has seen several economic crises, such as the debt crisis of the 1980s. During this period, countries like Mexico, Argentina, and Brazil turned to the IMF for support. The IMF provided loans in exchange for structural adjustment programs aimed at stabilizing their economies [2, p.1].

The impact of IMF involvement in Latin American crises has been mixed. While IMF programs have contributed to short-term stability by addressing balance of payments problems and fiscal issues, they have also been criticized for their social and economic costs. Austerity measures associated with these programs often led to social unrest and inequality, and in some cases, the long-term recovery remained elusive.

Asia and the IMF:

The Asian Financial Crisis of 1997 was a significant event in the region, and the IMF played a critical role in addressing the crisis and its aftermath.

During the Asian Financial Crisis, countries like Thailand, Indonesia, and South Korea sought IMF assistance. The IMF provided financial support with conditions requiring fiscal and monetary reforms. This support helped stabilize currency markets and address financial imbalances.

The Asian countries that received IMF assistance saw varying degrees of recovery. Some countries rebounded relatively quickly, while others faced longer-term challenges. Lessons from this crisis led to greater regional cooperation, and many Asian nations bolstered their foreign exchange reserves to prevent future crises.

Africa and the IMF:

Africa has confronted its unique set of economic challenges, including the debt crisis of the 1980s, which led to significant IMF involvement in the region.

African countries like Nigeria, Zambia, and Ghana entered into IMF programs during the debt crisis. The IMF offered financial assistance in exchange for structural adjustment programs that included fiscal and monetary reforms, as well as liberalization of economies.

The effectiveness of structural adjustment programs in Africa remains a topic of debate. While some countries experienced short-term stability and economic growth, critics argue that these programs had negative social and economic impacts, including austerity measures that affected the most vulnerable populations. In more recent years, the IMF has shifted its focus towards growth-oriented policies and increased attention to social safeguards in African programs.

Europe and the IMF:

The Eurozone debt crisis, which began in the late 2000s, posed unique challenges for European countries, and the IMF was drawn into addressing these crises.

Countries like Greece, Portugal, and Ireland sought IMF assistance during the Eurozone debt crisis. The IMF collaborated with the European Central Bank and the European Commission in providing financial support and policy conditions to restore fiscal stability.

The Eurozone debt crisis highlighted differences in the approaches taken by countries and the IMF. Greece, for example, faced severe austerity measures, while Ireland took a more growth-oriented approach. The recovery outcomes differed as well, with some countries experiencing protracted economic challenges.

In sum, the IMF's role in post-crisis economic recovery has varied across regions. While its interventions have provided essential financial support and policy guidance, they have also been criticized for their social and economic costs. The effectiveness of IMF programs in different regions has depended on a range of factors, including the severity of the crisis, the nature of policy conditions, and the commitment of member countries to implementing reforms. These experiences provide valuable insights into the complexities of international financial assistance and the evolving role of the IMF in a rapidly changing global economy [2, p.6].

IMF's evolving approach to post-crisis recovery

The International Monetary Fund (IMF) has adapted its policies and practices over time in response to the changing landscape of post-crisis economic recovery. This evolution reflects a more nuanced understanding of the complexities involved in supporting nations in their recovery efforts.

The IMF's approach to post-crisis recovery has evolved significantly since its establishment. In its early years, the IMF primarily focused on promoting exchange rate stability, often through fixed exchange rate systems like the Bretton Woods arrangement. This approach later transitioned to advocating for fiscal and monetary orthodoxy [3, p.60].

Over time, the IMF recognized the limitations of these earlier approaches, as they sometimes exacerbated social and economic issues. The organization began to acknowledge the importance of considering a broader set of factors in post-crisis recovery, including the social and environmental impact of its programs. There was also a growing recognition of the need for more country-specific and context-sensitive policies.

One of the most significant shifts in the IMF's approach has been the move away from austerity measures towards more growth-oriented policies. Historically, many IMF programs involved implementing austerity measures like fiscal consolidation and reduced public spending. These policies were intended to address fiscal imbalances and stabilize economies but often came at the cost of social welfare and economic growth.

In response to criticisms and lessons learned from past crises, the IMF has increasingly emphasized the importance of a balanced approach. It recognizes that fiscal consolidation alone may not be sufficient for sustainable recovery. Instead, it encourages countries to prioritize inclusive growth, job creation, and social safety nets. This change in approach acknowledges that economic recovery should not come at the expense of social well-being.

Evaluating the impact of these changes on recovery outcomes:

The impact of these changes in the IMF's approach to post-crisis recovery is a subject of ongoing evaluation and debate. Proponents argue that the shift toward growth-oriented policies has had a positive impact by reducing the social costs of recovery programs and contributing to more sustainable economic outcomes. It aligns more closely with the United Nations Sustainable Development Goals (SDGs) and the idea that economic recovery should not come at the expense of social and environmental sustainability [3, p.62].

Critics, however, contend that the shift hasn't gone far enough and that the IMF still imposes conditions that prioritize economic stability over social welfare. They argue that more profound structural reforms are needed to ensure that recovery programs address root causes and promote inclusive growth.

In conclusion, the IMF's evolving approach to post-crisis recovery reflects a growing awareness of the complexities involved in supporting nations through challenging economic times. While there has been a shift away from austerity towards more growth-oriented policies, the effectiveness of these changes remains a subject of ongoing evaluation and discussion. As the IMF continues to adapt to the evolving needs of its member countries, the focus on balanced, inclusive, and sustainable recovery will likely remain a central theme in its policies and practices.

Criticisms and challenges

The International Monetary Fund (IMF), as a major player in global finance, is not immune to criticism and challenges in its role in post-crisis economic recovery. These criticisms and challenges encompass several key dimensions.

One persistent and fundamental concern is the perception that IMF interventions infringe upon the economic and political sovereignty of its member countries. This is primarily because IMF assistance often comes with policy conditionality. In essence, countries receiving financial support are required to implement specific reforms and policies as part of the deal. This has led to arguments that the IMF's involvement limits a nation's capacity to make independent policy choices and undermines its sovereignty.

Moreover, there is criticism of a perceived democratic deficit within the IMF's decision-making structure. Some argue that influential decisions are primarily influenced by a small group of powerful member countries, particularly those contributing the most capital to the IMF. This leaves less influential nations with limited influence over the policies and direction of the institution.

Another criticism lies in the IMF's historical approach, which has been criticized for its apparent one-size-fits-all strategy. The organization has often applied similar policy prescriptions across various countries and crises, irrespective of the unique economic, political, and social contexts of each nation. Critics contend that this uniform approach does not consider individual nations' distinctive circumstances and needs, potentially exacerbating crises rather than facilitating recovery.

The IMF's interventions have significant social and political implications that are a subject of frequent critique.

Austerity measures, which have often been associated with IMF interventions, entail reductions in public spending and social services aimed at restoring fiscal stability. Critics argue that these measures can result in diminished public welfare and even social unrest. The reduction in public services like healthcare and education can disproportionately affect vulnerable populations.

Moreover, IMF programs, particularly those emphasizing fiscal consolidation, have been linked to income inequality. The burden of economic reforms, which often include cuts in social safety nets and public sector jobs, can fall disproportionately on the most vulnerable, exacerbating disparities within society.

These social and economic consequences can have political implications. The implementation of austerity measures and the associated erosion of public support for governments can lead to political instability and change, potentially affecting the stability of nations [1, p.5].

The effectiveness of the IMF's interventions varies by region, contributing to regional disparities in economic recovery.

These inequities raise concerns about fairness and equity. Regions that experience more successful outcomes may leave others lagging behind, exacerbating global disparities in economic well-being.

A key focus is the impact of the IMF's involvement in developing economies. Critics argue that the institution's policies have, in some instances, hindered the development of these countries by undermining their ability to achieve long-term economic stability and growth.

The availability of alternative sources of financing also influences the effectiveness of the IMF's interventions. Nations with access to alternative funding may be less dependent on the IMF, while smaller or less creditworthy nations may have no option but to comply with IMF conditions.

In sum, the IMF, while playing a central role in post-crisis economic recovery, faces substantial criticisms and challenges that touch upon the fundamental issues of sovereignty, the social and political consequences of its interventions, and the regional variations in its effectiveness. Addressing these concerns and adapting to the evolving complexities of the global economic landscape remain ongoing challenges for the institution.

Future prospects and recommendations

As the International Monetary Fund (IMF) continues to be a significant player in the global economic landscape, the future holds both opportunities and challenges. To enhance its effectiveness in post-crisis economic recovery, a series of potential reforms and recommendations can be considered.

Potential reforms for the IMF:

- Greater accountability and transparency - To address the criticisms of a perceived democratic deficit, the IMF could take steps to improve its governance structure. This might involve increasing the representation of emerging economies within the institution and fostering greater transparency in its decision-making processes. By doing so, the IMF can create a more inclusive and accountable framework.
- Adaptive conditionality - Recognizing that uniform, one-size-fits-all policies may not be suitable for diverse economic contexts, the IMF can work on refining its approach to conditionality. Customized and adaptive conditionality that takes into account the unique needs and circumstances of each country can be more effective in fostering sustainable recovery.
- Social safeguards - To address concerns about the social consequences of its programs, the IMF can further strengthen its commitment to social safeguards. This entails a careful consideration of the social impacts of policy measures and measures to protect the most vulnerable populations during the recovery process [5, p.4].

Strengthening regional cooperation and alternatives:

- Regional financial safety nets: Encouraging regional financial cooperation and the establishment of regional financial safety nets can reduce dependency on the IMF. These regional mechanisms can provide swift responses to crises, taking into account the specific dynamics of a particular region. They can complement the IMF's efforts and offer more targeted solutions.
- Promoting regional integration: The IMF can actively promote initiatives that foster economic integration and cooperation within regions. This can reduce the vulnerability of individual countries to financial crises, as economic integration often results in enhanced regional stability.

- Alternative funding sources: Diversifying sources of financing is essential to reduce reliance on the IMF. This diversification may involve encouraging countries to develop domestic capital markets, facilitating access to international financial markets, and exploring innovative financing mechanisms.

Economic recovery should not merely be about achieving fiscal stability; it should also prioritize inclusive growth. The IMF can advocate for policies that ensure the benefits of economic growth are shared among all segments of society, thus reducing income inequality and fostering social stability.

As the world faces pressing environmental challenges, the IMF can integrate environmental considerations into its programs. Supporting green investments and environmentally responsible policies align with the long-term economic stability agenda and contribute to global sustainability efforts [5, p.8].

Collaborating with other international organizations, such as the World Bank and the United Nations, can facilitate the integration of social and environmental goals into economic recovery programs. Multilateral cooperation can ensure that the recovery process is not only economically stable but also socially inclusive and environmentally responsible.

In summary, the IMF's role in post-crisis economic recovery is pivotal, and it can further enhance its effectiveness through the consideration of potential reforms and recommendations. By focusing on greater accountability and transparency, adaptive conditionality, and social safeguards, the IMF can address sovereignty concerns and improve its approach to crisis recovery. Strengthening regional cooperation, promoting alternative financing sources, and advancing regional integration can reduce dependency on the IMF. Lastly, a balanced approach to recovery that takes into account social and environmental considerations can contribute to a more sustainable and inclusive global economic growth. These recommendations reflect the evolving challenges and complexities of the global economic landscape [5, p.12].

Conclusion

The role of the International Monetary Fund (IMF) in post-crisis economic recovery is multifaceted, and a comprehensive understanding of its impact and potential improvements can be drawn from the comparative analysis of different regions. This examination reveals key insights and considerations for the future.

The comparative analysis of IMF involvement in Latin America, Asia, Africa, and Europe provides several key findings:

- Latin America's complex relationship with the IMF underscores the mixed impact of IMF interventions, with programs often achieving short-term stability at the cost of social and economic hardship.
- The Asian Financial Crisis of 1997 showcased the IMF's role in stabilizing currency markets but also highlighted regional variations in recovery outcomes.
- In Africa, the effectiveness of IMF structural adjustment programs has been debated, emphasizing the need for growth-oriented and socially conscious policies.
- The Eurozone debt crisis illustrated the diverse strategies and outcomes of IMF interventions, indicating that the IMF's role varies by country and crisis severity.

The IMF's role in post-crisis recovery remains pivotal. Despite criticism and challenges, the institution's financial assistance and policy guidance have been instrumental in stabilizing economies and facilitating recovery. The IMF's ability to adapt and reform its policies is essential in ensuring its continued relevance. Its enduring role in the global financial landscape depends on its capacity to balance economic stability with social well-being and environmental sustainability.

As financial crises evolve and become increasingly complex, the need for ongoing research and global cooperation is paramount. Research must drive policy improvements, taking into account the social, economic, and environmental dimensions of recovery. Multilateral collaboration among international organizations, nations, and regions is essential in addressing the challenges posed by economic crises. The IMF's success in promoting global economic stability relies on its ability to foster coordination and innovation in the face of an ever-changing economic landscape.

In summary, the IMF's role in post-crisis economic recovery is essential, but it is not without its challenges and critiques. As we look to the future, potential reforms, regional cooperation, and a balanced approach to recovery are critical. With ongoing research and global cooperation, the IMF can continue to adapt and play a pivotal role in addressing financial crises and promoting sustainable, inclusive, and stable global economic growth.

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SUPPORT OF NON-RAW RESOURCE EXPORTS OF THE REPUBLIC OF KAZAKHSTAN: PARTICIPATION IN GLOBAL VALUE CHAINS

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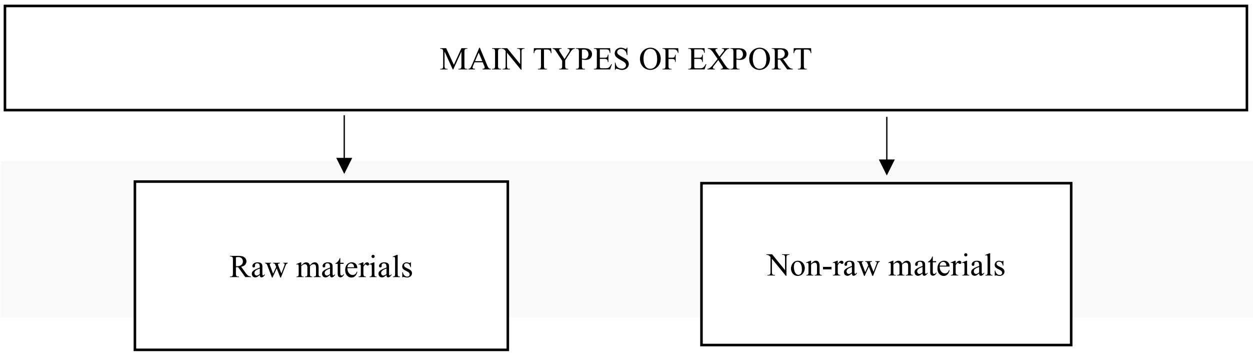
Abstract.
The article discusses the importance of developing export activities of the Republic of Kazakhstan. The authors describe the main types of exports. Government measures to support Kazakh exporters are shown. The importance of non-raw resource exports of the Republic of Kazakhstan, features of its support, as well as the possibilities of participation in global value chains are analyzed.
Keywords: global value chains, export, g non-raw resource exports, overnment support, foreign trade activities, export activities, economic integration.

International economic integration in modern conditions is constantly increasing. The Republic of Kazakhstan is also actively participating in this process, which actualizes the importance of foreign trade activities, because it is this that ensures the national security and competitiveness of the state. At the same time, despite the need to develop export activities, this development should occur through qualitative changes and stimulation, first of all, of non-resource exports.

Export is a type of foreign economic activity that involves the sale of raw materials, goods and services to foreign partners in order to make a profit. Not only individual companies, but also states are interested in stimulating and developing exports. Foreign trade relations are certainly important for the economies of states. As a supplier of goods and services to international markets, the country demonstrates its competitiveness and shows itself as a reliable partner with whom long-term, trusting relationships can be built. All export operations are controlled by the relevant government authorities and are carried out in accordance with the customs legislation of the exporting country, since the implementation of export operations occurs at the moment the goods cross the state border, the provision of services to a foreign partner, and the transfer of rights to intellectual property results.

There are many classifications of exports. Its main types are presented in Figure 1.

Figure 1 – Main types of exports

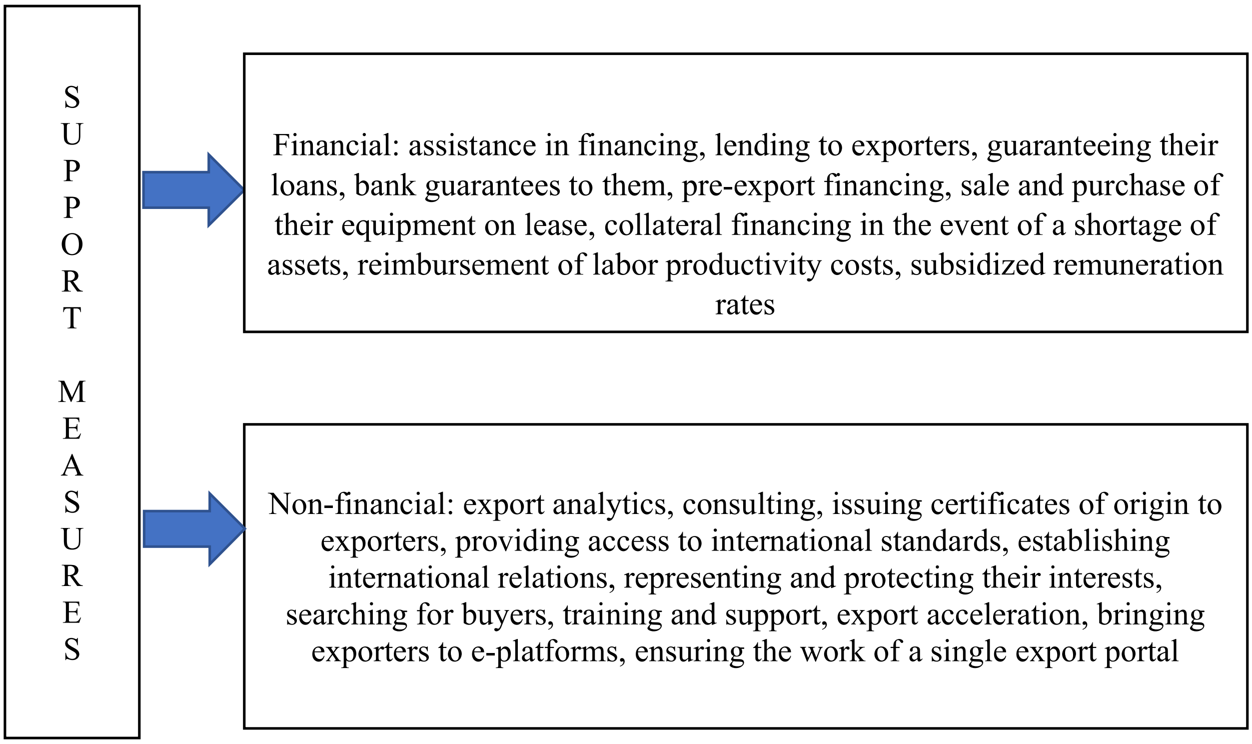


Compiled by the authors

In turn, raw material exports are divided into non-energy and energy. Non-energy commodities are the primary products of crop production, as well as materials found in and extracted from the natural environment. Non-commodities are either energy or non-energy. In addition, they are divided according to the degree of processing into low, medium and high processing (or high-tech).

All types of exports in the Republic of Kazakhstan are provided with state support. Its main measures are shown in Figure 2. However, special importance is given to non-resource exports.

Figure 2 – Main government measures to support Kazakh exporters



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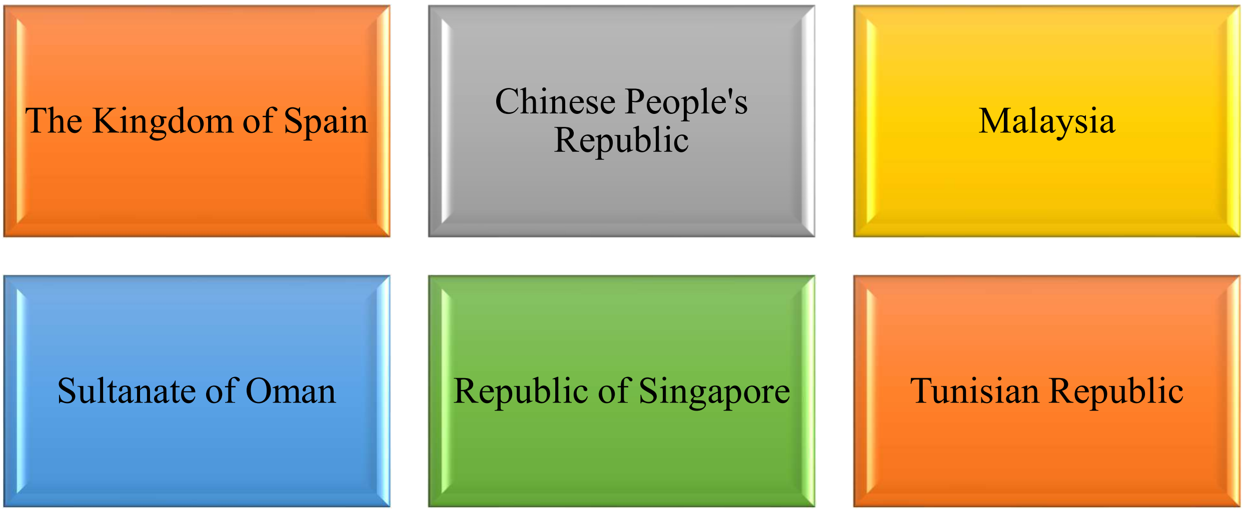
State support for exporters in the field of foreign trade activities includes a set of financial and non-financial measures implemented through national institutions for assistance in the establishment and development of foreign economic relations. Various government structures and bodies are working on the development of export activities: ministries, national institutions, public organizations and foundations. They carry out their work taking into account the specifics of the national export strategy. In general, government support measures lead to an increase in the effectiveness of export activities of the Republic of Kazakhstan.

Particular attention is paid to supporting non-resource exports. In his Address to the people of Kazakhstan dated September 1, 2020, "Kazakhstan in a new reality: time for action", Head of State Kassym-Jomart Tokayev notes: "I instruct the Government to launch an export acceleration program aimed at medium-sized non-resource enterprises to provide targeted support from idea to result" [1]. In this regard, Kazakhstan is implementing programs aimed at supporting and training promising representatives of small and medium-sized businesses to enter international markets. By 2025, more than a thousand active exporting companies should appear in our country. First of all, the focus is on the countries of Central Asia, the UAE, Saudi Arabia, Uzbekistan, Azerbaijan, China, Russia, and involves further expansion. This applies to both goods and services.

The most promising areas of non-resource exports of Kazakhstan are shown in Figure 3.

Figure 3 – List of countries with a promising strategy for the development of non-resource exports



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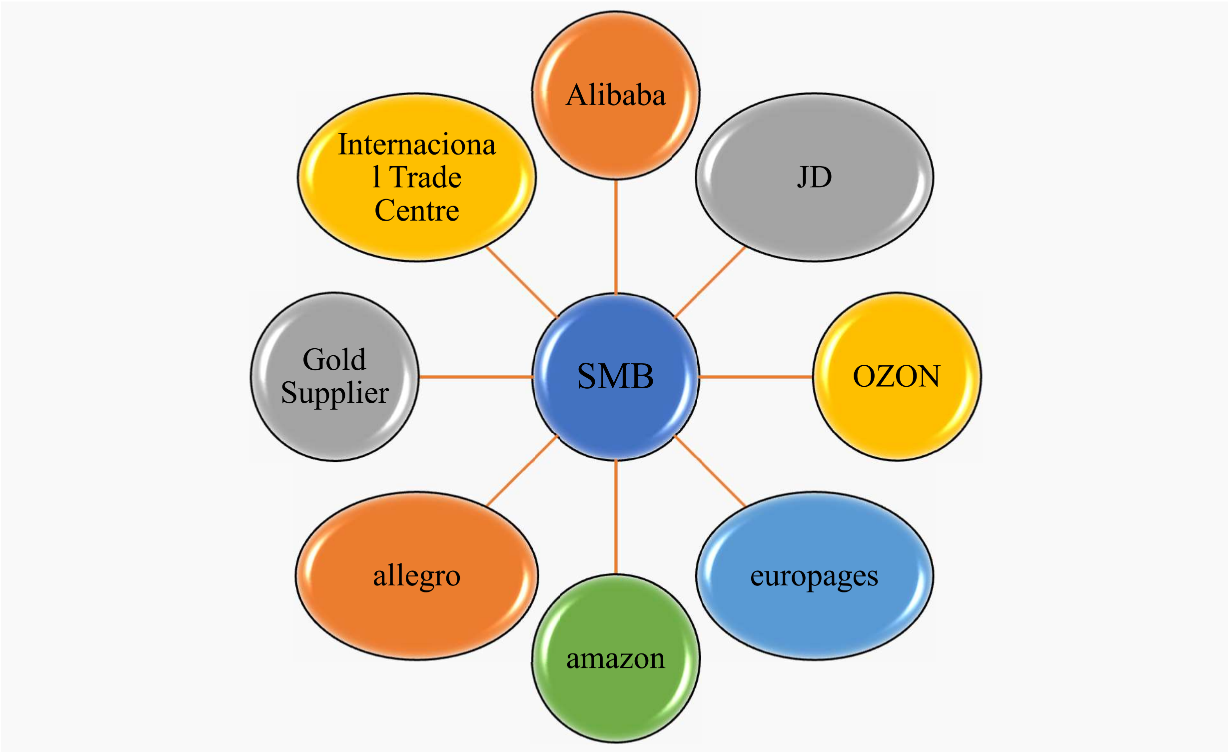
Of particular relevance is the promotion of Kazakh exporters of non-commodity goods on electronic trading platforms. They are shown in Figure 4.

Figure 4 – International trading platforms for the non-resource sector of small and medium-sized businesses in Kazakhstan



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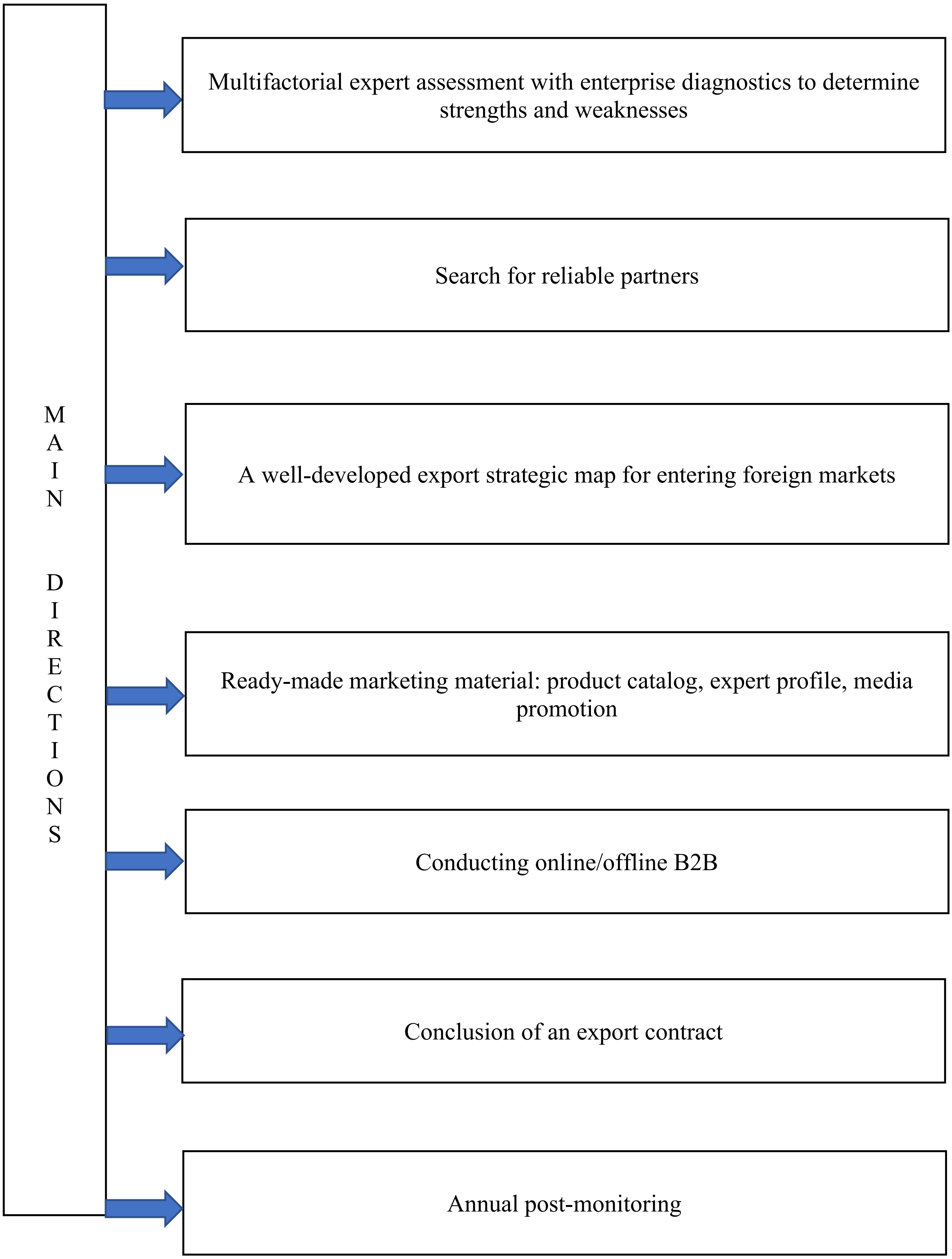
Kazakhstan has developed many areas of support for small and medium-sized businesses engaged in export activities in the production of non-raw materials. The main ones are presented in Figure 5.

Figure 5 – Main areas of support for non-resource exports in Kazakhstan



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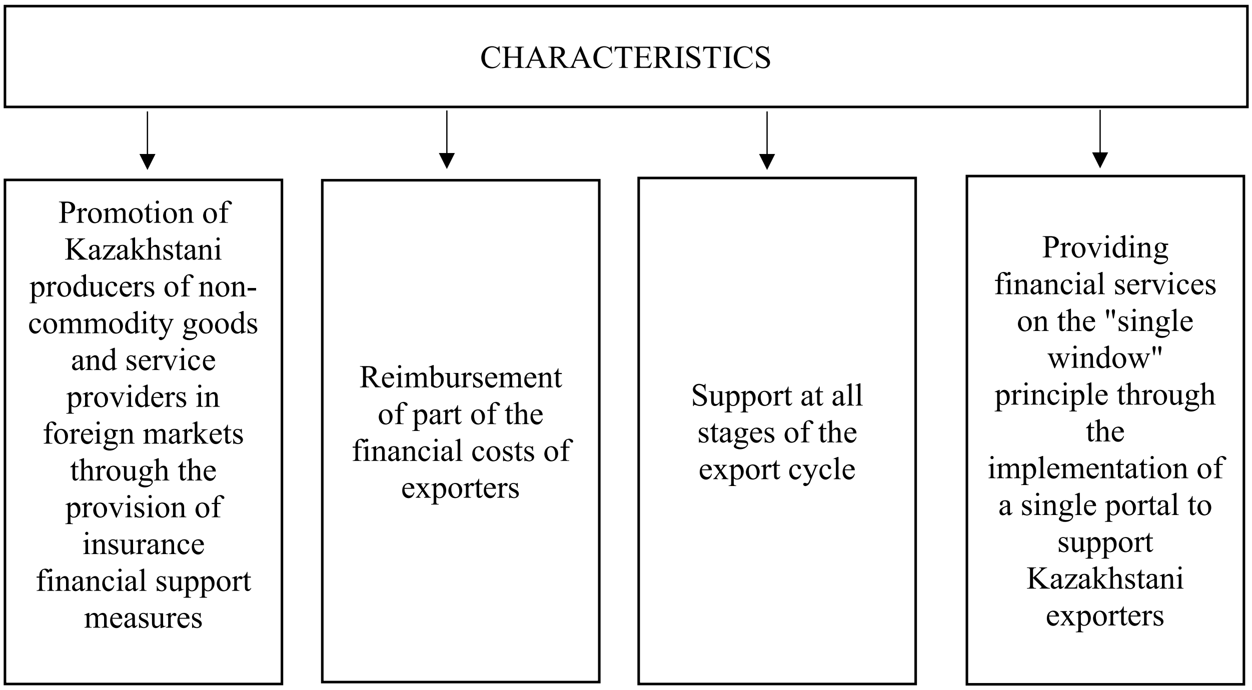
In addition, much attention is paid to financial support measures for exporters. The main directions of this activity are depicted in Figure 6.

Figure 6 – Main characteristics of financial support for non-resource exports in Kazakhstan



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Thus, to develop policies to improve the competitiveness of non-resource exports, it is very important to understand the current situation and challenges in the export sector. Although Kazakhstan has made improvements in diversifying its export geography, the quality of exports other than primary commodities remains relatively low, and the survival rate of exports beyond the first year outside the Eurasian Economic Union markets is less than fifty percent.

The Republic of Kazakhstan is characterized by a relatively small domestic market and a fairly high dependence on hydrocarbons. Expanding regional trade opportunities can stimulate economic growth and help increase productivity. In these circumstances, increasing integration with global value chains is of fundamental importance for Kazakhstan's export diversification efforts.

At the moment, Kazakhstan's overall participation in global value chains is relatively low compared to other countries. Kazakhstan's exports exhibit upward integration with global value chains, as its raw materials are used as intermediate inputs for other countries' exports. Such integration is not an indicator of export sophistication, but rather of Kazakhstan's ability to integrate with the global natural resource-based economy. But on the other hand, downward integration with global value chains in Kazakhstan is quite weak due to the low level of use of foreign value added in its exports. Kazakh exporters use fewer imported intermediate inputs than a decade ago, despite their use being necessary to participate in global value chains.

Further reforms are needed to continue to diversify Kazakhstan's exports. Kazakhstan can focus on unilaterally optimizing trade facilitation procedures within the EAEU and improve connections in transport and logistics. Thus, optimizing the business processes of key authorities, in particular customs and sanitary control, may be the first step. Policies to attract and retain foreign direct investment in the non-resource sector can also help Kazakhstan diversify its exports through increased participation in global value chains. In addition, Kazakhstan needs to continue to develop the ability of local companies to establish relationships with foreign manufacturers and meet standards in foreign markets.

International trade plays a special role in the development of the economy of the Republic of Kazakhstan. Exports are an important driver of global growth, with both positive and negative consequences. The modern trend in the development of foreign trade activities is the development and promotion of non-resource exports. It is he who needs to pay special attention when implementing government support measures. States, including Kazakhstan, need to take this into account when carrying out their export activities.

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Formal and Informal Institutions in Kazakhstan: A Qualitative Study of Entrepreneurs' Perspectives

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Abstract

This qualitative research paper explores the interplay of formal and informal institutions in shaping the entrepreneurial landscape of Kazakhstan. Through in-depth interviews with entrepreneurs from diverse sectors, the study uncovers the nuanced impact of both types of institutions on entrepreneurship. It finds that while formal institutions, including state support programs, tax policies, and digitalization initiatives, play a significant role in facilitating business endeavors, informal institutions, such as familial and social support networks, are equally critical. These informal structures often complement and enhance the effectiveness of formal institutions, contributing to the overall entrepreneurial environment in Kazakhstan. The study highlights the bidirectional relationship between entrepreneurs and institutions, emphasizing the need for a comprehensive understanding of this dynamic for effective policy development and support programs. This research adds valuable insights to the field of entrepreneurship studies, shedding light on the complex relationship between formal and informal institutions in a developing economy.

Keywords: Kazakhstan, entrepreneurship, formal institutions, informal institutions, state support, family support, entrepreneurial environment, qualitative research, institutional impact, developing economy, entrepreneurial dynamics.

Introduction

Entrepreneurship, recognized as a powerful driver of economic growth and innovation, is not solely dependent on individual initiative and innovation. It thrives or withers within a broader environment influenced by a complex interplay of formal and informal institutions. This paper investigates the role of these institutions in creating a favorable entrepreneurial environment for people in Kazakhstan. Kazakhstan as a case study offers several theoretical and empirical advantages. The gap in the developing nation theory regarding entrepreneurship does not apply to Kazakhstan due to attempts of the government of Kazakhstan to provide favorable business conditions for small enterprises. Similarly, entrepreneurs' opinions about formal and informal institutions have not been studied in the case of Kazakhstan. This paper aims to bridge the gap by exploring formal and informal institutional factors affecting different enterprises in Kazakhstan through interviews. Nine interviews were conducted with entrepreneurs from different cities in Kazakhstan ranging from micro, small to large enterprises such as construction companies.

Even though qualitative research does not specifically delve into variables, we consider it necessary to highlight the phenomenon under study to present a clear picture. The independent variables are formal and informal institutions operationalized through questions asked related to ease of registration and documentation, availability of funds and loans through state institutions, the availability of skilled employees, and informal institutions through the perception of the public towards entrepreneurship, support from family, to name a few. The detailed narrative of this is given in detail later in this paper. This paper starts with the literature review focusing on factors affecting entrepreneurship and a favorable environment conducive to productivity and quality, then the methodology and data collection is discussed before analyzing and discussing the data and ends with the conclusion.

The choice of Kazakhstan as the study's focal point holds both theoretical and empirical significance. Unlike the traditional perspective that developing nations offer a less conducive environment for entrepreneurship, Kazakhstan challenges this notion by actively promoting favorable business conditions through government initiatives. The State's role in fostering entrepreneurship is pronounced through various policies, including state support programs, tax incentives, and digitalization efforts. Understanding the impact of these formal institutions is essential for comprehending the broader entrepreneurial dynamics within the nation (Baumol 1990; Sobel 2008).

Furthermore, the realm of informal institutions in Kazakhstan remains relatively uncharted, especially in the context of entrepreneurship. Informal institutions, like familial and social support networks, often play a substantial role in bolstering or obstructing entrepreneurial endeavors. Yet, these aspects are less explored and understood. This research aims to bridge this knowledge gap by uncovering the subtle ways in which informal institutions influence entrepreneurship (Elert & Henrikson 2020; Venugopal & Viswanathan 2017).

The entrepreneurial journey in Kazakhstan encompasses a diverse range of businesses, from micro-enterprises to larger companies like construction firms. Each of these enterprises faces distinct challenges and opportunities, and their experiences offer a rich tapestry of insights into the intricate interplay between formal and informal institutions (Licht & Siegel 2006).

This paper's foundation is qualitative research, emphasizing in-depth interviews with entrepreneurs representing a cross-section of Kazakhstan's entrepreneurial landscape. The interview questions explore various dimensions, including the steps taken to initiate businesses, the availability of financial support, the role of family and social networks, the perception of entrepreneurship within society, and the significance of government institutions in supporting entrepreneurial initiatives. Through a rigorous analysis of these interviews, the research uncovers critical findings that shed light on how formal and informal institutions intertwine and influence the entrepreneurial environment (Lim, Oh, & De Clercq 2015; Matos & Hall 2019).

Entrepreneurship, particularly in a developing nation like Kazakhstan, is not a one-dimensional phenomenon. Instead, it is a multifaceted process intricately connected to the surrounding institutional structures. This study illuminates the reciprocal relationship between entrepreneurs and institutions, illustrating how these two forces shape and mold each other. It reveals the multi-layered influences that formal and informal institutions exert on entrepreneurship and highlights their often complementary roles.

The implications of this research extend beyond the borders of Kazakhstan. By examining the intricate dynamics of institutional influence on entrepreneurship, the findings resonate with broader discussions on how developing economies can nurture an entrepreneurial environment. This paper underscores the importance of adopting a holistic perspective, acknowledging both the formal and informal aspects of institutions, and tailoring policies and support programs accordingly (Elert & Henrikson 2020; Venugopal & Viswanathan 2017).

In the pages that follow, we delve into the existing literature on entrepreneurship and institutional theory to provide a strong theoretical foundation. The subsequent sections detail the methodology employed, the data collected, and the findings derived from the in-depth interviews. The concluding section synthesizes the insights, offering implications for policymakers, entrepreneurs, and scholars. Kazakhstan's entrepreneurial landscape serves as a microcosm, allowing us to dissect and understand the intricate dance between formal and informal institutions in the world of entrepreneurship.

Literature Review

Baumol's seminal work on productive, unproductive, and destructive entrepreneurship (1990) constitutes a foundational pillar in the discourse on entrepreneurial dynamics. He contended that although the overall number of entrepreneurs in a society may vary, the productive contribution of entrepreneurial activities exhibits significant variations. Entrepreneurship encompasses a spectrum of activities, ranging from innovative and productive endeavors to unproductive practices such as rent-seeking and organized crime. The distribution of entrepreneurial activities, as Baumol argued, is significantly influenced by the relative rewards that society assigns to these diverse undertakings. This implies that institutions' policies hold substantial potential to influence not only the supply but also the distribution of entrepreneurial opportunities (Baumol, 1990).

Baumol's insights introduce the notion that the rules governing the reward system for entrepreneurial actions are pivotal in determining whether entrepreneurship manifests productively or unproductively. He envisioned entrepreneurial activity as a response to the incentives embedded within the institutional framework. Consequently, this perspective examines why entrepreneurship catalyzes growth in certain countries while remaining dormant in others. For instance, the profitability of activities like rent-seeking is profoundly influenced by the prevailing legal framework and economic procedures within each nation. Consequently, policy measures such as deregulation and fairer antitrust regulations can significantly shape these dynamics (Baumol, 1990).

Elert and Henrikson (2020), in consonance with North's ideas (1990), argue that even within a consistent regulatory framework, the outcome of entrepreneurial activities may diverge significantly when played by novices as opposed to professionals or a team in their inaugural game versus their hundredth match. This underscores the partial nature of institutions' role in dictating the success of entrepreneurship. Indeed, causality is bidirectional as entrepreneurship can stimulate institutional transformations, especially in developing and transitioning economies.

The institutional landscape, encompassing both formal and informal aspects, often appears feeble in developing and transitioning nations. However, instead of being shackled by these institutional constraints, entrepreneurship frequently exerts a transformative influence, shaping the contours of these institutions. Elert and Henrikson emphasize three primary entrepreneurial reactions to the existing institutional status quo: abiding, altering, and evasive responses. Each of these reactions has the potential to either enhance or diminish societal welfare. Furthermore, these reactions can leave an indelible mark on the societal institutional fabric. Thus, comprehending these entrepreneurial reactions within their specific contexts becomes essential for fostering enduring institutional change and economic development (Elert & Henrikson, 2020).

The imperative of bottom-up approaches for liberating developing and transitioning nations from the quagmire of low-income entrapment is undeniable. Entrepreneurship, whether it adheres to prevailing institutions, transforms them, or operates in the shadows, emerges as a pivotal component of these grassroots-driven processes (Elert & Henrikson, 2020).

Matos and Hall (2019) offer a complementary perspective, asserting that policies can be designed not only to stimulate entrepreneurial innovation and productivity but also to account for individual characteristics, such as entrepreneurs' cognitive processes, prior knowledge, education, self-efficacy, and ability to identify opportunities. Kirzner (1999) underscores the importance of attentiveness in entrepreneurship, highlighting that entrepreneurs' ability to discern opportunities and harness them significantly shapes future market interactions.

Matos and Hall's inductive methodology investigates the confluence of institutional conditions and individual characteristics in promoting or impeding productive entrepreneurship. Employing surveys, interviews, and focus groups, they delve into entrepreneurial behavior, examining facets like attentiveness, the use of social networks, formal business registration, and training participation. Non-productive entrepreneurship often arises from temporal shortsightedness, overestimation of one's capabilities, and counterproductive utilization of social networks. When scrutinizing only institutional factors, subsistence entrepreneurs may appear as victims of institutional shortcomings, while exclusive attention to individual qualities may expose their limitations and readiness for unproductive actions. However, the interplay between these factors unravels the drivers of suboptimal entrepreneurship (Matos & Hall, 2019).

Venugopal and Viswanathan (2017) elucidate how impoverished entrepreneurs, grappling with the daily struggle to meet their basic needs, are often ensnared by a "here and now" mindset. This disposition compels them to tap into institutional resources and social networks for immediate, sometimes non-essential needs, often at the cost of long-term venture investment. This phenomenon is termed "temporal myopia" and reflects the failure to grasp the long-term repercussions of their choices. As such, Matos and Hall broaden Baumol's typology by emphasizing that non-productive entrepreneurship, characterized by enterprises with weak value propositions, stands as a prominent hindrance to growth in developing countries (Venugopal & Viswanathan, 2017).

While robust institutions foster productive entrepreneurship (Baumol, 1990), it's essential to acknowledge that even vigilant entrepreneurs may exploit weak institutions at society's expense. Such conduct may be particularly pronounced in underdeveloped institutional contexts, possibly causing alert entrepreneurs to shift from non-productive to destructive activities. This transition may partly explain the elevated crime rates in impoverished regions of emerging nations (Matos & Hall, 2019).

Continuing the discourse on alertness, Lim, Oh, and De Clercq (2015) posit that the formation of new firms hinges upon individuals identifying, assessing, and seizing opportunities. Awareness, encompassing the recognition and evaluation of opportunities, represents a pivotal prelude to the establishment of new enterprises. Lim et al. thus advance the notion that individual-level variables significantly influence entrepreneurial activity.

To shed light on the complex interplay between individual attributes and the institutional context, Lim et al. investigate how a country's institutional environment, specifically the perceived attractiveness of an entrepreneurial career, moderates the relationship between individuals' education levels and their engagement in entrepreneurship. In environments where the prevailing norms favor entrepreneurship as a career, the significance of an individual's education level escalates in determining their participation in entrepreneurial endeavors. Conversely, under less favorable normative circumstances, the added benefit of higher educational qualifications diminishes. Importantly, Lim et al. find that the connection between individual family income and entrepreneurship remains largely consistent across different institutional settings. The authors suggest that entrepreneurship necessitates considerable personal financial capital, irrespective of government support, information availability, or institutional norms. This scenario mirrors the context of many developing countries, where institutions supporting entrepreneurs are often underdeveloped, necessitating reliance on family income. Institutional factors positively modulate the association between an individual's education level and entrepreneurial involvement, but do not significantly influence the role of family income in entrepreneurial engagement (Lim et al., 2015).

The complex interplay of institutions and entrepreneurship extends to the phenomenon of formal and informal entrepreneurship. Licht and Siegel (2006) underscore the importance of examining informal entrepreneurs, who often choose not to register their enterprises due to regulatory constraints. This informal sector plays a critical role in the economy, especially in developing nations. However, the decision to operate informally can have significant repercussions, as informal enterprises lack the legal status and property rights enjoyed by their formal counterparts. Consequently, failing to register may deter capital creation and investment, potentially leading to phases of low productivity and hindering economic development. This situation may further exacerbate itself, as a pervasive shadow economy can pose unfair competition to formal-sector businesses (Licht & Siegel, 2006).

The challenging task of reforming informal institutions within nations amplifies the significance of exploring whether improvements in formal institutions, instigated by productive entrepreneurs, can foster positive changes in informal institutions through enhanced societal trust in government and the entrepreneurial environment. Investigating the factors that shape entrepreneurial responses to institutions in developing countries is vital, considering whether these factors exhibit universality or specificity to particular countries, regions, or institutional settings. Furthermore, understanding the elements driving regulatory counter-responses by policymakers and politicians is instrumental in discerning under what conditions they are inclined to establish regulatory environments conducive to productive entrepreneurship.

In the specific context of Kazakhstan, the government grapples with the formidable task of supporting as many businesses as possible to meet the targets of state programs and allocate budget funds judiciously. This challenge necessitates a balance between prioritizing the quantity over the quality of sponsored enterprises. The literature reviewed herein substantiates the idea that in developing nations, a larger government size and increased government support correlate positively with a greater number of entrepreneurs, but not necessarily with enhanced entrepreneurial quality. High-quality government programs can effectively sieve out non-productive entrepreneurship and attract productive entrepreneurs by creating incentive structures. These incentives, aligned with the population's developmental objectives, stand to elevate the quality of entrepreneurship. Quality programs, focused on providing comprehensive training and shielding entrepreneurs from corruption and weak institutions, can be equally beneficial for productive entrepreneurs in both developing and developed nations (Sobel, 2008).

Consequently, future research could contribute to measuring the magnitude and potential shifts in the direction of the relationship between institutions and entrepreneurship. Such studies would illuminate the roles played by formal and informal institutions in nurturing productive entrepreneurship. A critical step would be to identify the key determinants influencing the growth-oriented and productive aspects of micro, small, and medium-sized enterprises (MSMEs), as well as the characteristics of naturally thriving enterprises. This insight would aid in revising the targeting criteria of existing business support programs, ensuring that the growth of MSMEs takes precedence over mere survival.

Theoretical Framework, Methodology, and Operationalization of Variables

Building upon the theoretical foundations laid by Baumol (1990), Elert and Henrikson (2020), Matos and Hall (2019), Venugopal and Viswanathan (2017), and Lim et al. (2015), this study investigates the nuanced interplay between formal and informal institutions and their influence on entrepreneurship within the context of Kazakhstan. The research employs a qualitative methodology, underpinned by in-depth interviews with entrepreneurs representing a diverse spectrum of businesses, ranging from micro-enterprises to larger firms. The inquiry explores the multifaceted relationship between entrepreneurs and institutions, dissecting how these forces mutually shape and adapt to each other. The research focuses on understanding the subtle ways in which formal and informal institutions intertwine, and how they collectively mold the entrepreneurial environment in Kazakhstan.

To operationalize the variables, the research conducts in-depth interviews with entrepreneurs to delve into various dimensions that characterize the influence of formal and informal institutions. These interviews probe the ease of business registration and documentation, the availability of funds and loans through state institutions, the accessibility of skilled employees, and the influence of informal institutions, including public perception of entrepreneurship and familial support networks. Through a meticulous analysis of these interviews, the study unearths critical insights into the intricate dynamics of formal and informal institutions and their impact on the entrepreneurial landscape.

The research employs a rigorous qualitative analysis to unveil the multifaceted relationships and interactions between entrepreneurs and institutions, as influenced by a spectrum of variables. This qualitative approach allows for a nuanced exploration of the challenges and opportunities faced by entrepreneurs in Kazakhstan and unravels the ways in which institutional factors shape entrepreneurial activities. In the subsequent sections, we delve deeper into the methodology and data collection processes and analyze the findings derived from the in-depth interviews to provide a comprehensive understanding of the complex dynamics at play.

Methodology

The selection of Kazakhstan as the primary case study is rooted in a carefully deliberated rationale. First and foremost, it challenges conventional wisdom prevalent in the literature. Typically, developing nations sharing characteristics with Kazakhstan are perceived to possess formal institutional structures that do not inherently favor productive entrepreneurial development. Nevertheless, the Government of Kazakhstan has initiated several substantial programs, including the Business Roadmap State Program, aimed at actively supporting and nurturing businesses. This paradoxical situation necessitates a qualitative assessment of the hypotheses advanced in existing literature, bridging the divide between theoretical expectations and empirical observations.

This research endeavor actively engages with real entrepreneurs operating within the Kazakhstan context. By eliciting their firsthand experiences and perceptions, the study seeks to bridge the empirical gap that often exists between academic discourse and the practical realities of entrepreneurship. This direct interaction with entrepreneurs aims to provide a deeper and more nuanced understanding of the entrepreneurial environment within Kazakhstan.

Furthermore, the research delves into the realm of informal institutions. It seeks to explore how the public perceives entrepreneurship and how factors such as familial and societal influences either encourage or discourage entrepreneurial activities. Informal institutions are examined alongside the formal institutional framework, as they play a pivotal role in shaping entrepreneurial behavior.

The research design primarily employs qualitative research methods, centered on in-depth interviews with entrepreneurs representing diverse sectors, regions, and enterprise scales within Kazakhstan. These interviews serve as a valuable platform for entrepreneurs to articulate their experiences and insights, thereby enhancing the qualitative data that informs the study.

The theoretical framework underpinning this research is drawn from the literature, encompassing Baumol's categorization of productive, unproductive, and destructive entrepreneurship. The bidirectional relationship between institutions and entrepreneurship, as advocated by Elert and Henrikson, is also considered in the study's design.

Throughout the research process, strict ethical considerations are upheld, ensuring the informed consent of all participants, the confidentiality of their responses, and the maintenance of the highest standards of academic integrity.

The gathered qualitative data will be systematically analyzed using thematic coding and content analysis. This methodological approach, well-suited to the nuances present in qualitative data, enables the extraction of insightful patterns, themes, and narratives.

In summary, this research aspires to contribute to the academic discourse on the role of formal and informal institutions in shaping the entrepreneurial environment. Grounded in the unique context of Kazakhstan, the meticulous methodology seeks to unravel the complex dynamics and offer a nuanced perspective on entrepreneurship within the nation, thereby making a substantive contribution to the fields of public policy and economics.

Data Collection

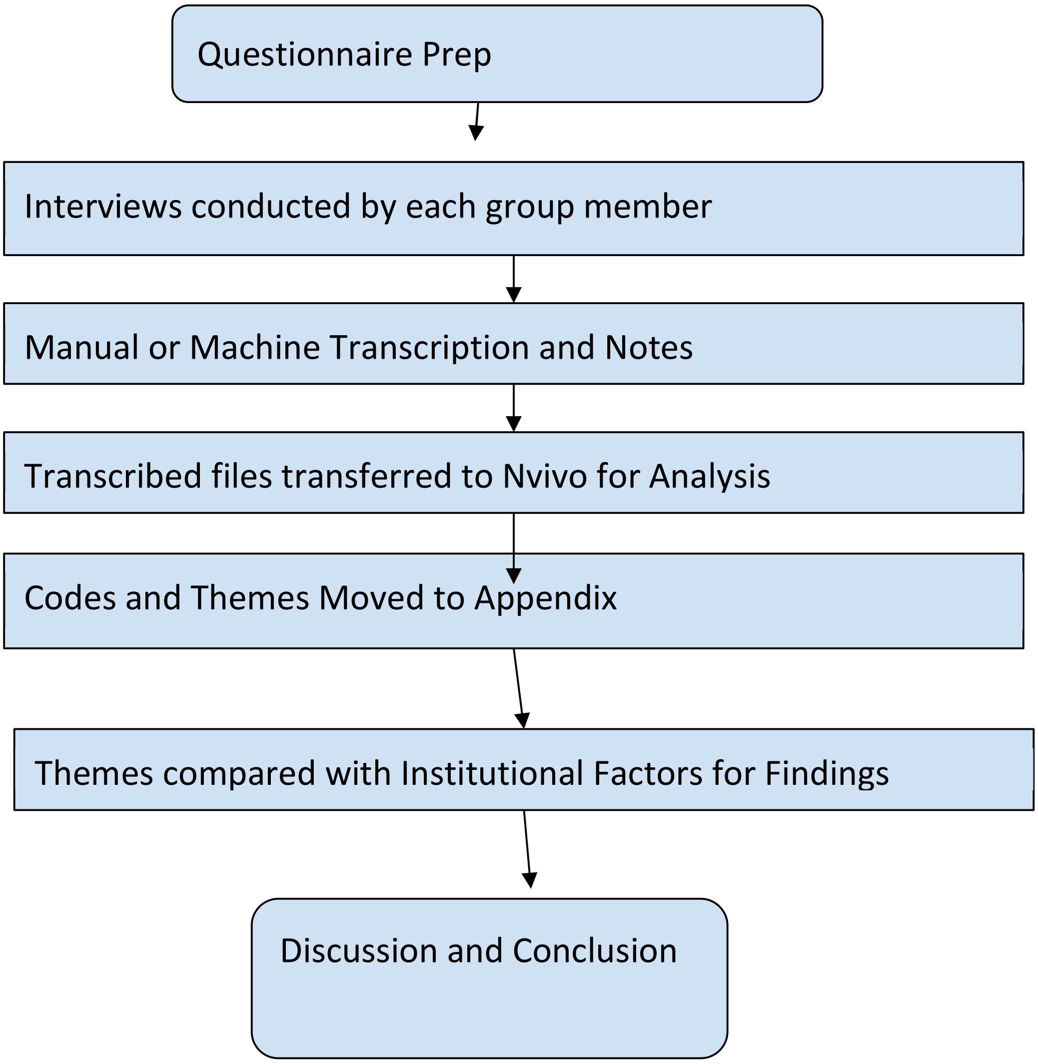
Our research endeavor, rooted in the investigation of the impact of formal and informal institutional factors on entrepreneurial quality and the overall business environment, employed a structured interview methodology to comprehensively explore this complex phenomenon. To fulfill the requirements of this research, a minimum of six interviews was deemed necessary. Subsequently, the concept of data saturation was examined in detail, a point discussed further in the subsequent sampling section.

Structured interviews were conducted with the participation of entrepreneurs, serving as primary informants. The objective was to gain rich and detailed insights into their experiences and perspectives. Each interview followed a structured format, incorporating nine specific questions designed to delve into the intricate interplay between institutional factors and entrepreneurship. The duration of these interviews varied, ranging from a concise twelve minutes to a more extensive thirty-one minutes.

To facilitate effective communication and comprehension, the majority of interviews were conducted in the Russian language, which is the primary medium of communication in Kazakhstan. However, due to the inclusion of a non-Russian speaking participant, two interviews were conducted in English.

In total, a set of nine interviews were conducted to acquire a diverse range of perspectives and experiences among entrepreneurs. While the majority of these interviews were recorded and subsequently transcribed, one interviewee expressed reservations about being recorded. Consequently, for this particular interview, detailed notes were taken to capture the essential content of the conversation. The appendix includes both the transcriptions of recorded interviews and the interview notes, ensuring a comprehensive documentation of the primary data.

The workflow for data collection and analysis is presented in Figure 1 below. This diagram illustrates the systematic process employed to collect, document, and evaluate the insights garnered from the interviews, thus ensuring a robust and methodical approach to our research.



Sampling:

Sample Size: The empirical design of this research necessitated the procurement of a minimum of six interviews, a practice that aligns with the commonly recommended approach of conducting five interviews to attain thematic saturation (Robinson, 2014). However, our research surpassed this threshold, ultimately incorporating a total of nine interviews, as indicated in Appendix B. Importantly, it is worth noting that the analysis of these interviews did not transpire concurrently with data collection; rather, the comprehensive data analysis was undertaken at the conclusion of the interview phase, facilitated by the utilization of Nvivo software.

Sample Variation: To enhance the comprehensiveness of our sample, a deliberate effort was made during the recruitment process to encompass diversity within the interviewee pool. This endeavor was achieved by engaging participants from a range of industries, each representing distinct sectors of the economy. Specifically, half of the interviewees hailed from the production and manufacturing industry, encompassing entities such as construction firms and manufacturers of protective clothing equipment. The remaining interviewees represented a variety of services-based industries, including tourism, consulting services, salon management, and sewing services. This strategic diversification within the sample catered to the inclusion of micro, small, and medium-sized enterprises.

Gender Composition: It is noteworthy that the gender distribution in our sample leaned slightly toward male participants, with five males and four females contributing to our research pool. While this gender distribution could potentially introduce a limitation to the study, it is important to highlight that the relative imbalance of five to four does not constitute a critical hindrance to the findings.

Recruitment Methodology: Our recruitment process commenced with a convenience sampling approach by selecting the first two interviewees. Subsequently, this initial sampling approach transitioned into a snowball sampling technique, which involved soliciting referrals and leads from the interviewed participants to identify further potential interviewees. The interviews themselves were predominantly conducted via remote communication channels, including phone calls, WhatsApp, and Zoom. However, one interview was conducted in person and recorded for detailed analysis. Importantly, none of the interviewees were offered compensation for their participation, ensuring the ethical integrity of the research process.

Findings and Discussion

This section explores the diverse landscape of entrepreneurship in Kazakhstan, a nation in Central Asia marked by a rapidly evolving economy and a dynamic entrepreneurial ecosystem. The findings and discussions draw from a series of interviews with entrepreneurs hailing from varied industries, reflecting both the breadth of entrepreneurial ventures and the multifaceted challenges and opportunities faced in this dynamic environment. The entrepreneurs' insights reveal valuable themes and commonalities that provide a holistic understanding of entrepreneurship in Kazakhstan. These interviews comprise a mix of male and female entrepreneurs, each with their unique experiences and perspectives, which collectively contribute to a comprehensive narrative of entrepreneurship. Spanning industries such as tailoring and ateliers, insurance, workwear production, kombucha production, coffee chains, tourism, beauty salons, and curtain businesses, this research encapsulates the multifarious sectors within which entrepreneurship thrives in Kazakhstan. Regional diversity is also represented as these entrepreneurs come from various parts of Kazakhstan, adding regional context to their experiences. The themes and trends explored encompass factors like business establishment, family support, government influence, funding sources, motivation, staffing challenges, and the perception of entrepreneurship, each of which plays a pivotal role in shaping entrepreneurial experiences. In this amalgamation of narratives, we endeavor to uncover the intricacies and opportunities inherent in the entrepreneurial landscape of Kazakhstan.

These findings provide valuable insights into entrepreneurship in Kazakhstan and inform strategies to promote and support entrepreneurial endeavors.

Family Support and Entrepreneurial Success. One prominent theme that emerges from the interviews is the pivotal role of family support in an entrepreneur's journey. While initial skepticism may be a common reaction from family members, this often transitions into strong support as businesses succeed. The transition underscores the significance of perseverance and the impact of entrepreneurship on family dynamics.

Market Knowledge as a Key Success Factor. Market knowledge is identified as a critical asset for entrepreneurs. The experience and insights acquired through years of work within a specific industry allow entrepreneurs to identify market gaps, recognize emerging trends, and understand customer preferences. This knowledge helps them develop successful business strategies and establish a strong foothold in their respective markets.

Government Support and Awareness. The interviews reveal the existence of government programs designed to support small businesses in Kazakhstan. While these programs offer valuable resources, there appears to be a lack of awareness about their existence among potential business owners. Increasing efforts to inform and educate aspiring entrepreneurs about the available support mechanisms can encourage entrepreneurship and business growth.

Challenges in Staffing and Employee Motivation. A recurring challenge for entrepreneurs is finding and retaining skilled employees. Various strategies are employed to motivate and retain staff, including offering incentives and providing training. The importance of suitable staffing is particularly highlighted, as it significantly influences the success and sustainability of businesses.

Shifting Perceptions of Entrepreneurship. The perception of entrepreneurship varies widely among individuals in Kazakhstan. While some view it as a viable and profitable career path, others perceive it as risky and challenging. Addressing societal perceptions of entrepreneurship and emphasizing its positive aspects, such as job creation and economic growth, can potentially encourage more individuals to consider entrepreneurship as a career path.

Funding and Investment Options. The research identifies a variety of sources for funding and investment used by entrepreneurs. Personal savings, loans, and contributions from family members are common initial sources. Additionally, entrepreneurs consider partnerships as a means of obtaining investment and fueling business growth.

Intrinsic Motivation Over External Recognition. Many entrepreneurs in the interviews express a strong focus on intrinsic satisfaction derived from their businesses, rather than seeking external admiration or recognition. This finding underscores the importance of passion and commitment as fundamental drivers of success in the entrepreneurial journey.

The word cloud related to responses of the interviewees generated the following results:

This word cloud shows that some words such as family, operators, development, and Kazakhstan are frequently used showing both formal and informal institutional aspects while responding to questions.

In dissecting the experiences and perspectives of the entrepreneurs, a discernible pattern emerges that underscores the pivotal role of both formal and informal institutions in shaping the landscape of entrepreneurship within Kazakhstan. This analysis seeks to delineate the impact of these institutional dimensions on the development of entrepreneurship, notably within the context of the Central Asian nation.

The corpus of responses elucidates that formal institutions, primarily in the form of public programs and government support, wield a palpable influence over entrepreneurial ventures in

Kazakhstan. These formal structures, designed to bolster and advance small-scale enterprises, emerged as instrumental factors in the initiation and sustenance of entrepreneurial endeavors. A notable plurality of entrepreneurs attested to the crucial role of state-initiated programs, reflecting a discernible alignment of business interests with national economic development. The state's commitment to nurturing entrepreneurship is thus unequivocally manifested through these avenues.

Conversely, the informal institutions, often rooted in familial and social networks, are revealed to exert significant influence over entrepreneurial undertakings. The responses offer a compelling narrative of familial and familial support serving as the bedrock for launching businesses, especially during the nascent stages. A clear majority, constituting 7 out of 9 respondents, underscore the instrumental role of their family members and relatives in propelling their entrepreneurial aspirations. It is evident that within the cultural and societal milieu of Kazakhstan, these informal structures form a formidable support system for nascent entrepreneurs.

Moreover, the influence of informal institutions is not confined to entrepreneurial inception; it permeates other domains, including human resource management. Entrepreneurs frequently leverage their social networks and pre-existing contacts in the recruitment of personnel for their ventures. This inclination towards familiar and social ties in the hiring process underscores the significant sway of informal institutions in Kazakhstan's entrepreneurial landscape.

Furthermore, entrepreneurs exhibit a noteworthy indifference to external recognition or public reactions to their ventures' successes. This sentiment, echoed by a substantial majority, accentuates the predominance of self-satisfaction and an intrinsic drive as motivators in their entrepreneurial pursuits, further attesting to the deep-rooted influence of informal institutions.

When it comes to market research and information gathering, respondents overwhelmingly rely on personal surroundings, social networks, and internet sources. The paucity of responses mentioning formalized sources such as consulting firms or industry-related exhibitions underscores the primary role of informal institutions in furnishing entrepreneurs with essential information.

In summation, the data gleaned from these interviews elucidates the profound and multifaceted impact of both formal and informal institutions on entrepreneurship in Kazakhstan. The nation's entrepreneurship landscape appears to be significantly shaped by the collaborative interplay of state-initiated programs and familial, social, and personal networks, a symbiotic relationship that navigates the complexities of entrepreneurship in this burgeoning economy.

Conclusion

The entrepreneurship landscape in any given society is profoundly influenced by the prevailing environmental conditions, and entrepreneurial experiences are inherently contingent upon these multifaceted contextual factors. Indeed, the environment, inclusive of both formal and informal institutional dimensions, can serve either as a facilitative or inhibitory force in the realization of entrepreneurial intentions within a given society. Within this paradigm, institutional dimensions wield significant influence over the perceptions of desirability and feasibility, with government institutions notably impacting the availability of state support, the protection of property rights, the predictability of legal frameworks in risk-laden scenarios, and the sociocultural environment shaping values, beliefs, and attitudes.

The findings of this study elucidate the prominent role of informal and formal institutional factors in shaping the actual experiences of micro, small, and medium-sized business owners in Kazakhstan. These insights, gleaned from the rich narratives of each interviewee, unveil the intricate tapestry of influences that define their entrepreneurial journeys.

The salience of familial contexts in nurturing business success emerges as a conspicuous theme, with compelling evidence attesting to the supportive roles played by parents and husbands, extending to the provision of crucial funding. Moreover, the influence of social networks, encompassing ex-colleagues, acquaintances, partners, and friends, transcends beyond personal relationships to extend to the realm of human resource acquisition, underscoring the marked impact of social networks on the entrepreneurial process.

Conversely, formal institutional factors also exert a profound influence, as underscored by a majority of respondents. These entrepreneurs' testimonies emphasize the presence of diverse state-sponsored support mechanisms and programs, tax incentives, and streamlined digitalization of registration and licensing procedures. The instrumental role of formal factors, including job-seeking platforms, bank loans, engagement with consulting companies, the amplifying influence of official TV channels in disseminating successful entrepreneurial narratives, the significance of industry-specific exhibitions, and the pivotal role of business training programs collectively underscore the far-reaching influence of the formal institutional framework on the functioning and development of entrepreneurship in Kazakhstan.

Nonetheless, it is imperative to acknowledge that entrepreneurship remains fraught with considerable levels of risk and uncertainty, a dimension that permeates the entrepreneurial landscape. The call for a heightened sense of personal responsibility among entrepreneurs is a recurrent theme within the narratives of the respondents.

In conclusion, this study, through the discerning examination of the informal and formal institutional factors influencing entrepreneurial experiences in Kazakhstan, yields valuable insights into the intricate nexus of contextual influences on entrepreneurship within the nation. As a clarion call for further research, it is hoped that this study will catalyze deeper investigations aimed at comprehensively understanding the pervasive influence of institutional factors on entrepreneurial experiences in Kazakhstan and analogous contexts.

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Удовлетворенность работой в контексте управления человеческими ресурсами организации

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Ключевые слова: управление человеческими ресурсами, управление персоналом, работник, удовлетворенность работой

В современных условиях, учитывая форс мажорные обстоятельства в мире управление человеческими ресурсами в организации, является весьма важным, которое требует пристального внимания со стороны управления предприятием. Усиливает аспект изменений Пандемия и цифровизация, где эпидемиологическая ситуация оказала непосредственное влияние на развитие кадрового потенциала на местах и возможности получения дополнительного образования. Постковидный период ознаменовал новый этап в формах работы: оффлайн и официально онлайн и несомненно это повышает интерес и актуальность к удовлетворенности работой.

Изучая труды известных ученых и исследователей можно отметить, что дефиниции «управление персоналом» и «управление человеческими ресурсами (УЧР)» воспринимаются по-разному, вкладывая в понимание более широкое и ориентированное на рынок и потребителя. Кибанов А.Я. [1] первое понятие определяет как «традиционный подход», а второй - «новый подход» (Рисунок 1) Стори Дж.[2] утверждает, что первое понятие включает процессы второго. Причем схожее имеет восприятие, вкладывает в УЧР показатели, направленные на выгоду: конкурентоспособность, выживание, рентабельность и гибкость рабочей силы. Другими словами, это понятие формируется в процессе внедрения и реализации активной кадровой политики в организации для достижения стратегии имеющее более долгосрочные перспективы.

Интерес вызывают поведенческие концепции УЧР, которые представлены американскими учеными Бир М. (гарвардская модель) [3] и Фомбруном Ч. (мичиганская модель) [4], английские исследователи Армстронг М.[5], Стори Дж.[2] (философия управления людьми), которые были представлены в конце XX столетия.

Первая модель направлена на управленческие решения, оказывающие влияние на отношения между самой организацией и работниками, где важную роль и функцию отводится менеджерам среднего звена, которые несут непосредственную ответственность за обеспечение конкурентоспособной стратегии и политики в отношении персонала. Стоит отметить, что важность компромисса является значимым, особенно между группами интересов управленцев и работниками. В своей теории представители выделяют выход ЧР и долгосрочные последствия: приверженность, согласованность и эффективность затрат; личное и общественное благополучие, эффективность работы организации соответственно.

Вторая концепция - это «модель соответствия», где УЧР, организационная структура построены в соответствии со стратегией предприятия, а сам процесс УЧР направлен на формирование высокоэффективных работников и ориентирована на оценке вклада ее во всех сферах деятельности организации.

Третья концепция – оценка вклада работников, основанная на повышение организационной эффективности и этики (моральные ценности работника), где признаны работники «наиболее ценным активом»[5]. Выделяя современные концепции УЧР отметим, что ценным является практика управления, анализ которой базируется на сборе и оценке данных для построения теории поведения менеджмента в организации и управления работниками на рабочих местах. Причем для этого выделены критерии учета: понимание целей менеджмента при работе с сотрудниками; удовлетворенность работой, приверженность, поведение, как во внутренней среде, так и внешней; оценка результатов со стороны управления организацией и учитывая интересы персонала.

Рисунок 1 – Сравнительная характеристика основных показателей УП и УЧР [6]

Обобщая взгляды исследователей, можно отметить, что концепция управления человеческими ресурсами начиная с конца 1980-х годов стала частью стратегии организации, которое несет ценный ресурс – обеспечение персоналом, который ориентирован на: результат – конкурентоспособность – благоприятные условия (социально-психологические) и удовлетворенность работой – обучение (профессионализм).

Определив ценность персонала, и что она формирует в итоге, включая конкурентоспособность, устойчивость и преимущества организации с точки зрения стратегии важно определять развитие, формирование и применение способностей работников. И, несомненно, каждого менеджера заботит вопрос повышения производительности труда работников посредством реализации политики и процедур управления человеческими ресурсами организации, одним из инструментов которых является уровень удовлетворенности работой.

Удовлетворенность работой на первый взгляд является простым явлением, но рассматривая через призму долгосрочного развития статус его повышается. Так как отношение работника к работе несет не только удовлетворение с точки зрения исключительно потребностей, как со стороны организации, так и личности, но и его убеждений и ценностей, а также реализации способностей, развития новых знаний, умений, навыков и компетенций. Другими словами, удовлетворенность работой может в себя включать разные составляющие (Рисунок 2), причем каждая из них играет свою роль в трудовой деятельности работника. Определим наиболее значимые подходы понятия удовлетворенности работой: финансовый, психологический, социальный и коммуникативный. Причем каждый подход требует своего понимания, так как эмоции, чувства, ценности, возраст, культура, пол играют определенную роль. Дополняет это и сама организация, которая может относиться как государственной, так и к бизнесу или гражданскому обществу.

Рисунок 2 – Подходы к удовлетворенности работой

Управление человеческими ресурсами, как правило, стремится проводить регулярный замер уровня удовлетворенности работой среди персонала, причем проводить по разным уровням управления, что в результате дает возможность улучшать удовлетворенность трудом, тем самым улучшать как аспекты корпоративной культуры, так и в целом создавать благоприятные условия для повышения эффекта производительности. Однако отметим, что все подходы сразу усилить является крайне сложным при принятии решения, и зависит от формы бизнеса, возможностей, ценностей и самой стратегии, а также от стиля руководства менеджера.

Кроме того, подходы не являются однозначными, их дополняют показатели организации как программы мотивации и стимулирования, анализ движения трудовых ресурсов, наем и адаптация работников, оценка показателей деятельности организации, сама характеристика трудовых ресурсов (опыт, образование и дополнительное образование), признание и самореализация, лояльность, организационная культура компании (миссия, видение, стратегия и пр.) и другие.

Несомненно, для оценки уровня удовлетворенности работой применяются различные методы, это, как правило, анализ документов, статистический анализ деятельности организации, управление бизнес процессов, но основными являются количественные и качественные методы, такие как опрос персонала, глубинные интервью, фокус-группы, а также кейс технологии.

Таким образом, удовлетворенность работой среди персонала является регулярной оценкой, которая позволяет определить направления по улучшению политики управления человеческими ресурсами, и, несомненно, станет источником повышения производительности труда работников, формирования их лояльности, а в целом повысит конкурентное преимущество самой организации.

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Foreign Direct Investment and International Trade in the Western Balkans-6 Countries: An Empirical Analysis

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1 ABSTRACT

The following research paper conducts a comprehensive analysis into the intricate dynamics governing the relationship between Foreign Direct Investment (FDI) and International Trade, with a specific focus on the Western Balkan Countries-6 (WB-6). This research spans the period from 2000 to 2020 and seeks to shed light on the interplay between FDI and International Trade within this region. To analyse and interpret these dynamics, various regression models, including Ordinary Least Squares (OLS), Fixed Effects, Random Effects, and the Hausman-Taylor model, are employed as analytical tools.

Moreover, the research takes into consideration the influence of specific institutional factors within each country, which play a pivotal role in shaping foreign investors' decisions to invest in a particular country. The study's results reveal that gravity factors, in conjunction with institutional determinants such as economic integration, control of corruption, political stability, and other indicators of governance quality, significantly impact the attractiveness of the WB-6 countries to foreign investors. The findings of this paper hold substantial relevance for the development of an analytical framework aimed at evaluating national policies and institutions geared towards enhancing the appeal of Western Balkan countries to foreign investors. Furthermore, the research underscores the importance of these host countries prioritizing efforts to bolster the effectiveness of governmental institutions, combat corruption, streamline bureaucratic processes, and improve overall economic conditions to attract and retain foreign investment.

Keywords: Foreign Direct Investments, International Trade, Western Balkans, Transition, Economic Development

2. INTRODUCTION

The role of Foreign Direct Investments (FDIs) has been a topic of considerable debate among economic policymakers, especially when assessing their effects on economic indicators in Western Balkan countries. Some economists argue that these national economies do not always experience a positive impact from the influx of FDIs and that the effects on domestic company collaboration are relatively minor. Conversely, proponents of the positive effects of FDIs contend that they foster stronger connections with foreign companies, providing access to technology, know-how, and vast market opportunities. This, in turn, enables local companies to enhance productivity by transforming their production and service structures, leading to increased exports. Additionally, as part of the economic development process, FDIs contribute to improved balance of payments and higher employment rates.

Considering the economic challenges faced by the Western Balkan Countries (Albania, Bosnia and Herzegovina, Kosovo, North Macedonia, Serbia, and Montenegro), it becomes evident that the region requires more substantial investments, especially due to deindustrialization. It's noteworthy that researchers also suggest that larger FDI inflows lead to increased trade volumes and higher overall outputs. Both the NMS-11 and Western Balkan countries share a common historical past characterized by economic and political systems that led to issues like inflation, political instability, and financial sector collapses. The transition to a market economy in the Western Balkans was delayed due to events such as the disintegration of the Socialist Federal Republic of Yugoslavia in the late 90s. Surprisingly, there have been few studies examining the relationship between FDI inflows and export performance in these transitioning Western Balkan countries and newly integrated EU member states.

Among various forms of international business, foreign direct investments are considered the most effective way by which transitioning economies become integrated in the global economy. In order to understand the interaction between FDI's and its impact on international trade, the basic research hypothesis emerged from the research goal is: the inflow of foreign direct investment has a statistically significant relationship on the growth of export of the host countries. The defined hypothesis will be tested in the countries of Western Balkans-6 in the form of correlation coefficients between the average share of FDI and GDP and the average GDP growth in the period of 2008-2020. Some of the research questions will be answered through a narrative and comparative approach, while others through a quantitative approach using sophisticated econometric methods. Specifically, through econometric models such as: the method of small squares, otherwise known as OSL, Fixed Effect, Random Effect, as well as Housman Taylor effects. During the drafting of this research paper comprehensive methodology, applying different research-scientific methods, which were mainly realized through reading the literature, observation, and critical thinking from where the information was selected according to their validity by different foreign and local authors. In order to examine these factors, the following research questions will be attempted to be answered:

Q1: What influences FDI inflow in WB-6 countries, considering GDP growth, market size, trade openness, institutional quality, and infrastructure development?

Q2: How do institutional factors, like the rule of law, governance quality, and regulatory frameworks, attract FDIs in WB-6, and how do they interact with other FDI determinants such as market size, economic stability, and human capital?

Q3: How do horizontal and vertical FDI impact WB-6 international trade, considering market size, income levels, and economic integration?

Thus, in order to investigate these research inquiries, we formulate the following research hypotheses:

Hypothesis I: A statistically positive relationship exists between Foreign Direct Investment (FDI) and International Trade for the Western Balkan Countries-6 which may be attributed to factors such as market structure, economic integration, and the nature of FDI inflows.

Hypothesis II: Political stability positively influences the relationship between Foreign Direct Investment and International Trade for both EU NMS-11 and WB-6 countries, by reducing uncertainty, fostering a favourable investment climate, and promoting economic cooperation within the region.

Hypothesis III: FDI inflows positively impacts the economic growth of recipient countries by promoting export-oriented activities, diversifying the economy, and improving international competitiveness.

Building upon the findings related to FDIs, the goal of this research is to determine the impact of foreign direct investments on export performance in the Western Balkan countries. The paper is structured to begin with the research goal and hypothesis, followed by a theoretical foundation exploring the impact of FDIs on economic growth. It then delves into a literature review elaborating on the implications of FDIs in international trade. The third section covers the research methodology, including data sources, and the fourth part presents the research results.

Importantly, the research study offers a comparative analysis of the FDI-trade relationship in the Western Balkan Countries-6, highlighting both similarities and differences.

2 REVIEW OF LITERATURE

The process of transitioning to a market economy in the Western Balkans was significantly delayed due to a series of unfortunate events that began with the dissolution of the Socialist Federal Republic (SFR) of Yugoslavia in mid-1991. Following the breakup of the Yugoslav federation, the region endured a decade of armed conflicts, including those in Slovenia (1991), Croatia (1991-95), Bosnia and Herzegovina (1992-95), Kosovo (1998-99), and Macedonia (2001). Furthermore, some countries faced embargoes, such as the Federal Republic (FR) of Yugoslavia (comprising Serbia and Montenegro), which endured severe UN and EU sanctions in 1992-96 and again in 1998-99, as well as economic sanctions imposed on Macedonia by Greece. The prevailing political priorities and inward-focused nationalistic policies placed many of the economic reforms associated with the transition process on the backburner. The political developments in the Western Balkans have had significant and enduring economic impacts (Uvalic, 2010). Following a turbulent decade marked by political and economic instability in the Western Balkans, the 2000s ushered in several positive developments. These included enhanced macroeconomic performance and the acceleration of economic reforms associated with the transition process. Prior to the global economic crisis that struck in late 2008, the Western Balkan nations enjoyed rapid economic growth and improved macroeconomic stability, a welcome change after experiencing episodes of hyperinflation during the 1990s. Trade liberalization, both with the EU and neighbouring countries, played a pivotal role in significantly boosting foreign trade volume. Nonetheless, trade potential in the region has not been fully realized, as observed by Sanfey and Zeh in 2012 and the World Bank in 2014.

The theoretical background in the existing literature provides a foundation for understanding the dynamics between FDI and international trade. These theories, including the Product Life Cycle Theory, Internalization Theory, and the Eclectic Paradigm, offer insights into how FDI and international trade can be intertwined, and their applicability can be examined in the context of WB-6 countries. The opening of the Western Balkans has allowed for a change in the political and economic landscape. The region has become a marketplace with potential for growth, and has attracted a lot of foreign direct investment (FDI). Much of this success can be credited to the determinations of local governments, international organizations, and other non-governmental institutions. These entities have provided foreign investors with information about their experiences, and what practices work best within the countries in which they have invested.

Research in the field of international economics has extensively analysed the patterns and determinants of Foreign Direct Investment (FDI) between countries. Various studies have explored the relationship between FDI, trade, and the characteristics of both home and host countries, providing valuable insights into the complex motivations driving multinational enterprises (MNEs) in the context of Western Balkan-6 (WB-6) countries, including Albania, Bosnia and Herzegovina, Kosovo, North Macedonia, Serbia, and Montenegro. Carr et al. (2001) and Markusen and Maskus (2002) conducted studies focusing on analysing the flow of FDI between two countries, investigating factors such as market size, distance, and institutional differences. Their findings shed light on how specific country characteristics influence investment decisions and the bilateral patterns of FDI.

Brainard's (1997) employed a research methodology that focused on empirical analysis and used econometric methods to investigate the role of horizontal FDI between similar countries, revealing that higher transport costs and tariffs encourage multinational firms to establish local production facilities in foreign markets. This insight into horizontal FDI is particularly relevant when considering the impact of FDIs on WB-6 countries. What's more, Brainard (1997a) demonstrated that US labor competes with labor abroad through multinational production, with activities in developing countries being outsourced to take advantage of wage differentials, providing valuable lessons for regions like the Western Balkans. The author further explored the activities of foreign manufacturing affiliates owned by US multinationals, highlighting that affiliate activities in developing countries can be complementary to those in industrialized countries. This suggests that multinationals strategically use FDI in countries at various stages of development to optimize production.

Blonigen et al. (2003) conducted a comprehensive study using data on U.S. affiliate sales from 1986 to 1994, shedding light on the motivations driving vertical MNEs, this study was based on empirical research methodology. Their findings offered evidence supporting the horizontal model of FDI, which is particularly relevant for understanding FDI in the context of WB-6 countries. Ekholm et al. (2003) used data from the U.S. Department of Commerce to provide substantial evidence of the importance of FDI between countries concerning both size and relative endowments. Their results supported the Knowledge-Capital (KK) model, which suggests that FDI is driven by a combination of firm-specific advantages and location-specific factors.

Head and Ries (HR, 2003) conducted empirical research to study the production decisions of large Japanese firms in 1989, revealing that when a host country offers no cost advantage, investors abroad are more productive than exporters. This finding has implications for understanding how firms in the Western Balkans might attract FDI. HMY (2004) developed a model examining firms' decisions between exports and horizontal FDI, providing insights into the factors driving the internationalization strategies of firms, which can be relevant for understanding the FDI- trade nexus in WB-6 countries.

In summary, while numerous studies have explored factors influencing economic growth in both developed and developing nations, there is a notable scarcity of empirical growth models specifically tailored to the Western Balkans countries. To enhance our comprehension of the growth dynamics in this region, this research establishes an empirical growth model aimed at examining the factors that hinder economic growth in Western Balkans countries and how policies can be employed to address these limitations.

3 RESEARCH METHODOLOGY AND DATA

3.1 Research Methodology

To conduct this scientific study and validate the initial findings of our research project which is the relationship between foreign direct investment and international trade for the Western Balkan countries over the period of 2000-2020, we will utilize advanced scientific methodologies and models. To achieve this objective, we utilized a combination of statistical methods, including pooled ordinary least squares (OLS), fixed effects, random effects, and the Hausman-Taylor instrumental variables (IV). Additionally, we conducted the Hausman test to determine the most suitable model among fixed effects, random effects, and the Hausman-Taylor model.

Pooled OLS Model

By using OLS, we can estimate the impact of each independent variable on the dependent variable and assess the statistical significance of the coefficients

$$Y_i=\beta_0+\beta_1 X_i+\varepsilon_i$$

The model relies on an assumption about the error term, where it is presumed that the error term follows a normal distribution with a constant variance (homoscedasticity), and there is no autocorrelation between error terms from different observations. However, in panel data models, the presence of heterogeneity among units within the same sample and over time can pose challenges, potentially leading to biased coefficients. Despite the potential biases, this paper chooses to begin with pooled OLS estimation, aligning with the approach adopted in previous empirical studies.

Fixed and random effects model

Yit=β0+β1Xit+αi+εit

Here, *yit* is the dependent variable, *xit* represents the observable explanatory variable, *ci* is the individual-specific effect or unobserved effect, and *uit* is a random error or idiosyncratic error. The crucial assumption revolves around whether the first part of the decomposition, *ci*, in equation (2) is correlated with the explanatory variables *xit*. In the random effects model, the term *ci* is assumed to be uncorrelated with the explanatory variables, while in the fixed effects model, the term *ci* is considered to be correlated with the explanatory variables. Both models also account for unobservable individual-specific time-invariant effects of heterogeneity.

Failure to consider the issue of heterogeneity leads to two main limitations: 1) determining whether there is a correlation between *ci*and the explanatory variables (in the case of random effects), and 2) if it's assumed that *ci* is correlated with the explanatory variables, estimating time-invariant explanatory variables becomes challenging. Furthermore, given that some variables in our study are considered to be endogenous, they might introduce bias into the results. Consequently, neither random effects nor fixed effects estimation may be appropriate. Hence, we turn to a more sophisticated model, the Hausman-Taylor instrumental IV estimation. The fixed and random effects models are presented mainly for comparison purposes.

Hausman-Taylor model

*Y_it = β_0 + β_1 * X_it + β_2 * Z_it + μ_i + ε_it*

The Housman Taylor Approach, or Housman-Taylor estimator, is a method used to address the endogeneity issue in panel data models. Endogeneity occurs when the independent variables are correlated with the error term, leading to biased and inconsistent coefficient estimates. In your theoretical model, the Housman Taylor Approach would be employed to address potential endogeneity concerns arising from omitted variables or measurement errors. This approach uses instrumental variables to address endogeneity by providing a source of exogenous variation that is correlated with the independent variables but not with the error term. The Housman Taylor Approach improves the validity of the estimated coefficients and allows for more reliable inference in the presence of endogeneity issues. It is particularly useful when there are concerns about the causal interpretation of the coefficients in the presence of endogeneity.

Estimated model

The application of the Hausman-Taylor Instrumental IV model serves to address the critical issue of endogeneity, which holds significant importance in the field of econometrics. Furthermore, as some of the variables in our study are considered to be endogenous, they can introduce complications because these determinants may be influenced by economic growth itself, resulting in a system of simultaneous equations. This, in turn, can lead to biased regression coefficients associated with these variables. To mitigate the endogeneity problem, we adopt a one-equation approach using instrumental variables. Considering our understanding of the endogeneity issues and the results of the Hausman test, the Hausman-Taylor instrumental variables model is deemed the most appropriate choice when compared to the random and fixed effects models for the context of the Western Balkans countries over the time period from 2000 to 2020.

4 EMPIRICAL RESULTS

It is crucial to highlight that regression models serve as indispensable tools for researchers to explore the various channels through which economic growth is influenced by a wide range of explanatory variables. These models allow researchers to discern changes in economic growth and its development over time. In line with the economic literature and the arguments discussed previously, it is vital to underscore that countries facing a heightened level of institutional crisis, such as the transitioning Western Balkans-6 countries, can incur substantial economic and social costs

Table 1: Testing the effect of FDI on international trade

Base	v2 (OLS Model)	v3 (Fixed Effects)	v4 (Random Effects)	v5 (Hausman Taylor)
	-1	-2	-3	-4
VARIABLES	lnexp_import	lnexp_import	lnexp_import	lnexp_import
lnexp_import				
lnfdinetoutflows	0.0099243*	0.0141702**	0.0099243*	0.0142095**
	0.0067234	0.0052787	0.0067234	0.0052853
lnfdinetinflows	0.0351653**	0.0864185***	0.0351653**	0.0874765***
	0.0158709	0.0149929	0.0158709	0.0149139
Corruption	-0.1204567*	0.0514651*	-0.1204567*	-0.2342811*
	0.0260293	0.0253041	0.0260293	0.0636097
Rule of law	0.5197528***	0.1559533**	0.5197528***	0.168734**
	0.065643	0.0681261	0.065643	0.0678142
regulatoryquality	0.1555301*	0.0576446*	0.1555301*	0.0627395**
	0.032862	0.0465396	0.032862	0.046181
voiceandaccountability	-0.288301*	-0.240476*	-0.288301*	-0.2463505**
	0.0569827	0.0647674	0.592762	0.0642565
control_corruption	0.3942904*	-0.2476993*	0.3942904*	0.0511441**
	0.0569827	0.0637996	0.0569827	0.0251057
Lngdp	0.9620497***	0.9808462**	0.9620497***	0.9605099**
	0.0141364	0.0463928	0.0141364	0.041868
_cons	0.6424685*	-1.90212*	0.6424685*	-1.463279**
	0.2266578	0.9464416	0.2266578	0.08622166
Observations	324	324	324	324
R-squared	0.9766	0.9515	0.9766	
Number of code				

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To gain a deeper understanding of the intricate relationship between FDI and international trade in these transitioning European countries, this research will delve into various dimensions of their economic and institutional frameworks. Addressing the data limitations in the Western Balkans-6 countries is of paramount importance, as it can significantly enhance our comprehension of the economic dynamics in this region and the impact of FDI and international trade on their development. Moreover, the research findings have the potential to provide valuable insights for policymakers and stakeholders in these transitioning countries. These insights can aid in the formulation and implementation of strategies to foster economic growth, attract FDI, and promote international trade. Identifying the specific factors that either drive or hinder the relationship between FDI and trade in these nations can serve as a roadmap for future development initiatives and policy reforms, ultimately contributing to the overall prosperity and stability of the region.

5. EMPIRICAL RESULTS

5.1 OLS (Ordinary Least Square)

The statistical model employed in this study demonstrates a remarkable overall significance, as evident from the F-statistic; F (8, 315) = 1641.86, Prob > F = 0.0000). This statistic indicates that at least one of the independent variables in the model significantly contributes to explaining the variations observed in “international trade”. Moreover, the model is highly effective in explaining the variability in "international trade," with an R-squared value of 0.9766. This means that an overwhelming 97.66% of the fluctuations in “international trade " can be accounted for by the independent variables in our model, signifying strong statistical results.

Initially, the variable "FDI net outflows" did not display statistical significance (t = 1.48, p = 0.141), suggesting that it may not have a substantial impact on „international trade." In simpler terms, changes in „FDI net outflows " do not seem to strongly influence the dependent variable within the scope of this study. In contrast, "FDI net inflows" showed statistical significance (t = 2.22, p = 0.027) with a positive coefficient. This suggests a potential positive influence on „international trade," indicating that higher values of „FDI net inflows „may contribute positively to the "international trade" variable, possibly through increased foreign direct investment inflows. The variable "corruption" exhibited a significant and positive relationship (t = 6.92, p < 0.001) with „international trade." This implies that higher levels of corruption are associated with increased „international trade." This result may seem counterintuitive but highlights a specific dynamic where corruption may coincide with higher levels of international trade activity. Similarly, "rule of law" demonstrated a significant positive relationship (t = 7.92, p < 0.001) with "international trade." This suggests that a stronger rule of law corresponds to higher levels of „international trade," emphasizing the role of a robust legal framework in fostering international trade. The variable "regulatory quality" exhibited a significant positive impact (t = 4.73, p < 0.001) on „international trade," implying that better regulatory quality is linked to higher levels of „international trade." This finding underscores the importance of regulatory efficiency and effectiveness in promoting international trade within this research context. Conversely, "voice and accountability" had a significant negative effect (t = -4.86, p < 0.001) on "international trade," indicating that higher levels of voice and accountability are associated with lower "international trade." This result suggests that increased scrutiny and accountability may potentially hinder international trade activities within this specific context. Correspondingly, "control of corruption" demonstrated a significant negative impact (t = -4.63, p < 0.001) on "international trade," implying that stronger control of corruption is linked to lower "international trade." This underscores the complex relationship between governance measures and international trade in this particular research setting. Finally, "GDP" exhibited a highly significant positive relationship (t = 68.05, p < 0.001) with "international trade," implying that higher GDP levels are strongly associated with greater "international trade." This finding underscores the pivotal role of economic prosperity in driving international trade activities within the research context.

4.2 Fixed Variable

The overall statistical model used in this analysis demonstrates remarkable significance, as indicated by the F-statistic (F(8, 310) = 275.64, Prob > F = 0.0000). This signifies that, as a collective, the selected independent variables significantly contribute to explaining the variations observed in „international trade." This foundational finding lays the groundwork for further exploration of these relationships. Furthermore, the model exhibits substantial explanatory power, with an R-squared value of 0.8767. This suggests that approximately 87.67% of the variations observed in „international trade " can be accounted for by the independent variables included in the model.

This high R-squared value indicates a robust fit of the model to the data, signifying that the chosen variables collectively capture a substantial portion of the variation in "international trade."

Let's now delve into the interpretations of the coefficients of the independent variables:
“FDI net outflows”: This variable shows a statistically significant positive impact, supported by a coefficient of 0.0141703 ($t = 2.68$, $p = 0.008$). This finding indicates that an increase in "FDI net outflows" is associated with a positive change in „international trade." In simpler terms, higher levels of outward foreign direct investment appear to contribute positively to the „international trade" variable .FDI net inflows: demonstrates a highly significant positive relationship with a coefficient of 0.0864185 ($t = 5.76$, $p < 0.001$). This suggests that higher values of "FDI net inflow" have a substantial positive effect on "international trade," underscoring the strong influence of inward foreign direct investment on the "international trade „variable. The variable "corruption" shows a statistically significant negative impact with a coefficient of -0.2476993 ($t = -3.88$, $p < 0.001$). This implies that higher levels of corruption are associated with lower values of „international trade." This result highlights the adverse effects of corruption on international trade activities within the research context.
On the other hand, "Rule of Law" demonstrates statistical significance with a coefficient of 0.1559533 ($t = 2.29$, $p = 0.023$). This suggests that stronger adherence to the rule of law is associated with higher values of "international trade," indicating that a robust legal framework fosters a conducive environment for international trade. Although "regulatory quality" exhibits a positive coefficient of 0.0576446, it is not statistically significant ($t = 1.24$, $p = 0.216$). This implies that regulatory quality may not exert a substantial impact on "international trade" in this particular research context, as it fails to reach the threshold of statistical significance. The variable of voice and accountability displays a highly significant negative effect with a coefficient of -0.240476 ($t = -3.71$, $p < 0.001$). This indicates that higher levels of voice and accountability are associated with lower values of "international trade." This suggests that increased scrutiny and accountability may potentially hinder the "international trade" variable in this specific context.
What’s more, “Control of Corruption" exhibits a statistically significant positive impact with a coefficient of 0.0514651 ($t = 2.03$, $p = 0.043$). This implies that stronger control of corruption is linked to higher values of "International trade," suggesting that effective anti-corruption measures may promote international trade. Finally, "GDP" demonstrates an exceptionally strong and highly significant positive relationship with a coefficient of 0.9808462 ($t = 21.14$, $p < 0.001$). This implies that higher GDP levels are strongly associated with greater „International trade," emphasizing the pivotal role of economic prosperity in driving international trade activities within the research context. In conclusion, this linear regression analysis reveals that „International trade " is significantly influenced by a range of parameters. Higher levels of "FDI net inflow," stronger control of corruption, and higher GDP are all associated with higher levels of „International trade." Conversely, higher levels of corruption and increased voice and accountability are connected with lower „International trade." Additionally, the rule of law appears to have a beneficial impact on „International trade," although regulatory quality does not seem to exert a substantial influence. These findings provide valuable insights into the factors influencing „International trade „within the context of the analysed data.

4.3 Hausman Taylor

The coefficients for exogenous variables, particularly those related to foreign direct investment, corruption, rule of law, regulatory quality, voice and accountability, and control of corruption, provide crucial insights into their influence on "export." Notably, "FDI net outflows" and "FDI net inflows" emerge as significant factors, with their positive coefficients indicating a favourable connection with "export." Conversely, "corruption" exhibits a negative coefficient, signifying that higher levels of corruption are associated with reduced values of „exports." "Rule of Law" underscores its significance with a positive coefficient, implying that stronger adherence to the rule of law corresponds to higher values of "exports." However, "regulatory" shows a positive coefficient but lacks statistical significance, warranting cautious interpretation. "Voice and accountability" and "control of corruption" exhibit negative coefficients, suggesting that higher levels of voice and accountability, as well as control of corruption, are linked to lower "exports." Moving on to the coefficient for the endogenous variable "GDP," it emerges as a crucial determinant with a highly significant positive coefficient. This emphasizes that a higher GDP is strongly associated with greater „exports”. Regarding the "code" variable, representing time-invariant factors, it does not demonstrate statistical significance. This implies that its impact on „exports „in this context is limited. The intercept, denoted as "_cons," is marginally statistically significant and represents the estimated value of "exports“when all other independent variables are zero. The presence of random effects, as indicated by sigma_u and sigma_e, highlights nuanced variations between groups and within each group. The value of rho signifies the proportion of variance attributed to the random effects, providing insights into the fraction of total variation in "exports" arising from inter-group differences. In summary, this Hausman-Taylor estimation offers valuable insights into the determinants of „exports," shedding light on the roles played by foreign direct investment, governance factors, and GDP. These findings contribute to a nuanced understanding of the dynamics governing „exports „within the confines of this analysis. Moreover, the acknowledgment of random effects and group-level heterogeneity adds depth to our comprehension of the complex relationships in international trade and economic growth. These results hold significance for future research and policy considerations in the fields of international economics and governance. Further analysis of these variables and their impact on „exports " can provide additional insights into the dynamics within the specific research context.

5 Conclusion

This comprehensive paper has explored the intricate relationship between foreign direct investments (FDI) and international trade within the context of the Western Balkan Countries-6 (WB-6). Through the examination of several hypotheses and models, we have gained valuable insights into how FDI inflows impact trade activities and economic growth in this region. The findings contribute to our understanding of the complex dynamics at play and offer potential implications for policymakers, investors, and stakeholders in the WB-6 countries.

The analysis strongly supports Hypothesis I, which posited a positive relationship between FDI and international trade in the Western Balkan Countries-6 (WB-6). Positive coefficients of FDI net inflows in most models indicate a connection between FDI inflows and increased import and export activities, acting as a proxy for international trade. However, variations in the strength of this relationship across different models suggest the influence of additional factors in the WB-6 region. Further exploration is needed for Hypothesis II, which examines the impact of political stability on import and export (a proxy for international trade) in the context of FDI in the Western Balkan Countries-6 (WB-6). Findings suggest that political stability may not have the expected positive influence. Some estimations show a negative coefficient, indicating that higher political stability is associated with lower import and export levels. Investigating potential mechanisms, such as the "Dutch Disease" phenomenon, is crucial.

In extending the conclusion, the findings of the analysis provide support for Hypothesis I which postulated a positive relationship between FDI and international trade. The positive coefficients of “FDI net inflows” in most models indicate that FDI inflows are associated with increased import and export activities, serving as a proxy for international trade we acknowledge that the path to economic growth and international trade development in the WB-6 countries is a multifaceted journey. The policy implications outlined above, grounded in our research findings, serve as valuable guideposts for navigating this path effectively. As these countries continue their transition toward greater economic prosperity, it is imperative to emphasize the critical role of FDI as a catalyst for international trade and growth. However, this role can only be fully realized through strategic policymaking and concerted efforts. The potential benefits of regional integration among the WB-6 countries cannot be overstated. A unified approach to trade facilitation, investment promotion, and harmonized regulations holds the promise of unlocking new avenues for economic cooperation and progress. While our findings may challenge conventional wisdom regarding the relationship between political stability and international trade, we stress that political stability remains a cornerstone for attracting foreign investments. It creates the essential foundation upon which economic development can flourish. Investing in human capital, particularly in education and skills development, is a long-term commitment that will enable the WB-6 countries to fully harness the advantages of FDI. A skilled and adaptable workforce will not only attract more investments but also drive innovation and enhance global competitiveness. In conclusion, our research offers a roadmap for policymakers in the WB-6 countries as they navigate the complex terrain of economic growth and international trade. The pursuit of these policy implications, coupled with a commitment to good governance, can pave the way for a brighter and more prosperous future in the Western Balkans and beyond.

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Philosophical Sciences

THE SPECIFICS OF THE NATIONAL CULTURE OF AZERBAIJAN

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The global process of cultural development and the change of the value system is actually a variety of national types of cultural dynamics, united in a kind of generalizing construction. In this context, the culture of Azerbaijan can serve as a single example, on the basis of which it is possible to formulate general provisions of the dynamics of culture.

As in the case of other countries and societies, "the multifaceted manifestations of Azerbaijani culture require historical parallels between the past and the present of the existence of this people, a detailed analysis of the traditions that make up the spiritual essence, moral foundations, ethnic characteristics that are the core of the national mentality, the spirit of Azerbaijanis" [Agasieva E. A.].

Leaving aside the archetypes inherent in all peoples, let's focus on the nature of the ethnic picture of the world, trying to identify the specifics of the worldview and ideas about man developed by Shiite Islam on the basis of the Turkic mentality [Note 1]. How they are refracted in the sphere of spirituality, how they influence the formation of the ideological foundations of the modernization of the state and society. Do they have the potential seen by M. Weber in Protestantism, what ethics in this regard can be offered by religious tradition to modern society?

It is important to note that the historical and geopolitical realities of Azerbaijan, which is permanently passing under the aegis of various external centers of influence, contributed to the formation of a plastic, not a symbiotic culture [Note 2]. Even the colonization of Azerbaijan by Russia, which became a new type of socio-cultural shock, since the clash of cultures was no longer within the framework of a single civilization, but a great confrontation: the East – The West did not violate the plastic nature of the Azerbaijani cultural tradition, although its new synthesis of that time was largely determined by Western value orientations.

Due to the constant interaction with other cultures, Azerbaijani culture, however, in addition to plastics, has also acquired the characteristic features of marginality. The marked marginality everywhere contributed to the formation of "loose" states and societies of reduced political culture. They were characterized by an inadequate assessment of the importance of statehood and the large-scale stratification of society, which testified to the strong motives of traditionalism that persist in culture, which often seems to be the basis of any development.

The "advantages" of such development are formed in the force field of the culture itself, open to external influence. They consist in the production of synthetic forms of spirituality, the ability to plastically and in their own original way introduce elements and whole currents of cultures of other peoples into the context of national culture, in susceptibility to religions and especially heresies, languages, ideologies, the orientation of spiritual searches mainly into the future, in a mystical, and therefore intuitive attitude to life. One of the main positive aspects is a high degree of adaptation to external influences, which generates a fan of lifestyles that contribute to maintaining stability in the most unfavorable conditions.

The "cons" determined the nature of political culture: lack of rigid socio-cultural and political self-identification, weak attachment of self-reflection to history, self-valuable connection not with the real, but with the mythical past, low need for participation in state and public affairs; setting "world" - instead of concrete practical problems; lack of sound pragmatism, aspirations and thoughts with earth to heaven.

As a result, the ethnic interpretation of any social phenomenon or institution is invariably burdened with spiritual reflections, often anti-systemic, and therefore destructive. The idea of establishing a better life "here" and "now" is often replaced by illusions about life "there" and "then".

Paradoxically, such a typically introverted political culture seems to be extremely open, accessible and understandable; a culture actively seeking salvation of the human soul in transcendental principles and ideals far from reality, because in "this" world there is no hope and chance for salvation. Since this is a world of universal evil and injustice, which cannot be reformed or rebuilt, it can only be, and therefore it must be destroyed, totally destroyed, and a new world built on the wreckage. The pent-up energy of the masses in rare but violent periods of passion itself acts as a destructive political force, fermented by unconscious motives.

Unlike extroverted political cultures, which balance internal and external energy for pragmatic creation, introverted culture is so preoccupied with universal problems that it leaves no time for solving "small" everyday problems. This high, excessive culture can hardly and wants to return to small forms of creativity, it becomes despotic in its ultimate demands, and therefore, like any tyrant, extends unfreedom and adherence to traditions, primarily to itself. The future "eternal" freedom cancels temporary freedom for centuries, the freedom of earthly life, the freedom of human thinking and behavior on earth. This voluntary enslavement, having reached its limit, tries to break out of the iron grip of unfreedom, but the dark force - the awakened initiative - throws it into even greater unfreedom and there is a rapid replacement of democratic values with tyrannical dogmas.

And that is why such a society (not only for external reasons) is constantly experiencing periods of prolonged interruption of natural-historical development, the features of which are the tormenting heart and mind immersion in an inescapable inertia, seemingly endless. And suddenly, at the peak of hopelessness, the ever-transiting society breaks down into a frenzied reckless burning of historical time, in which a day goes by for a year or a century. This is an anomalous, but immensely informative cultural paradigm, overturned into political realities, based on the experience of its negative results for the rest of the world, weakly interconnects and subordinates the past, present and future. The mode of time finds its ugly refraction in the indomitable idea of the continuous expansion of people's living space. The expansion of space by this political culture, the bearer of which is categorically determined to save the world by any means: by sacrificing the "other", and in rare cases, himself. It is important, however, to note that this cultural paradigm (and this is one of the reasons for its acceptance by man and society) does not require internal conviction of its rightness, external submission, indicative adherence to its rituals is sufficient for it.

This is a kind of demonstrative maximalism, which does not know restraining principles, forms the lifestyle of society, infecting it with its traditionalism, passive conservatism, nevertheless, sometimes spilling out into aggressive destructive acts aimed at implementing the only acceptable monoidea.

The chimerical nature of the latter and its aggressive expansion eliminate any rudiments of pluralism and democracy, totalitarianly distorting and trivializing their essence and essence, reducing them to the "standards of tradition". It is paradigmally destructive and destructively paradigmatic, it is universal, universal, absolute, it is "logical and consistent" in its own way, and therefore anti-rational, anti-pragmatic. And its first victims are law and politics, since morality and morality, the lifestyle of society have already been captured by it a priori in the "initial conditions" of this suicidal experiment. The ideologization of law opens up a wide scope for arbitrariness, universal information of the diversity of people's life activities to a finite set of absurd, but strikingly tenacious norms. The artificial world built on these phantoms, meanwhile, quite really exists and develops due to the numerous material and spiritual sacrifices made in the name of its quasi-existence.

Nothing is experienced so mournfully and inconsolably by this world as the absence of a clear ideological line, acting as a direct directive or order for execution. The society of such a world is rushing in search of lost ideologies, in an effort to restore the concepts of a universal solution to a problem that is not really worth a damn. It is no coincidence that the slide towards another authoritarianism and messianism in such societies is already visible in the era of democratization, and the ideals of the political elite and the specifics of the charisma of the leaders are identical to the nature of the socio-cultural and political processes unfolding.

It is for such societies, for their cultures, that the real values of the postmodern worldview and technological innovations in the field of information pose the greatest danger. The political culture of such societies is most exposed to the threat of loss of self-identification, the formation of forced lifestyles, which naturally leads to the erosion of the value foundations of their spiritual culture.

N. Wiener's statement that the amount of information is a measure of the organization of the system is more true than ever; however, for some systems (societies) this amount has not yet led to a qualitative transition to a level of organization that can contribute to the self-preservation of culture in the harsh realities of globalization and the information revolution, which can lead the societies of these states both into the realm of information culture and into the desert, depicted by K. Marx as a consequence of the uncontrollability of culture…

Perhaps that is why such traditions in the space of politics are not subject to rigid national, psychological, linguistic self-identification, showing a weak historical attachment to self-reflection and selectivity to connections with the past. Spiritual aspiration has a vector directed from earth to heaven (Shiite Islam is a Messianic direction that gives exceptional value to the future coming of the Savior). At the same time, the Protestant character of Shiism, the permanent struggle of the minority against the majority, in which any methods were good, up to the principle of takiya [Note 3], formed a dynamically developing community of socially active people, the most successful in the economic sphere [Note 4].

Therefore, in the context of the correlation of philosophy and culture, it is necessary to clarify some modern problems: the model of sovereign democracy, the role of the state and government in the development of society, the concept of modernization, the importance of new ideologies, the mechanisms of cultural confrontation with the negative consequences of globalization.

Globalization is literally crashing down on culture, transforming the diversity of national cultures into a single unified postmodern project of serving the spiritual needs of a person of the post-industrial era, while for most states and peoples this era is a rather remote prospect. The logic of the unfolding of this process is explained and justified by the formation of a future universal culture, which supposedly must inevitably replace the disparate fragments of national cultures, since peoples, overcoming national borders and sovereignties, are on the way to merge into a single humanity, burying ethnic conflicts, socio-cultural and economic contradictions. Despite the respectable criticism of such futurology, the beginning of the "millennium of peace" shocked humanity with the level and intensity of the confrontation, which resulted in unprecedented large-scale acts of terrorism and blind retaliation.

In the context of globalization, culture as such, as a nationwide form of manifestation of spirituality, is not only rapidly transformed, but also disintegrates into separate fragments, no longer integrated by a single system of values. The criterion for selecting leaders and outsiders in various fields of culture is the degree of their successful commercialization and capitalization. Mass culture falsely presents itself as a culture in general, as a national culture. In this regard, it is enough to pay attention to the radical change of "values" and the selectivity (manipulation) of information of the most popular media - television.

The era of globalization poses a new threat to peoples and States whose culture is marginalized by the principle of cultural pluralism and the synthesis of a variety of cultural trends. We are talking about socio–cultural formations formed at the junction of two or more civilizations - their culture, primarily due to its heterogeneity, is influenced by the processes of globalization, blurring cultural identity.

Equally important is the ability of culture to predict the future, formulating its probable scenarios. Therefore, culture can be considered as creativity, as a breakthrough into a new spiritual space, as a continuous innovation. Culture is a phenomenon born of incompleteness, openness of human nature, the unfolding of human creative activity aimed at finding the sacred meaning of being. Culture in this sense is a great mystery. At the same time, as an established system with its own logic of development, culture can and does experience stages of painful growth, decline and abnormal development. Thus, the type of culture that has reigned over the past centuries has exhausted itself and is directly related to the numerous catastrophes threatening humanity. It can be said that the interaction of the ethnos with nature, contributing to the formation of the main features of the national spirit as a whole, is of a poetic nature [Agasieva]. Thus, the national spirit acts as a dynamic indicator of historical types of cultural transformation [Mutallimov T. B.].

How is the national cultural tradition changing in the conditions of postmodernism? Tradition presupposes a permanent appeal to the past, which constitutes the enduring value of culture. Postmodernism does not just deny the past, it treats it with destructive irony. Since the past teaches nothing, and the future is unpredictable, the only temporary reality of existence remains the present, absolutized by postmodernism: "By breaking the connection of times, postmodernism has turned the present into a point of residence and experience "here" and "now", not connected by causal relationships with the past" [Postmodernism Culture]. The "bad infinity" of the present – the search for redundant, generally repetitive forms and contents – is a forbidden topic for postmodernism, and at this point there is a break with the classical paradigm of the Western rational and artistic tradition. The gap implies a change in the direction of development, and in our case this change paves the way to the Eastern tradition, but not in order to merge with it, but to begin a great synthesis, integration of these two traditions, capable of opening new ways of development to knowledge.

Postmodernism does not just destroy the classics, it blurs the meaning of its traditional bearing categories and values: "The philosophy of postmodernism has clarified those basic concepts and those attitudes and orientations that have become fundamental in intellectual activity, characteristic of the style of thinking of the era. These are: firstly, the rejection of the truth, and, consequently, of such concepts as "source", "cause". Instead, the term "trace" is introduced; secondly, the rejection of the category "essence", which orients the researcher to search for depths, roots of phenomena, leads to the emergence of the concept of "surface" (resoma); Thirdly, the concepts of "metaphysics" and "transcendental" were of great importance in the discourse of modernity. Postmodernity opposes "irony" to "metaphysics", and "immanent" to "transcendent"; fourth, if modernity aspired to "certainty", then postmodernity gravitated to "uncertainty"; fifth, the terms "genre", "text boundary" are replaced by "text" or "intertext", which gives the viewer the freedom to create, ignoring the requirements of tradition; and, finally, postmodernism is aimed not at creation, synthesis, creativity, but at "deconstruction" and "destruction", i.e. restructuring and destruction of the former structure of intellectual practice and culture in general" [Postmodern culture].

Culture, having completed the formation of the "second nature", has moved on to the formation of the "third nature", formed by the information revolution. It is already clear to almost everyone that the information revolution is drastically changing the standards and lifestyle that have developed within the framework of the "second nature". The style of thinking is changing, mastering once important knowledge loses its meaning, increasing a person's dependence on audiovisual information and technology.

The variety of modern problems being built up in connection with the consideration of the process of interaction of cultures, their fundamental unsolvability in the context of classical approaches, requires, first of all, the formation of a new philosophical reflection based on a post-non-classical perception of the world that can pave the way to the future. And here we should not talk about the integration or synthesis of sciences, but about their convergence, defined as the convergence of the foundations of a number of natural and social sciences and technologies.

The object of post-non-classical science has become complex systems, which include historically developing systems, "human-sized" systems - the biosphere, society, society, etc. Modern cognition requires integration that unites not only science, but also art, morality, religion and other forms of social consciousness. At the same time, such integration should combine the diversity of cultural traditions, conventionally designated as eastern and western, but in fact are much broader.

Azerbaijan has to go a longer way, connected with the need to transform some stereotypes of the national cultural tradition.

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Note 1: Such a restriction in this case is not arbitrary, excluding attention to the peoples of Azerbaijan of non-Turkic origin. Firstly, many representatives of these peoples, due to the similarity of traditions and religion, assimilated the ethnic picture of the world together with the language; secondly, the process of consolidation of the Azerbaijani people is currently underway on socio-political, not ethnic grounds.

Note 2: It is known that "the region, in whole or in part, turned out to be part of such major powers as the Empire of Alexander the Great, the Sasanian state, the Baghdad Caliphate, the Seljuk Sultanate, the Empire of Genghis Khan, the Golden Horde, the Timurid Empire, the Safavid Empire, and, finally, the Russian Empire and the USSR. But there were periods of ethno–cultural stabilization within the framework of independent and strong states on the territory of Azerbaijan - the 1000–year-old Median kingdom, the Shirvanshah state that existed for over 900 years, and the first Turkic state in the Western world that existed for many centuries, Caucasian Albania, are known from the Bible. At the beginning of A.D., the Patriarchal Throne was located here. All world religions have left traces on the Azerbaijani land: Tengrianism, Christianity, Islam, Judaism, Buddhism, Hinduism" - see The Azerbaijani language and the language of Azerbaijani culture - The Azerbaijani language and culture of Azerbaijan in modern times - http://err.hc.ru/locked /? www.business-perevod.ru

Note 3: see http://ru.pages.wikia.com/wiki / - takiya, takyyah (Arabic) - in some areas of Islam, a "mental reservation", according to which a believer living in a hostile environment can outwardly accept its conventions, preserving the true faith in his soul. An external (imaginary) denial of one's own faith is permissible in circumstances that threaten the life of a believer. It can be used to hide genuine views. Received practice from Ismailis, alphabets, with certain reservations from Shiites (as well as Druze).

Note 4: In the 14th and 15th centuries, Shiites in Iran were "a persecuted and persecuted, although quite influential in both the economic and intellectual spheres, minority. In order to preserve the Shiite community, even the principle of "prudent concealment" of beliefs (takyyah) was developed, which was used to protect representatives of the community from the persecution of the Sunni "Inquisition" - Kuznetsov A. Shiite Sociology of Imagination. Posted on Sun, 11/20/2011 - http://www.imaginaire.ru/content / kuznetsov-shiitskaya-sociologiya-voobrazheniya.

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Қазақ қоғамы неге экзистенциализммен таныс емес?

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Экзистенциализм – XX ғасырдың алғашқы жартысы мен ортасында Еуропада үстемдік құрған философиялық бағыт. Кейіннен Америкаға, басқа да әлем елдеріне тарады. Оның пайда болуына түрткі болған ойшылдардың қатарын XVII ғасырдан бастауға болады. Әйгілі математик Паскальдың көзқарастарында қазіргі ғылым «экзистенциалистік бағыт» деп ат қойған ағымның алғашқы сарындары бар. Одан кейінгі әрі экзистенциализмнің негізін салды делінетін тұлға – XVIII ғасырда өмір сүрген публицист философ С.Кьеркегор. XIX ғасырда бұл бағыттағы ой тізбегін Достоевский мен Ницше жалғады. Бұл екеуін де кәнігі экзистенциалистке жатқызбаймыз. Дегенмен ықпалы жағынан бұл екеуінің еңбектерін экзистенциализмнің негізгі әдебиеттеріне жатқызуға болады.

XX ғасырдың алғашқы жартысында неміс философиясының жарқын өкілдері, Хайдеггер мен Ясперстің ізденістері экзистенциализмнің теориялық базасын тудырды. Ал Сартр мен Камью оны әлемге паш етті.

Осылайша Екіншідүниежүзілік соғыстан кейін экзистенциализ философиясы Еуропамен шектелмей, алдымен Америкаға сосын басқа әлемге тарады.

XX ғасырдың ортасында экзистенциализм философиясы қозғайтын категориялар ең маңызды тақырыптарға айналды. Оны осы ағымды паш етуші қос французға, Камью мен Сартрға нобель ұсынылуынан-ақ байқауға болады. Бұдан кейін әдебиет алаңы да жаппай сол тақырыптарға бұрылды. Еуропа мен Америка жазушыларының кенет Достоевскийді ұлықтап, жазу өнерінде жаппай соған еліктеуі көп нәрсені аңғартады. Теодор Драйзер, Джек Лондон сынды көптеген әдебиет алыптары өз мемуарларында Достоевкийді үлгі тұтқанын ашық жазады. Әсіресе Екіншідүниежүзілік соғыстан кейінгі басты тақырып, ол – «адамның ерік қалауы мәселесі» болатын. «Гитлердің әрекеті үшін кімді кінәлаймыз? Озбырлық болмыстың ішінен пайда болды ма, әлде қоғамның табиғи эволюциясының нәтижесі ме? Гитлердің таңдау еркі болды ма, әлде мұның бәрі түрлі себеп-шарттардың «жемісі» ме? Жалпы адамда еркі бар ма, жоқ па?

Соғыстың өзі аяқталғанымен оның қайшылықтары философиялық майданға жылысты. Ньюренберг трибуналын тек заңдық процесстер негізге алынған оқиға ретінде қарастыра алмаймыз. Ол бір жағынан адам бойындағы ерік, таңдау категорияларына қайта үңілдірді. Хайдегер, Ясперс, Сартр, Адорно мен Хоркхаймер, Ханна Аренд сияқты философтардың саяси істерге белсене араласуы, тіпті негізгі өкілдеріне айналуы соның бір белгісі. Ал Карл Ясперстің «Кінә туралы» атты еңбегі жеке адамның, ұжымның, мемлекеттік ерік мәселесін қозғады. Бұл еңбек алдымен Батыс Германияның, кейіннен бүкіл Еуроодақтың адам құқы мен жауапкершілігіне қатысты басты концепциясына негіз болды.

Қысқасы Еуропа мен Америка осылай ерік пен таңдау категорияларының түбіне жете алмай, шындық іздеп қырқысып жатқанда СССР бұл дауға араласпады. Есікті іштен бекітіп, томаға тұйық отырды. Басқаша болуы мүмкін де емес еді.

Адамның ерік-қалауы мәселесі қозғалған жерде социалистік ұстанымдар шайқалады. Советтік үкімет үшін ерік-қалаудың бір ғана түрі бар, ол – мемлекеттік мүдде. Жеке адамның еркі мәселесі қозғалған жерде мемлекеттік мүддеге бәсеке пайда болады. Сондықтан кеңестік өкімет экзистенциализмге тиым салды. Сол бағыттағы философтар мен жазушылардың еңбектерінің аударып, басылуына рұқсат берілмеді.

Әрине бұған бірнеше себеп бар. Алғашқы себеп экзистенциалистік идеялардың марксизмге қайшы келуі. Марксистік-ленинистік идеология ұжымдық мүддені, таптық күресті мақсат тұтады. Ал экзистенциализм жеке тұлғаны, болмысты зерттейді. Жекенің ерік қалауын, арман-мақсаттарын, болмыстық құндылықтарын ақтарады. Адамның еркі себеп шарттардан жоғары тұратынын айтады. «Адам – ерікті жаратылыс», «Еркіңнен бас тарту да ерікті түрде жүзеге асатын акт», «Адам өзінің жасаған таңдауларынан тұрады» деген ұстанымдар тотолитарлық құрылым үшін өте қауіпті ұран.

Екіншіден, экзистенциалистік бағыттағы ойшылдар мемлекеттік мүдде жекеден артық бола алмайтынын мәлімдейді.

Үшіншіден экзистенциализм «адам өзін өзі жасайды» деп жар салды. Советтік реализм адамды тура мағынасында мемлекет жасап шығады немесе жасап шыға алады деп түсінген. Зигмунд Фрейдтің идеяларынан шабыт алған Ленин совет адамының айқын моделін жасап шығамын деп арнайы балабақша ашқаны белгілі. Балаға сәби кезінен «арнайы тәрбие» беру арқылы «құрамы таза совет адамын жасаймыз» деп әлек болған.

Экзистенциализмнің кеңестік территорияға кіре алмауының тағы бір себебі – діни фактор. Экзистенциализм құдай, тылсым, трансценденция ұғымдарын жоққа шығармайды. Бұл философтардың легін атеистік және діни бағыттағы деп бөліп қарастыруға болады. Экзистенциалимнің негізгі тақырыбы – адам, еркін адам. Атеистік экзистенциалистердің де, діни экзистенциалистердің де бұл мәселедегі көзқарасы бір жерден шығады. Атеистері «Құдай бар» деген ұстанымға шүйлікпейді. Одан гөрі «ерік жоқ» деген ұстанымға көбірек шамданады. Сартрдың «Мен атеистпын. Бірақ менің атеистігім құдайдың жоқ екенін дәлелдеумен айналысатын атеизм емес» дейтіні содан. Ал советтік атеизмнің сипаты белгілі. Ол керісінше құдайдың жоқ екенін дәлелдеумен айналысатын құрылым. Сондықтан экзистенциализм философиясы советтік жүйе үшін қауіпті идея. Мұны жақсы түсінетін большевиктер Сартр мен Камьюдың көзқарастарын советтік тілдерге аударуға рұқсат берген жоқ. Бір қызығы, Камью мен Сартр алғашқы кезде социализмді қолдайтын саяси қайраткер болды. Бірақ бұл фактор да олардың шығармашылығының советтік алаңға кіруіне есік ашпады.

Осылайша кез келген кеңестік ел сияқты қазақ қоғамы да ХХ ғасырдың ортасындағы философияда ең негізгі рөл ойнаған, әрі әлі күнге дейін маңызын жоғалтпаған іргелі ағымның үнімен таныса алмады. Жекелеген ақын-жазушылардың шығармашылығынан экзистенциалистік сарындарды байқауға болады. Қалай дегенмен еркіндік аңсаушы ұлтқа еркіндік тақырыбы қалай қызық болмасын? Дегенмен жалпының еркіндігі жалқының еркіндігінен басталатынын ашып көрсеткен, нәзік сипаттап берген осы бір философиялық ағымның жемісі қазақ қоғамына әлі де толық жете қойған жоқ.

Сексенінші жылдары қазақ қоғамында кәнігі философиятанушылардың алғашқы легі пайда болды. Бірақ оларда кеңестік шектеулерден айналып өтетін мүмкіндік аз еді.

Тәуелсіздіктен кейінгі Қазақстан ғылым-білім саласының дамуына біржола бас қойып, аударма саласының жандануына күш салған жоқ. Әрине бұған алдымен экономикамен алысып, сосын жекелеген саяси амбициялармен күрескен саяси элитаның таяз әрекетін себеп болды.

Бүгінгі реалилер сол экзистенциялық проблемаларды айналып өту мүмкін еместігін көрсетті. Қазақ қоғамы жалпының әрі жалқының еркіндігі мәселесін жете талдап, анализ жасай алған жоқ. Қазіргі постсекулярлық қоғамда адамның еркі мен қалауы қайтадан аяқасты болып, ерік пен жауапкершілікті бірде қоғамға, бірде жаратушыға, әлдебір тылсым күштерге қарай ысыру тенденциясы күш алды.

Мұны тек экзистенциалистік философия анализдерге жүгіну арқылы ғана тізгіндеуге мүмкіндік бар. Сартрдың «Адамның экзистенциясы эссенциясынан бұрын жүреді» деген афоризмі бүгінгі қазақ қоғамының негізгі талдау тақырыбына айналуы қажет.

Legal Sciences

ЖОЛАУШЫЛАР МЕН ЖҮКТІ ХАЛЫҚАРАЛЫҚ ТАСЫМАЛУ ҮШІН ТАСЫМАЛУШЫНЫҢ ЖАУАПКЕРШІЛІГІ

ОТВЕТСТВЕННОСТЬ ПЕРЕВОЗЧИКА ПРИ МЕЖДУНАРОДНЫХ ПЕРЕВОЗКАХ ПАССАЖИРА И БАГАЖА

CARRIER'S RESPONSIBILITY FOR INTERNATIONAL CARRIAGE OF PASSENGERS AND BAGGAGE

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Түйіндеме. Бұл мақала жолаушылар мен жүкті халықаралық тасымалдау кезінде тасымалдаушының жауапкершілігі мәселесіне қатысты мәселелерді кешенін қарастыруға арналған. Автор халықаралық көлік құқығындағы тасымалдаушының жауапкершілігінің негіздері мен шектерін талдуға көп көңіл бөлген, сонымен қатар жолаушылар жүкті халықаралық тасымалдаудың құқықтық реттеудің негізгі қайнар көздері ретінде көптеген халықаралық шарттар мен ұлттық заңнама актілерін егжей-тегжейлі қарастырады.

Түйінді сөздер: жолаушы, тасымалдау,жүк,жалықаралық-шарт.

Аннотация. Настоящая статья посвящена рассмотрению комплекса вопросов, связанных с проблемой ответственности перевозчика при международных перевозках пассажиров и багажа. Автор анализирует основания и пределы ответственности перевозчика в международном транспортном праве. Автор детально рассматривает широкий круг международных договоров и актов национального законодательства как ключевых источников правового регулирования международных перевозок пассажиров и багажа.

Ключевые слова: пассажир, перевозка, груз, междунарордный договор.

Annotation. This article is devoted to the consideration of a set of issues related to the problem of carrier liability during the international transportation of passengers and baggage. The author analyzes the grounds and limits of carrier liability in international transport law. The author examines in detail a wide range of international treaties and acts of national legislation as key sources of legal regulation of international transportation of passengers and baggage.

Key words: passenger, transport, cargo.

Халықаралық багажды тасымалдау қазіргі әлемде елдер мен континенттер арасындағы байланысты қамтамасыз ететін маңызды рөл атқарады. Алайда, багаж жоғалған, бүлінген немесе кешіктірілген жағдайда тасымалдаушының жолаушылар алдындағы жауапкершілігі туралы сұрақтар туындайды. Бұл мақалада жүкті халықаралық тасымалдау кезінде тасымалдаушының жауапкершілігінің негізгі аспектілерін қарастырамыз.

Халықаралық тасымалдау кезінде тасымалдаушылар мен жолаушылардың құқықтары мен міндеттерін реттейтін негізгі құжаттардың бірі 1929 жылғы Варшава конвенциясы болып табылады [1]. Бұл құжат халықаралық әуе тасымалы кезінде багаждың жоғалуы, бүлінуі немесе кешігуі үшін тасымалдаушының жауапкершілігін белгілейді.

Сонымен қатар, 1975 жылғы Монреаль хаттамасында [2] жолаушылар мүдделерін қорғауды күшейте отырып, Варшава конвенциясының кейбір ережелеріне түзетулер енгізілді.

Жауапкершілік шектеулері.Тасымалдаушы жолаушылардың багажына жауап береді, бірақ бұл жауапкершілікте шектеулер бар. Варшава конвенциясына сәйкес, тасымалдаушы белгілі бір зиян түрлері үшін немесе келтірілген залал мөлшері белгіленген шектен асып кеткен жағдайда жауап бермейді.

Жоғалған, зақымдалған және кешіктірілген багаж.Жүк жоғалған, бүлінген немесе кешіктірілген жағдайда жолаушы оқиға туралы тасымалдаушыға дереу хабарлауға міндетті. Бұл тасымалдаушыға өтемақы немесе жоғалған багажды іздеу процедурасын бастауға мүмкіндік береді.

Өтемақы төлеу тәртібі.Тасымалдаушы жолаушыға келтірілген зиянды белгіленген нормалар шегінде өтеуге міндетті. Бұл ережелер әр елде әртүрлі болуы мүмкін және ұлттық заңнамаға бағынады.

Тәжірибе және ұсыныстар.Кейбір жағдайларда жолаушыларға жүкті жоғалудан, зақымданудан немесе кешігуден сақтандыру ұсынылады. Бұл қосымша қорғауды қамтамасыз етеді және күтпеген жағдайларда өтемақыға кепілдік береді.

Тасымалдаушының жауапкершілігі мәселесі ең күрделі және толық шешілмеген мәселе болды және болып қала береді. Көлік ұйымдарының жауапкершілігі жолаушылардың мүдделеріне тікелей әсер ететіндігі оны растайды. Тасымалдаушының жауапкершілігі неғұрлым жоғары болса, жолаушылар соғұрлым сенімді сезінеді. Сондықтан тасымалдаушының жауапкершілігін халықаралық-құқықтық реттеуде екі маңызды міндеттін шешуді қамтамасыз етуі керек:

1. Көлік қызметтерін пайдаланатын жолаушыларға лайықты түрде қорғауды қамтамасыз ету
2. Экономикалық қиындықтарды бастан кешіретін елдере шамадан тыс қаржылық қиындықтар туғызбауға ынталандыру және тасымалдаушыларды тасымалдау процесін дұрыс ұйымдастыруға және оларға көлік желілерінің қалыпты жұмыс істеуіне қауіп төндірмеу.

Көптеген халықаралықты тасымалдау келісімдерінде тасымалдаушының жауапкершілігінің шегін белгіленеді. Ол жолаушының денсаулығына зақым келген жағдайда төленетін өтемақының ең жоғары мөлшері ретінде және жүк бұзылған жағдайда талап етілетін өтемақының ең жоғары мөлшері ретінде анықталады. Тасымалдаушының жауапкершілігінің шегін әртүрлі тәсілдермен анықтатады. Жолаушыларды тасымалдау үшін зардап шеккен адамға және оның асырауындағы адамдарға өтемақының ең жоғары мөлшерін белгілеу. Жүкті тасымалдау кезінде бұл тасымалдауға рұқсат етілген ең жоғарғы салмақ бірлігіне қатысты, ал кейбір жағдайларда тасымалданатын жүктің бірлігіне қатысты да белгіленеді. Жүкті жеткізуді кешіктірген жағдайда тасымалдаушының жауапкершілігінің шегі әдетте тасымалдау ақысы немесе оның белгілі бір бөлігіне қатасты мөлшерде болып табылады.

Көлік саласындағы халықаралық шарттар мен конвенциялар жүйесі халықаралық құқық жүйесінің құрамдас элементі болып табылады және осы құжаттарда белгіленген талаптарды орындамайынша жолаушыларды трансшекаралық тасымалдау мүмкін емес.

Жолаушыларды автомобиль көлігі саласындағы бірыңғай нормалар мен стандарттар көпжақты деңгейде атап айтқанда, БҰҰ жүйесіндегі ұйымдарда көлік инфрақұрылымы, көлік құралдары және олардың жабдықтары сияқты аспектілерді қамтитын халықаралық келісімдер мен конвенциялардың қабылдануымен байланысты оның ішінде шекарадан өту тәртібі, көлік операциялары және басқалары кеніңнен тараған.

Қазіргі уақытта БҰҰ жолаушыларды халықаралық автомобиль тасымалдары саласына тікелей әсер ететін 5 көпжақты құқықтық құжатты қабылдады:

• Жолаушылар мен жүкті көлікпен халықаралық тасымалдау шарты туралы конвенция [3];

• Жолаушылар мен багажды автомобиль көлігімен халықаралық тасымалдау шарты туралы Конвенцияға хаттама[4];

• Туристерге арналған кеден нысандары туралы конвенция[5];

• Туристерге арналған кеден нысандары туралы конвенцияға қосымша хаттама. [6];

• Халықаралық автомобиль тасымалдарын жүзеге асыратын көлік құралдарының экипаждарының жұмысы туралы Еуропалық келісім (AETR). [5];

1973 жылы 1 наурызда Женевада жолаушылар мен жүкті автомобильмен халықаралық тасымалдау шарты (CVR) туралы конвенцияға қол қойылды.[3]

Бұл халықаралық нормативтік құжат БҰҰ ЕЭК Ішкі көлік комитеті шеңберінде әзірленді және халықаралық жолаушылар автомобиль тасымалдарын реттейтін негізгі құжат болып табылады.

Конвенцияның негізгі мақсаты жолаушылар мен багажды халықаралық автомобильмен тасымалдау қауіпсіздігін арттыру болып табылады. Конвенцияның негізгі ережелері жолаушылар тасымалының құжаттамасына, шарттық міндеттемелерді орындамағаны үшін жауапкершілікке, талап-арыздар мен талап арыздарды беру тәртібіне қатысты. Жолаушылардың құқықтары мен міндеттеріне қатысты және өкінішке орай қол жүгі мен багажды тасымалдау стандарттарын белгілеуге қатысты маңызды мәселелерді конвенцияда реттемеген.

Дененменде конвенцияға қатысудың бірнеше артықшылықтыры бар, атап айтсақ:

• жолаушылар мен багажды халықаралық автобуспен тасымалдау қауіпсіздігін арттырылған;

• жолаушылар мен багажды халықаралық тасымалдаудың бірыңғай келісімі енгізілген;

• жолаушылар мен багажды халықаралық тасымалдау үшін қажетті құжаттардың нақты тізімін енгізілген;

• тасымалдаушылардың жауапкершілігінің нақты шектерін белгіленген;[3]

Әртүрлі халықаралық қатынастардың кеңеюі мен күшеюіне, олардың шын мәнінде дүниежүзілік қамтуына байланысты жолаушылар мен жүкті халықаралық тасымалдау (көліктің әртүрлі түрлерімен) туралы жасалған келісімдердің саны тұрақты түрде өсіп келеді және оларды реттеу мен қолдану тәжірибесі бар және қарқынды дамуда. Жоғарыда айтылғандарды ескере отырып, жолаушыларды және жүкті тұтастай алғанда (көліктің әртүрлі түрлерімен). Халықаралық тасымалдау шартын құқықтық реттеу жүйесі ғылыми талдаудың ерекше пәні болып табылады. Жаппы халақаралық шарт ол азаматтық-құқықтың бір бөлігі ғана емес оны жеке халықаралық құқық тұрғысынан қарау керек.

Конвенцияға сәйкес жолаушыны тасымалдау шарты билетпен ресімделеді. Шартты билет жеке немесе ұжымдық жолаушы билет болуы мүмкін. Конвецияда билеттің болмауы немесе оның жоғалуы жолаушыларды халықаралық тасымалдау шартының күшіне әсер етпейтіні туралы маңызды ережені бекіткен.

Мыналар халықаралық тасымал деп танылады:

1) Қазақстан Республикасының аумағынан экспортталатын және Қазақстан Республикасының аумағына импортталатын тауарларды, оның ішінде пошта жөнелтілімдерін тасу;

2) Қазақстан Республикасының аумағы арқылы транзиттік жүктерді тасу;

3) халықаралық қатынаста жолаушыларды, багажды және жүк багажын тасымалдау;

4) халықаралық қатынаста жолаушылар поездарының (вагондарының) жүріп өтуі бойынша көрсетілетін қызмет.

Егер тасымалды ресімдеу осы баптың 4-тармағында белгіленген бірыңғай халықаралық тасымалдау құжаттарымен жүзеге асырылса, осы тараудың мақсаттары үшін тасымал халықаралық тасымал болып есептеледі.

Халықаралық тасымалды бірнеше тасымалдаушы жүзеге асырған жағдайда, халықаралық тасымалға Қазақстан Республикасының шекарасына дейін тасымалдаушы немесе соның көлігі арқылы жолаушылар, тауарлар (пошта жөнелтілімдері, багаж, жүк багажы) Қазақстан Республикасының аумағына әкелінген тасымалдаушы жүзеге асыратын тасымал жатады.

1921 жылы Гаага ережесінде «тасымалдаушы» термині енгізілді. «Қазақстан Республикасының Көлік туралы» [7] Заңына сәйкес тасымалдаушы — бұл меншік құқығы негізінде немесе басқа да заңдылық негізде көлік құралын иеленетін жүкті, жолаушыны, тендеме жүкті және поштаны өтемақыға немесе, сәйкесінше, рұқсат не белгіленген тәртіпте берілген лицензия негізіңде жалдауды ұсынатын жеке немесе занды тұлға

Жүк тасымалдау жолаушылар үшін де, тасымалдаушылар үшін де белгілі бір Халықаралық құқықтар мен міндеттерді білдіреді. Өз құқықтарыңызды білу және халықаралық ережелер мен келісімдерден хабардар болу туындаған мәселелерді тиімді шешуге және тасымалдау процесінде барлық тараптардың мүдделерін сенімді қорғауды қамтамасыз етуге мүмкіндік береді.

Қолданылған әдебиет:

1.Қазақстан Республикасының Варшавада 1929 жылғы 12 қазанда қол қойылған Халықаралық әуе тасымалдарына қатыста конвенция. ҚР 2001 жыл 25 маусым №215-11

2. Монреальский протокол по веществам, разрушающим озоновый слой .Принят 16 сентября 1987 год. https://www.un.org/ru/documents/decl_conv/conventions/montreal_prot.shtml

3.Конвенция о договоре международной автомобильной перевозки пассажиров и багажа (капп) совершено в женеве 1 марта 1973 года (дата обращения 21.10.2023) https://unece.org/DAM/trans/conventn/CVR_r.pd

4. Дополнительный протокол к конвенции о договоре международной дорожной перевозки грузов (кдпг) (не вступил в силу) (https://base.garant.ru/2565757/ (дата обращения 21.10.2023)

5.Конвенция о таможенных льготах для туристов (Нью-Йорк, 4 июня 1954 г.) https://online.zakon.kz/Document/?doc_id=30243622(дата обращения 21.10.2023)

6. Дополнительный протокол к Конвенции о таможенных льготах для туристов. Европейское соглашение, касающееся работы экипажей транспортных средств, производящих международные автомобильные перевозки

7. Закон о транспорте в Республике Казахстан от 21 сентября 1994 года №156

Literature

EKSTRALİNQVİSTİKANIN NİTQ MƏDƏNİYYƏTİNƏ TƏSİRİ

Abdullayeva Səminə Sabir qızı

Giriş

Ekstralinqvistika termini mənşəcə latın dilinə məxsusdur. Termin qruluşca iki tərkib hissədən ibarətdir: *ekstra*-üstün, xaric, kənar, *linqvistika* isə dilçilik mənasını bildirir. Odur ki, bu termin dilçilikdə *dilxarici* qarşılığı ilə əvəz edilmişdir. *Ekstralinqvistikanın* parametrləri biristiqamətli deyildir. Ekstralinqvistika bir çox şaxələnmiş amilləri əhatə edir ki, onlar əslində dilxarici olsa da dilə, onun ifadə tərzinə, üslubi rəngarəngliyinə, o cümlədən, dil elementlərindən məqsədyönlü şəkildə istifadə məsələlərinə ciddi təsir göstərir. Beləliklə, ekstralinqvistik amillər dildən kənar olsa da onlar dilin müvafiq situasiyalarına təsir göstərməklə özünəməxsus dil strukturu elementlərinin formalaşmasına da zəmin yaradır. Ekstralinqvistik amillər başlıca olaraq dilin sosial problemlərinə uyğun olaraq baş qaldırır. Buraya daxil olan təsiredici vasitələr və onların nizamlanması üsullarını aşağıdakı kimi ümumiləşdirmək olar:

1. Beynəlxalq intqerasiya mühitinin yaranması ilə yeni informasiyaların yayılması şəraitində alınmaların qaydaya salınması, onların unifikasiyası; yəni ana dilinormalarına uyğunlaşdırılması
2. Akademik və işgüzar kommunikasiya vasitələrinin genişlənməsi ilə əlaqədar dil normalarının tənzim olunması
3. Cəmiyyətdə baş verən iqtisadi, ictimai, sosial, mədəni-məişət hadisələri ilə bağlı dil vasitələrinin nizamlanması
4. Ana dilinin inkişafı ilə bağlı üslublar sistemində normaların sabitləşdirilməsi
5. Ana dili elementlərində bədii informasiya vasitələrinin (ritorizmin, poetizm yaradan ritmik vasitələrin, təkrar və paralel nitq elementlərinin) tələffüz və nitq üsullarına dair prosodik normaların müəyyən edilməsi.

Elmi-tədqiqat işində başlıca olaraq ekstralinqvistik hadisə ilə bağlı, prosodik-nitq normalarına dair problemlər ümumiləşdirilir.

NİTQ MƏDƏNİYYƏTİNİN ÜMUMİ PROBLEMLƏRİ

Nitq mədəniyyətinin yaranması və inkişafı barədə tarixi xülasələr

Nitq mədəniyyətinin yaranması və formalaşması prosesindən bəhs edərkn ilk növbədə Azərbaycan xalqının qədim mədəniyyət abidəsi olan "Kitabi-Dədə Qorqud"un dilini xatırlatmaq lazım gəlir. "Kitabi-Dədə Qorqud"un dilinə həsr olunmuş tədqiqatlarda haqlı olaraq bu möhtəşəm abidənin dili poetik dil adlandırılır.[2] Ancaq bu kitabın dili o qədər zəngin, o qədər canlı, o qədər ecazkardır ki, onun əzəmətini və vüsətini təkcə poetikliklə məhdudlaşdırmaq olmur. Bu dilin elə bir bənzərsiz üslubu vardır ki, tarixlər boyu bu üslubda yazılmış ikinci bir nümunəyə rast gəlmək mümkün deyildir. Kitabın özündə deyildiyi kimi, "Rəsul Əleyhüssəlam zamanına yaxın bir müddətdə" ərsəyə gəlmiş bu abidənin zamanlara və əsrlərə nümunə olan qeyri-adi üslubu həqiqətən də heyrətləndirici-

[2] Vəliyev K. Azərbaycan dilinin poetik sintaksisi. ("Kitabi-Dədə Qorqud"un materialları üzrə). Bakı, ADU nəşr., 1981; Vəliyev K. Dastan poetikası. Bakı, Yazıçı, 1984; Yusifov M. "Dədə Qorqud" xalqımızın reallıq dastanıdır. (Mühaziraçinin tribunası) Gəncə, 1997; Abdullayev B. "Kitabi-Dədə Qorqud"un poetikası. Bakı, Elm, 1999; Tanrıverdi Ə. "Dədə Qorqud" kitabının dil möcüzəsi. Bakı, Nurlan, 2008; Əliyev K. Eposun poetikası. "Dədə Qorqud" və "Koroğlu". Bakı, Elm və təhsil, 2011.

dir. Adlı-sanlı sənətkarlar ölməz bədii nümunələr yaratmış olsalar da “Dədə Qorqud” dilinin bənzəri səviyyəsində əsər yaratmaq kimsəyə müyəssər olmamışdır. Yaranma tarixi ilk orta əsrlər dövrünə gedib çıxan belə bir ecazkar əsərin mövcudluğu onu göstərir ki, Azərbaycan dili hələ qədim dövrlərdə çox güclü nitq mədəniyyəti ənənələrinə malik olmuşdur. Ancaq Azərbaycana ərəb müdaxiləsindən sonra qədimdə formalaşmış zəngin dil ənənələrinin varisliyində fasilələr baş vermişdir. Xüsusilə, daha sonralar poetik nümunələrin yaranmasında fars dilinin hegemonluğu bu fasiləliyin bir qədər də artmasına səbəb olmuşdur. Dilə ərəb- fars elementlərinin axını nəinki “Kitabi-Dədə Qorqud” üslubunu ləngitmiş, hətta, yazılı nümunələrin anlaşılmasını xeyli çətinləşdirmişdir. Bunun nəticəsidir ki, klassik nümunələrimizin bir çoxunun dili müasir dövrümüz üçün anlaşılmaz səviyyədə qalmışdır. Bununla belə “Dədə Qorqud” ənənələrinin izləri tamamilə itib getməmiş, ayrı-ayrı bədii nümunələrində öz varisliyini saxlamaqda davam etmişdir. “Dədə Qorqud” dilinin əzəməti ondadır ki, onun üslubu bütün dil səviyyələrinə məxsus elementləri poetikliyə gətirib çıxaran bədii paralellik üzərində qurulmuşdur. Buna görə də “Dədə Qorqud” dili başdan-başa çox zəngin poetik ritmiklik nümunəsinə çevrilmişdir. “Kitabi-Dədə Qorqud”un dili adi natiqlik nümunəsi deyil, ana dilimizdə əvvəlcədən mövcud olmuş zəngin nitq ənənəsinin ardıcıllıqla davam edən varisliyidir. Bədii paralellizm türk poeziyasının qədim əlamətlərindən biridir. Bu poetizmin bariz nümunələrinə Orxon-Yenisey kitabələrinin dilində və eyni zamanda digər qədim türk yazılı abidələrində rast gəlmək mümkündür. Əbülfəz Rəcəbli yazır ki, “Ahəng qanunu ümumiyyətlə aqlütinativ dillər, xüsusən türk dilləri, o cümlədən, qədim türk yazılı abidələrinin dili üçün də fonetik qanundur. Ahəng qanunu ən çox saitlərdə müşahidə edildiyi, həm də dilçilikdə saitlərin ahəngi haha çox öyrənildiyi üçün bu qanuna dilçilik ədəbiyyatında bəzən saitlərin ahəngi də deyilir. Əslində türk dillərində təkcə saitlərin yox, saitlərlə samitlərin, ayrıca olaraq samitlərin də ahəngi mövcuddur. Ahəng qanunu türk dillərində yeni bir hadisə deyildir, güman ki, bu dillərin bütün tarixi boyu onlarda ahəng qanunu fəaliyyət göstərmişdir”.[3] Çox maraqlıdır ki, qədim türk poetik nümunələrində söz əvvəlinin ritmiklik yaratması söz sonunun ahəngdarlığı ilə bir vəhdət təşkil edir. Məsələn, A.M.Şerbakın misal gətirdiyi aşağıdakı kimi nümunələrdə söz əvvəlinin eyni fonetik vahidlərlə başlaması qafiyə yaradılmasının qədim ənənələrindən biri kimi xüsusi maraq yaradır:

Köqüzü aduq
Köqüzü dəq erdi
Künlərdən kün
Keçələrdən son
*B*u çakta
*B*u yerdə
*B*ir uluq orman
*B*ar erdi.
*G*ülsə kök təŋri
*K*ülə turur
*Y*ıqlasa kök təŋri
*Y*ığlaya turur.[4]

Sözün əvvəlində eyni fonetik vahidin təkrrı ritmişlik yaratdığı kimi, cümlə tərkiblərində də paralellik formalaşır ki, bu da misra səviyyəli cümlələrdə poetik bir vüsət yaradır. Sözün başlanğıcında samit səslərin ritmikliyi əslində dillərin ilkin mərhələsi üçün universal hadisə kimi baş vermişdir.[5] Dildə ön şəkilçilərin və sonşəkilçilərin formalaşmadığı zamanlar sait və samit elementlər söz tərkibinin sabitliyini təmin etmişdir. Söz tərkibində iştirak edən fonetik elementlərin sabitliyi onların harmoniyasını da saxlamışdır. Bu qayda üzrə ardıcıl işlənən sözlərdə onların başlanğıc elementləri ritmiklik yaratmaq vasitəsi kimi də işlənmişdir. Belə bir ritmiklik həm saitlə, həm də samitlə başlayan söz-

[3] Rəcəbli Ə. Qədim türk yazılı abidələrinin dili. Bakı, Nurlan, 2006, s. 147.
[4] Щербак А.М. Огуз-наме. Мухаббат-наме. Москва, 1959, с. 24.
[5] Rəcəbov Ə., Məmmədov Y. Orxon-Yenisey abidələri. Bakı, 1993, s. 53.

lərdə ifadə olunmuşdur. İlkin dövrlərin bu cür ritmikliyi öz izlərini xüsusilə, xalq dili ifadələri kimi formalaşmış nümunələrdə saxlayır: *Aydan arı*, sudan duru; *Az aşım*, *ağrımaz* başım; *Az* getdi, *üz* getdi, dərə-təpə düz getdi; *Yaxşı yoldaş yaman* gündə tanınar; *Dəvəçi* ilə *dost* olanın darvazası gen gərək və s. Son şəkilçililiyin formalaşdığı mərhələdə isə başqa dillərdə olduğu kimi Azərbaycan dilində də qafiyə, ritm sözün son hissəsinə keçmişdir.

Fonetik vahidlərin söz əvvəlində ritm yaratmasına adi sadalama qaydası ilə yanaşı sətirasırı təkrarlara da təsadüf olunur ki, bu da ritmikliyin və cümlədaxili, misradaxili paralelliyin daha canlı, daha rəngarəng ifadə olunmasına xidmət edir. Ritmikliklə birlikdə paralelliyin canlı ifadəsi baxımından aşağıdakı kimi nümunələr maraqlıdır:

*Bun*da kelqənlər kik
Kö*b*-köb erdi
Bunda uçkanlar kuş
Köb-*köb* erdi [6]
Ötükən yir olurıp arkış-tirkiş
İsar nən bunığ yok
Ötükən yış olursar bənqü il
Tuta olurtaçısən türk-bodun tok[7].

Görkəmli tədqiqatçı *İ.V.Stebleva* türk poetik mətnlərindən bəhs edərkən onlardakı qafiyə sisteminin paralellik yaratmasını xüsusi diqqətə çatdırır.[8]

Qədim türk poetik nümunələrində sözəvvəli qafiyə ilə yanaşı söz sonu qafiyə sistem idə mövcud olmuşdur:

Oşbu yaruknun arasında
Yamuz öturur e*r*di
Bir kız bar e*r*di
Yakşı körüqlüq bir *kız erdi*
Anuŋ başında ataşluq, yarukluq
Altun kazuk bir meŋi *bar erdi*.
Yılkılar kütəyə
Tu*t*ur *er*di
Atlarqa binə turur erdi.[9]

Görünür, sözəvvəli ritmiklik ilkin mərhələdə ahəngdarlıq yaratmaq vasitəsi kimi işlənmiş, paralel tərkiblərin formalaşmasına təsir göstərmiş, sonralar isə bu ritmiklik söz sonunda ifadə olunan qafiyənin yaranmasını şərtləndirmişdir.

"Kitabi-Dədə Qorqud"un dilində sözəvvəli qafiyə sisteminin ən mükəmməl nümunələrinə rast gəlmək olur. Belə ki, burada fonetik vahidlərin ardıcıl ritmikliyi daha müxtəlif və daha rəngarəng şəkildə ifadə olunur. "Kitabi-Dədə Qorqud"un dilində sözəvvəli ritmikliyin həm samit və həm də samitlərlə ardıcıl, davamlı və çarpaz qafiyə yaratması kimi növlərini müşahidə etmək olur. Hər bir ritmik sistem isə özünəməxsus paralelliyin formalaşmasını şərtləndirir.

"Kitabi-Dədə Qorqud"un dilində həm samitlərin və həm də saitlərin söz əvvəlində işlənib ritm yaratması müşahidə edilir. Bunlara aid aşağıdakı kimi nümunələri misal göstərmək olar:

1) *Samit səslərin söz əvvəlindəki ritmikliyi*
C samiti

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[6] Щербак А.М. Огуз-наме. Мухаббат-наме. Москва, 1959, с. 24.

[7]Беляев Д.Д. Фонологические кризысы как истосник языковой эволюции. На материале истории праславянского языка. Дисс..докт.филол.наук. Тула, 1999; Изместева Ирина Алексеевна. Межслоговой сингармонизм в истории русского языка. Автореф.дисс.канд.филол.наук. Москва, 1995.

[8]Стеблева И.В. Ритм и смысл в классической тюркоязычной поэзии. Москва, 1993, 184 с; Тюркская поэтика. Этапы развития ВЫЫЫ-XX вв. Москва, 2012, 200 с.

[9] Щербак А.М. Огуз-наме. Мухаббат-наме. Москва, 1959, с. 24.

Salqum-salqum dan yelləri əsdiyində
Saqqallı bözac topağay sayradıqda
Saqqalı uzun tat əri banladıqda
Bədöy atlar issini görüb çiradıqda
(KDQ, - 62, 17)

Q samiti:
Qaranqu axşam olanda günü doğan!
Qar ilə yağmur yağanda ər kimi duran!
Qaraqoç atları kişnəşdirən!
Qızıl dəvə gördüyündə bozlaşdıran!
Qarmayıb qoç simizin alıb tutan!
Qanlı quyruq üzüb çap-çap udan!
Avazı qaba köpəklərə qovqa salan!
Çaxmaqlıca çobanları dünlə yüyürdən!
Ordumun xəbərini bilirmisən, degil mana!
Qara başım qurban olsun, qurdum, - sana dedi.
(KDQ, 62; 32-33)

Y samiti:
Qalxıbakı (oğulla) yerindən (uru) durdun
Yelisi qara qazlıq atın bütün mindim
Yalnızca oğul görünməz, bağrım yanar
Yaralanıb qazlıq atımdan enməyincə
Yenimlə alca qanım silməyincə
Qol-bud olub yer üstünə düşməyincə
Yalnız oğlul yollarından dönməyəyim
Yalnız oğul xəbərin, (a) Dirsə xan degil mana!
Qara başım qurban olsun bu gün sana!-dedi
(KDQ, 62; 23)

2) *Sait səslərin söz əvvəlində ritmikliyi*
A saiti:
Qarşı yatan (qara) dağı sorar olsan
Ağam Beyrəyin yaylasıydı.
Ağam Beyrək gedəli yayladım yox
Soyuq-soyuq suları sorar olsan
Ağam Beyrəyin içədiydi
Ağam Beyrək gedəli içədim yox
Tovla-tovla şahbaz atları sorar
Ağam Beyrəyin binədiydi olsan
Ağam Beyrək gedəli binərim yox
Qatar-qatar dəvələri sorar olsan
Ağam Beyrəyin yüklədiydi,
Ağam Beyrək gedəli yüklədim yox
Ağayılda ağca qoyunu sorar olsan
Ağam Beyrəyin şüləniydi
Ağam Beyrək gedəli şülənim yox
Qaralı-göylü otağı sorar olsan
Ağam Beyrəyindir
Ağam Beyrək gedəli köçərim yox
(KDQ, 62; 59)

Ə saiti:
Qarşı yatan qara dağlar
Əsən olsa el yaylar
Qanlı-qanlı sular
Əsən olsa qamən daşar
Qaraqaç atlar
Əsən olsa qulun doğar
Qaytabanda qızıl dəvə
Əsən olsa törüm verər
Bəy ərənlər
Əsən olsa oğlu doğar
(KDQ, 62; 79)

"Kitabi-Dədə Qorqud"un dilində nəsrlə ifadə olunan cümlələrdə də paralel tərkiblərin ilk elementlərinin ritm yaratması müşahidə edilir:

Kimin ki, oğlu qızı yox
Qara otağa *qondurun*
Qara keçə altına döşəyin
Qara qoyun yəxnisindən
Önünə gətirin.
Yeyərsə yesin
Yeməzsə dursun getsin, demiş

(KDQ, 1962; 16)

Qədim türk dilində formalaşmış, "Kitabi-Dədə Qorqud"da öz ifadə vasitələrini zənginləşdirmiş poetik parallelizm sonrakı dövrlərin bədii nümunələrində də öz ənənələrini davam etdirmişdir.

Poetik paralelizmlərə Nizami Gəncəvinin Qahirə şəhərindəki "Xədiviyyə" kitabxanasında aşkar olunmuş "Divan"ına daxil edilən Azərbaycan dilindəki şeir nümunələrində rast gəlmək mümkündür. Yeri gəlmişkən demək lazımdır ki, uzun müddət Nizaminin "Divan"ı oxuculardan və tədqiqatçılardan kənarda qalmışdır. Son vaxtlar tədqiqatçılar Nizami Gəncəvinin "Xədiviyyə" kitabxanasında aşkar etmişlər. "Divan"dan bir hissə 2006-cı ildə Bakıda "Nurlar" nəşriyyatında 64 səhifə həcmində kitabaça kimi çap edilmişdir. Ktibaça "Divani-Nizami Gəncəli" adlanır. Burada Azərbaycanca qəzəllərdən və qəsidələrdən nümunə verilmişdir. Kitabçanı Eloğlu adlı tərtibçi hazırlamışdır. Çapa hazırlayan və köçürən doktor Hüseyn Şərqi Soytürkdür. Nizamiyə aid edilən poeziya nümunələrində sözün başlanğıcındakı təkrarlar vasitəsi ilə ritmiklik yaradılmasına dair nümunələr vardır:

Həm cəlali-qədr ilə qədrin iş ikidir fələk
Həm kəmani- əmn ilə mülkin hərimidir hərəm
(həm qədrin (etibarlığın) gözəlliyi ilə etibarın qapısıdır göylər
Həm əminlik oxu ilə mülkün mərhəm (yaxın) yeridir müqəddəs məkan (ziyarətgah)

Nizamidə, həmçinin, "Kitabi-Dədə Qorqud"un dilində olduğu kimi başlanğıc samitlərin təkrarı ilə misraəvvəli ahəngdar qafiyə yaradılması müşahidə edilir:

Sehr ilə şöbədə elmində kəmalı yox isə
Bəs nəy hiylə ilə alır ovcuna azər nərgiz?
Sanasan düşdü nücum ilə fələk əski yerə
Səhani bağ olalı səbzə ilə sərasər nərgiz
Sələbo saz ilə zin eylədi hər bir çiçəyi
Çəmən içində çü ərz eylədi ləşkər nərgiz
(Sehr və hiylə ilə idrakın yoxdursa
Necə aldatma ilə odu nərgiz ovcuna ala bilir?
Sınasan ki, göylər (öz) ulduzları ilə köhnə yerinə qayıtdı (düşdü)
Başdan-başa yaşıllıqlı bağ olalı (olandan bəri) nərgiz

Güc ilə hər bir çiçəyi özünə yəhər kimi elədi.
Çəmən içində onları qoşun kimi elədi nərgiz)
Poetik paralelizm ənənələrinindavamını XIII əsrdə yaşamış şair İzəddin Həsənoğlunun “Apardı könlümü…” başlıqlı qəzəlində də müşahidə etmək olur. Doğrudur, bəzi mənbələrdə bu qəzəlin beytlərinin birinci misrasının Azərbaycan dilində, ikincisinin isə fars dilində olduğu barədəki fikirə də rast gəlmək olur.[10] Lakin ikinci misralar ardıcıl olaraq poetik paralelizm ənənələri üzərində qurulmuşdur və qədim türk şeir sənətinin varisliyini özündə əks etdirən mükəmməl ritmiklik yaradan, musiqisiz musiqi yaradan bir bədii nümunə kimi diqqəti cəlb edir. Qəzəlin hər bir beytinin ikinci misrası qədim poetik paralallezmə məxsus ritmikliyin və ahəngdarlığın bariz nümunəsindən ibarətdir:
Apardı könlümü xoş qəmər yüz bir canfəza dilbər
Nə dilbər, dilbəri-şahid, şahid, şahidi-sərvər
(Könlümü xoş qəmər üzlü bir zövq əhli olan dilbər, yəni ilahi qüdrət) özünə cəlb elədi; necə dilbər, dilbərlərin gözəli, necə gözəl, gözəllərin ən üstünü-gözəllərin ən gözəli aləmlərin rəbi olan Allahdır)
Mən ölsəm sən büti-şəngül sürahi eyləmə qül-qül
Nə qülqül, qülqüli-badə, nə badə, badeyi-əhmər
(Mən ölsəm, sən, (ey) sürahi boylu gözəllərin gözəli, qül-qül səs ilə ağlama; İmam Hüseyn Kərbəla döyüşündə bunu bacısı Zeynəbə tövsiyə edir- Necə qül-qül edib ağlama, sürahidən tökülən şərabın qırmızılığı kimi qan-yaş töküb ağlama; badə rəmzi mənada ilahi şərab kimi əbcədə görə on dörd məsuma təmbeh tutulur).
Başımdan getmədi hərgiz səninlə içdiyim badə
Nə badə, badeyi-məsti, nə məsti-məstiyi-sağər
(Səninlə içdiyim badə (rəmzi ilahi şərab) başımdan getmədi; necə badə, məst edən (ayıldan) badə, necə məst edən (ayıldan), şərab piyaləsindən içib (içdikcə ayıldan) məst edən badə kimi).
Şəha, şirin sözün qılır Misirdə bir zaman kasid
Nə kasid, kasidi-qiymət, nə qiymət, qiyməti-şəkkər
(Şahım, bir zaman Misirdə kasıb bir şəxs -Yusif Peyğəmbərə işarədir; şirin söz danışardı; Necə kasıb, az qiymətə gedən kasıb, necə qiymət, bir (kəllə) qəndin qiyməti qədər dəyəri olan bir kasıb- Rəvayətə görə Yusif Peyğəmbər Misir bazarında bir kəllə qənd qiymətinə bərabər olan 17 və ya 21 dirhəm pula qul adına satılmışdı)
Tutuşmayınca dər ataş bəlirməz xisləti-ənbər
Nə ənbər, ənbəri-süziş, nə süziş, süzişi-məcmur
(Odda yandırılmayınca ənbərin xisləti bilinməz, necə ənbər, elə ənbər ki, yandırılır, necə yandırılır, manqalda yandırılır; burada İbrahimxəlil Peyğəmbərin Nəmrud tərəfindən oda atılmasına işarə edilir. İbrahimxəlil Peyğəmbəri oda atırlar, ancaq odun dilləri ona istilik yox, sərinlik verir. Peyğəmbərin xisləti bəlli olur. O, Allahın himayəsindəki sadiq bəndələrdən biri kimi yandırılmaqdan xilas olur)
Əzəldə canım içində yazıldı surəti-məni
Nə məni, məniyi-surət, nə surət, surəti-dəftər
(Mən dünyaya gəlməmişdən ruhumun nütfəsində surətim yazıldı;
Necə nüftə, surət yazılan nütfə, necə surət, əbədi dəftərdə (lövhi-Məfhuzda) olan surət; İslamdakı təsəvvürə görə Allah yanındakı “Lövhi-Məfhuz” (hifz olunan yazı, lövhə) adlı kitabda hər bir kəsin həyatı və taleyi yazılmışdır.
Həsənoğlu sənə gərçi duaçıdır, vəli, sadiq
Nə sadiq, sadiqi-bəndə, nə bəndə, bəndeyi-çakər
(Ey Allah! Həsənoğlu sənə duaçıdırsa, öz himayədarına sadiqdir; necə sadiq, ağasına sadiq olan bəndə kimi, necə bəndə, sədaqəti (sınanmış) qul kimi (Allah bəndəsi kimi).

[10] Tofiq Hacıyev. Azərbaycan ədəbi dilinin tarixi, I c. Bakı, Elm, 2012, s. 131-132.

İ.Nəsimi adına Dilçilik İnstitutunun hazırladığı "Azərbaycan ədəbi dilinin tarixi" adlı kitabda göstərilir ki, "Seyfi Sarinin "Gülüstan bit-türk-i" əsərinin Leyden Universiteti kitabxanasında saxlanılan yeganə əlyazma nüsxəsinin 184-cü səhifəsindən Həsənoğlunun bizə gəlib çıxmış:
Apardı könlümni bir xoş qəmər yüz canfiza dilbər
Nə dilbər? Dibəri-şahid. Nə şahid? Şahidi-sərvər-
Mətləli qəzəli heç şübhə yox ki, Nizaminin fars dilində eyni bəhrdə və eyni ruhda yazdığı məşhur qəzələ nəzirədən başqa bir şey deyildir.
Nizaminin qəzəli belə səslənir:
Şodəm bər surəti aşeq ke, bər məh mi-konəd ğouğa
Çe surət? Surət-e delbər, çe delbər? Delbər-e ziba!
Əgər ruyəş nə-mi-binəm do çeşməm çeşmey-i gərdəd,
Çe çeşme? Çeşme-ye lö'lö, çe lö'lö? Lö-löi lala!
Əgər dər bağ be-xoraməd do səd ğolğol bərəngizəd,
Çe ğolğol? Qolğol-e bolbol, çe bolbol? Bolbol-e şeyda!
Xəyali ra ke mi-darəm ğəməmra həmdəmi başəd.
Çe həmdəm? Həmdəm-e məhrəm, çe məhrəm? Məhrəm-e delha?
Neqar-e mən be-səd xubi do zolfət nekhəti darəd.
Çe nekhət? Nekhət-e ənbər, çe ənbər? Ənbər-e sara!
Məra əz bəhr-e canani, Nezami, şərbəti bayəd.
Çe şərbət? Şərbət-e qatel, çe qatel? Qatel-e canha.[11]
Qəzəldən göründüyü kimi, başlanğıc samitlərin ritmik ahəngdarlıq yaratmaq ənənəsi fars dili nümunələrində də müşahidə olunur. Qəzəlin azərbaycanca sətri tərcüməsində belə başlanğıc samitlərin ritmikliyi özünü aşkar büruzə verir:
Elə bir surətə aşiqəm ki, Ay ilə bəhsə girər
Necə surət? Dilbərin surəti, necə dilbər?
Dilbərlərin gözəli
Əgər üzünü görməsəm gözlərim intizarda qalar
Necə göz, (ağlamaqdan) mərcan (kimi qızarmış) göz, necə mərcan, lalə kimi qırmızı mərcan
Əgər bağdan nemət gəlsə güllər bəxtiyarlıqdan (sevincdən) fərəhlənər
Necə gül, bülbülün gülü, necə bülbül, şeyda bülbül
Xəyalını çəkməklə qəmlərinə həmdəm oluram
Necə həmdəm, məhrəm olan həmdəm, necə məhrəm, könül məhrəmi
Mənim yarım çox gözəldir, saçlarının ətri vardır
Necə ətir, ənbərin ətri, necə ənbər, saf ənbər
Mənə canan dəryasından Nizami, şərbət gərəkdir
Necə şərbət, qatil şərbət, necə qatil, canüzən qatil.
Bünövrəsi Nizamidən başlanan, Həsənoğluda davam etdirilən bu ritmik poeziya nümunələri əsasında sonralar həmin qayda üzrə başqa nəzirələr də yaradılmışdır. Bu nəzirələrdə birinci misralar sərbəst olsa da ikinci misralarda poetik paralelizm ənənələri olduğu kimi saxlanılır. Bu nəzirələrdən birini XIV əsrin sonunda Misir məmlük şairi Seyfi Sarayiyə məxsusdur".[12]
Tapulmas hüsn mülkündə saŋa təŋ bir qəmər-mənzər
Nə *mənzər, mənzəri-şahid*, nə şahid, şahidi-dilbər
Bu gün Yusif Cəmalini qılubdur haq saŋa bəxşiş
Nə *bəxşiş, bəxşişi-devlət nə devlət, devləti*-məfxər
Sözin dürrü cəvahirdür köŋüllər gəncinə layiq

[11] Azərbaycan ədəbi dili tarixi (4 cilddə) I cild. XIII-XVI əsrlər, Bakı, Şərq-Qərb, 2007, s. 24-25.
[12] Tofiq Hacıyev. Azərbaycan ədəbi dilinin tarixi. Bakı, Elm, 2012, s. 158-159.

Nə *layiq, layiqi-Xosrov, nə Xosrov, Xosrovu-kişvər*
Bu hüsnüŋ şövqi zövqinə köŋül tutiləri tapdı
Nə *tapdı, tapdı xoş ləzzət, nə ləzzət, ləzzəti-şəkkər.*
Cəmaliŋ nəqşinə Seyfi-Sarayi bağladi surət
Nə *surət, surəti-həsna, nə həsna, həsnayi-canpərvər*[13]

Sadələşdirilmiş varint

Gözəllik mülkündə sənə bərabər bir bir ay üzlü bənzər, tay tapılmaz.
Necə bənzər, gözəllik bənzəri, necə gözəllik, dilbər gözəlliyi
Bu gün haqq (Allah) Yusif camalını sənə bəxşiş edibdir
Necə bəxşiş, xoşbəxtlik bəxşişi, necə xoşbəxtlik, iftixarlı (qürurlu) xoşbəxtlik.
Sözün dürr və cəvahirdir, könüllər xəzinəsinə layiqdir.
Necə layiq, Xosrov ləyaqəti kimi, necə Xosrov, ölkə sahibi olan Xosrov (kimi)
Bu hüsnünün şövqünə və zövqünə könlüm (şirindilli) tutuləri tapdı.
Necə tapdı, xoş ləzzətlə tapdı, necə ləzzət, qənd (kimi) dadlı ləzzət
Cəmalının gözəlliyinə Seyfi Sarayi surət bağladı (məftun oldu)
Necə surət, gözəllik surəti, necə gözəllik, (baxana) zövq verən gözəllik.

Həsənoğludan iki əsr sonra, XV əsrdə yaşamış Türkiyə şairi Əhməd Dai isə aşağıdakı nəzirəni yazmışdır:

Eyya, hurşidi-məhpeykər, cəmalüŋ Müştəri-mənzər
Nə mənzər, mənzəri-tale, nə tale, taleyi-ənvər
Yüzüŋdür ayəti-rəhmət, öziŋdir mazhəri-qüdrət
Nə qüdrət, qüdrəti-sani, nə sani, saniyi-Əkbər
Cəmaliŋdən cihan rövşən, yanağın qönçeyi-gülşən
Nə gülşən, gülşəni-cənnət, nə cənnət, cənnəti-kövsər
Nə mülkət, mülkəti-dövlət, nə dövlət, dövləti-qeysər
Əgərçi kulların bihəd, vəli, kəmtər qulıŋ Əhməd
Nə əhməd, Əhmədi Dai, nə dai, daiyi-çakər[14]

[13] Tofiq Hacıyev. Azərbaycan ədəbi dilinin tarixi. Bakı, Elm, 2012, s. 158-159.
[14] Tofiq Hacıyev. Azərbaycan ədəbi dilinin tarixi. Bakı, Elm, 2012, s. 159.

ANA DİLİNİN TƏDRİSİ MƏSƏLƏLƏRİ

Ədibə Məmməd qızı MƏCİDOVA
ADPU nəzdində Azərbaycan Dövlət Pedaqoji Kolleci müəllim

Açar sözlər: *metod, yeni təlim texnologiyaları, nailiyyətlər, tədqiqat məsələləri, dil qaydaları, metodik mənbələr*
Ключевые слова: *метод, новые технологии обучения, достижения, проблемы исследования, языковые правила, методические ресурсы*
Keywords: *method, new learning technologies, achievements, research issues, language rules, methodical sources*

Ana dilinin tədrisi uzun tarixi inkişaf yoluna malikdir. Təbii ki, bu inkişaf yolunda bir sıra dəyişikliklər olmuş və hələ də davam etməkdədir. Lakin müasir dövrdə ana dilinin tədrisi yollarını öyrəndikdə onun keçdiyi yola, qarşılaşdığı maneələrə, qarşısında duran problemlərə nəzər salmaq lazım gəlir. Bu baxımdan, dissertasiya işində ana dilinin tədrisi ilə bağlı müasir və tarixi məsələlər araşdırılmış, onun qarşısında duran vəzifələr tədqiq edilmiş və ən əsası isə, ana dilinin tədrisi ilə bağlı məsələlərin müəllimlərin qurultayında işıqlandırılmışdır. Bu da bizə ana dilinin bu tarixi dövrdə tədrisi metodikasında əldə edilən nəticələrin təhlilinə kömək edir.

Ana dili təlimi problemi XIX əsrin 30-cu illərindən Azərbaycan pedaqoq alimlərinin əsərlərində öz əksini tapmış, əsrin ikinci yarısında isə daha geniş vüsət almışdır. A.A.Bakıxanov, M.Ş.Vazeh, M.Kazımbəy, L.M.Lazarev, L.Z.Budaqov və başqaları ana dilini öyrətməyin zəruri olduğunu dönə-dönə göstərmiş, bu dildə uşaqların nitq və təfəkkürü inkişaf etdirmələrini məsləhət bilmişlər. Ana dili təlimində əyani vəsaitlərin, müəllimin iş üsullarının rolu məsələsi xüsusi qeyd edilmişdir.

Bildiyimiz kimi, insan cəmiyyətinin inkişaf tarixi bir nəslin digər nəsli əvəz etməsi prosesindən ibarətdir. Onlardan hər biri məhsuldar qüvvələrin və ictimai münasibətlərin müəyyən inkişaf səviyyəsinin şahidi olur və təbii ki, hər yeni nəsil özündən əvvəlki nəsillər tərəfindən toplanan təcrübəni mənimsəməyə məcbur olur. Elə bu məcburiyyət də ixtisaslı pedaqoji fəaliyyətin meydana çıxmasına səbəb olur. Təbii ki, söhbət artıq əmək bölgüsü aparılmış cəmiyyətdən gedir. Qeyd etmək lazımdır ki, pedaqoji fəaliyyətə ehtiyac əmək bölgüsünə qədər meydana çıxmışdı və o, uşaqların böyüklərlə kollektiv əmək fəaliyyətində təmin edilirdu, yəni burada söhbət bütün uşaqların kollektiv tərbiyə edilməsindən gedir.

Aristotel "Afina siyasəti" əsərində bu məsələdən daha ətraflı bəhs edərək yazırdı ki, müəllimlər gəncləri fiziki və mənəvi cəhətdən möhkəmləndirməli, onları öz dövlətinin müdafiəsinə hazırlamalıdırlar. Aristotelin fikrinə görə dövlətin taleyi birinci növbədə gənc nəslin siyasi, həmçinin mənəvi yetkinliyindən asılıdır.

N.Gəncəvi müəllim-şagird münasibətləri haqqında qiymətli fikirlər söyləməklə unudulmaz müəllim obrazı yaratmışdır. O, yeniyetməlik və gənclik dövrlərini təlim-tərbiyəyə görə çox qiymətli dövr hesab edir və müəllimə, onun ağıllı məsləhətlərinə əsərlərində geniş yer verir, qəhrəmanlarının uşaqlıq və gənclik dövrlərini təsvir edərək, onların xeyirxah, aqil müəllimlərini unutmurdu. Nizaminin əsərlərində olan müəllimlər "Xosrov və Şirin"də Büzürcümehr, "Yeddi gözəl"də Mənzər, "İsgəndərnamə" Niqumaş, Aristotel və başqaları şagirdlərinin dərin bilikləri mənimsəməsinə, xarakterinin və mənəvi keyfiyyətlərinin formalaşmasına ciddi təsir göstərmişdilər.

Nizamiyə görə, müəllim özünün dərin biliyi, yüksək mənəviyyatı, əxlaqı ilə seçilməlidir. Onun təsvir etdiyi müəllimlər yüksək ağıl, kamal sahibi, gözəl mənəviyyat timsalıdırlar. Onlar öz ensiklopedik bilikləri ilə zəmanəsinin adamlarını heyran qoymuşdular.

N.Gəncəvi müəllimin ikinci mühüm keyfiyyətini onun əxlaqında, mənəvi paklığında, təmizliyində görür, müəllim nümunəsinə, müəllim sözünə böyük əhəmiyyət verərək onun eyni zamanda tərbiyəçi olmasına da diqqət edirdi. Onun təsvir etdiyi müəllimlər aqil, eyni zamanda gözəl mənəviyyatlı tərbiyəçilərdi və onlar hərəkətləri, nümunələri ilə tərbiyə etdikləri qəhrəmanların mənəvi inkişafına, bir şəxsiyyət kimi formalaşmasına ciddi təsir göstərirdilər. Nizaminin qəhrəmanları öz müəllimlərinə böyük hörmət etmiş, hətta şahlıq tacına sahib olduqdan sonra belə öz müəllimlərini unutmamışlar.

F.Köçərli yazırdı: Hər millətin içərisində onun üzünə maarif qapıları açan müəllimdir. Ölkələrin xoşbəxt olmalarında müəllimin əvəzsiz rolu vardır. Hər bir millət özünün iqtisadi-siyasi, hərbi qüdrəti və qüvvəsi üçün müəllimə borclu olmalıdır. F.Köçərlinin müəllim haqqında mülahizələrini ümumiləşdirsək, aşağıdakı nəticələrə gələ bilərik:

- xalq müəllimi yüksək ideyalı olmalı, yüksək amal uğrunda mübarizə aparmalı, onu rəhbər tutmalıdır. Hərtərəfli, geniş və dərin elmi biliyə malik olmalıdır;
- müəllim öz biliyini daim möhkəmləndirməli, mütaliə etməli, uzağı görməlidir;
- müəllim ictimai xadim olmalı, siyasi hadisələri diqqətlə izləməli, valideynlər arasında gərgin iş aparmalıdır;
- müəllim pak əxlaqlı, vicdanlı, mədəni davranışlı, başqalarına nümunə olmalıdır;
- müəllim uşağı sevməyi, onun qəlbinə daxil olmağı, uşaq şəxsiyyətinə hörmət etməyi bacarmalıdır;
- müəllim həyatı yaxşı bilməli, qabaqcıl təcrübədən geniş istifadə etməli, yaradıcı işləməli, yenilik axtarmalıdır. Müəllim mahir sənətkar və peşəkar olmalı, müasir pedaqogikanın nəzəri və əməli tələbinə müvafiq hərəkət etməlidir.

Qori seminariyasının Azərbaycana köçürülməsi ilə bağlı Ü.Hacıbəyovun da fikirləri maraq doğurur. O, yazırdı ki, Azərbaycan dilində savadlı müəllimlərimizə ehtiyac çoxdur. Doğrudur, Qori Müəllimlər Seminariyası məktəblərimiz üçün müəllim hazırlayır, lakin oranı qurtaran müəllimlərin əksəriyyəti ana dilində dərs deməkdə çətinlik çəkir, çünki orada ana dili oxumurlar, onların proqramı ana dilində dərs vermək üçün tərtib edilməyib.

Bunları nəzərə alan Üzeyir Hacıbəyov yazırdı ki, Qori Müəllimlər Seminariyası Zaqafqaziya müsəlman şəhərlərinin birinə köçürülsə yaxşı olar ki, o zaman ana dilində savadlı müəllimlərimiz çoxalar və maarif işimiz sürətlə irəli gedər. Üzeyir Hacıbəyov sonra ürək ağrısı ilə bildirirdi: Çox danışırdılar ki, Qoridəki seminariyanın müsəlman şöbəsi Bakıya və ya Tiflisə, yaxud Şamaxıya köçürüləcəkdir. Lakin bu danışıqdan hələ ki, bir şey çıxmadı, görünür ki, məsələnin dalına düşən olmayıbdır. Əgər həmən seminariyanın şöbəsi, heç olmasa Tiflisə də gətirilsə və orada türk dili dərslərinin proqramı tövsiyə edilsə, söz yoxdur ki, müəllim sarıdan böyük arxayınlıq olar.

Azərbaycan dili tədrisi metodikası elminin vəzifələri aşağıdakılardır:

1)Azərbaycan dili materiallarının öyrədilməsi sahəsində məktəb təcrübəsini ümumiləşdirmək;

2)Azərbaycan dilinin tədrisi üzrə işin məzmununu müəyyənləşdirmək, onun mənimsədilməsinin optimal vasitə, metod və priyomlarını işləmək;

3)Azərbaycan dilindən qazanılacaq bilik, bacarıq və vərdişlərin şagirdlərin nitq və təfəkkürünün inkişafına təsirini aşkara çıxarmaq;

4)Azərbaycan dilinin öyrədilməsinin digər tədris fənlərinin dərindən mənimsənilməsinə təsirini müəyyənləşdirmək və s.

Nitq inkişafı Azərbaycan dili təliminin başlıca prinsipidir. Bu sahədə olan işlər hər bir dil ehtiyatının zənginləşdirilməsi, danışan zaman ədəbi tələffüz qaydalarının gözlənilməsi, düzgün cümlə qurma bacarıqlarının və rabitəli nitqinin inkişafı hər bir dərsdə özünə yer tapır. Sinfin ümumi səviyyəsinin yüksəldilməsi məktəblilərin digər fənlərin məzmununu dərindən mənimsəməsini təmin edir, onların təşəbbüskarlıq, yaradıcılıq qabiliyyətini formalaşdırır.

Prinsip hər bir adamın şüurlu fəaliyyətinin əsasını təşkil edir. Tələb isə prinsip anlayışından doğur. Didaktikanın ümumi prinsipləri ilə yanaşı, Azərbaycan dili tədrisi metodikasının da spesifik prinsipləri mövcuddur:
Qrammatik-semantik prinsip. Bunun həyata keçirilməsi üçün bəzi tələblərə diqqət yetirmək lazımdır: şagirdlərin nitqinin söz və söz birləşmələri blokları ilə zənginləşdirilməsi, hər bir dil vahidinin qrammatik əlamətlərinin həmin vahidin semantikası əsasında başa salınması; dil vahidinin forması ilə məzmunu arasındakı vəhdətin başa salınması; cümlənin strukturunu mənimsətmək üçün əvvəlcə onun məzmununun və ideyasının öyrədilməsi; sintaktik bütövləri mənimsətmək üçün əvvəlcə onun predmetinin, hissələr arasındakı əlaqə və münasibətlərin öyrədilməsi və s.
Nitqlə dilin qarşılıqlı əlaqəsi prinsipi. Bu prinsip müəyyən tələblər doğurur:
-nitqin məzmunu ilə forması arasındakı vəhdətin nəzərə alınması;
-nitqin ifadəliliyinin qiymətləndirilməsi;
-nitq predmetinin (haqqında danışdığı və ya yazdığı şeyi) şüurlu mənimsənilməsi;
-predmetlər (əşyalar, oxşar və fərqli mətnlər) arasındakı əlaqə və münasibətlərin nəzərə alınması;
-dil normalarının öyrədilməsində uşağın nitq praktikasına əsaslanılması;
-dialekt qüsurlarının aradan qaldırılması;
-şifahi nitqlə, yazılı nitq arasındakı əlaqələrin nəzərə alınması;
-mütaliə mədəniyyətinin inkişaf etdirilməsi əsasında şagirdlərin nitqinin praktik şəkildə müəyyən vahidlərlə zənginləşdirilməsi və s.
Nəzəri məlumatların praktik çalışmalar zəminində mənimsənilməsi prinsipi. Bu bəzi tələblərin həyata keçirilməsi zərurətini irəli sürür:
-oxu materialları üzərində dil hadisələrinin müşahidəsini;
-dil vahidlərinin nitq praktikasında işlədilməsini; nəzəri qaydaların praktik çalışmalara tətbiqini, yaxud əksinə, praktik çalışmalardan nəzəri müddəaların çıxarılmasını;
-maqnitofon lentləri, qrammofon valları, plastinkalar vasitəsi ilə ifadəli oxunun dinlənilməsi və ondan zəruri nəticələrin hasil edilməsi və s.
Dilin vahid strukturunun gözlənilməsi prinsipi. Buna verilən tələblər isə aşağıdakılardır:
-dilin bütün komponentlərinin vəhdətdə götürülməsi;
-Azərbaycan dilinin hər bölməsinin ünsürləri (söz yaradıcılığı, nitq hissələri, söz birləşməsi, sadə cümlə, cümlə üzvləri, mürəkkəb cümlə və s.) arasında əlaqə və münasibətlərin nəzərə alınması;
-fənlərarası əlaqəyə diqqətin yetirilməsi;
-siniflər arasındakı varislik əlaqəsinin nəzərə alınması və s.
Azərbaycan dilinin tədrisində bu prinsiplər bir-birindən təcrid olunmuş şəkildə deyil, dialektik vəhdətdə, qarşılıqlı əlaqədə tətbiq edilməlidir.
Bu sahədə olan işləri müvəffəqiyyətlə həll etmək üçün aşağıdakılara əməl olunmalıdır:
1. Azərbaycan dilinin hər bir səviyyəsi üzrə aparılan işlər onun digər səviyyələri ilə də əlaqələndirilməlidir.
2. Azərbaycan dili tədris prosesində şagirdlərin fərdi xüsusiyyətləri, idrakının potensial imkanları, bilik səviyyəsi mütləq nəzərə alınmalıdır. Bu həmin sahədə aparılan işləri düzgün planlaşdırmağa və sistemə salmağa geniş imkanlar açır.
3. Azərbaycan dilinin tədrisində şagirdlərə təqdim edilən çalışmaların məzmunu və ideyaca zənginliyinə xüsusi diqqət yetirilməli, bu sahədə olan işlər onların ümumi inkişafının təmin edilməsinə yönəldilməlidir.
4. Azərbaycan dilinin tədrisində mümkün qədər kompleks yanaşma metodlanndan, təlimin ən optimal vasitə və yollarından yaradıcılıqla istifadə olunmalıdır.
5. Azərbaycan dilinin tədrisi üzrə aparılan işlər şagirdlərin idrak fəaliyyətinin inkişafına

yönəldilməlidir, onlara təhlil-tərkib, müqayisə aparmaq praktik çalışmalardan nəzəri ümumiləşdirmələrə gəlmək bacarıqları aşılanmalıdır.
6. İbtidai sinif şagirdləri yuxarı siniflərdə Azərbaycan dilindən sistematik kursu hərtərəfli və dərindən öyrənməyə hazırlanmalıdırlar.
7. Azərbaycan dilinin tədrisi üzrə aparılan işlər məktəblilərin nitqinin inkişafı istiqamətinə yönəldilməlidir.
8. Azərbaycan dilinin tədrisində linqvistika, dialektika və psixologiya elmlərinin son nailiyyətlərinə əsaslanılmalıdır.
9. Azərbaycan dili tədrisinin metod və priyomları. Bildiyimiz kimi, məqsədə nail olma yolu və həmçinin şərh, izah üsulu metodlarının düzgün seçilməsi tədris materiallarının məzmunundan doğur və ona tabedir. Əks halda təlim prosesində tətbiq edilən metodlar məzmunun tam açılması işini təmin etmir.

Fəlsəfi, psixoloji və pedaqoji ədəbiyyatda elmin metodlarını ümumi, dialektik, xüsusi (induktiv və deduktiv) və spesifik olmaqla üç qrupa (müşahidə, ümumiləşdirmə və eksperiment) ayırırlar.

Azərbaycan dilinin tədrisi metodikasında elmi metodların hamısından (həm ümumi, həm xüsusi, həm də spesifik metodlardan) kifayət qədər istifadə edilir. Lakin başlıca yeri spesifık metodlar tutur. Onu da qeyd etmək lazımdır ki, pedaqoji ədəbiyyatda metod anlayışına müxtəlif mövqelərdən yanaşılır. Bir- birindən fərqlənən təriflər verilir. Gah da dil təlimi metodikasının spesifik cəhətləri kifayət qədər aşkarlanmadığından, dəqiqləşmədiyindən, onu tez-tez qarışdırırlar, bir-birinin sinonimi kimi şərh edirlər.

Priyom tədris materiallarının məzmununun tam açılmasına xidmət edən pedaqoji anlayışdır. Məktəb təcrübəsi göstərir ki, tədris materialının məzmunundan, sinfin səviyyəsindən, yaranmış şəraitdən, müəllimin iş üslubundan, dərsin qarşısına qoyulmuş məqsəddən və s. asılı olaraq, metod priyoma, priyom da metoda çevrilə bilər.

İbtidai siniflərdə təlim prosesində didaktikanın ümumi metodları (müəllimin şərhi, müşahidə, müsahibə, şagirdlərin müstəqil işləri üzərində rəhbərlik və s.) ilə yanaşı, Azərbaycan dili tədrisinin spesifık metodlarından da istifadə edilir. Spesifik metodları üç qrupa ayırmaq mümkündür: praktik; nəzəri; tətbiqi.

Praktik metodlar. Buraya:
1) imla, ifadə və inşa yazılara hazırlıq;
2) tədris materialının məzmununun açılmasına hazırlıq;
3)oxunmuş materialların məzmununu danışdırmaq;
4) zəruri dil faktlarını mənimsətməyə əlverişli zəmin yaradan bədii parçaların əzbərlədilməsi;
5) şagirdlərin nitqindəki müxtəlif xarakterli nöqsanların aradan qaldırılması üzrə hazırlıq və s. priyomlar daxildir.

Nəzəri metodlar. Buraya aşağıdakı priyomlar daxildir:
1) əvvəlki dərsdə şagirdi yeni materialı mənimsəməyə hazırlıq;
2) səpəli faktlardan, praktik çalışmalardan nəzəri mülahizələrin çıxarılması;
3) müqayisə və tutuşdurma;
4) analiz və sintez;
5) mücərrədləşdirmə və konkretləşdirmə;
6) sistemləşdirmə;
7) induksiya və deduksiya və s.

Müstəqil Azərbaycan Respublikası son dövrlərdə digər sahələrdə olduğu kimi təhsil sahəsində də bir sıra uğurlu nəticələr əldə edilmişdir. Bu sahədə qazanılan uğuru dövlət səviyyəsində aparılmış ardıcıl və davamlı təhsil siyasətinin qanunauyğun nəticəsi kimi qiymətləndirmək olar. Bugünkü nailiyyətlərimizin əsası hələ ötən əsrin 90-cı illərində "Təhsil millətin gələcəyidir" söyləyən H.Əliyev tərəfindən qoyulmuş, Azərbaycan təhsilinin gələcək inkişaf perspektivləri bu dövrdə, onun tərəfindən təsdiq olunmuş İslahat Proqramında öz əksini tapmış, qərarlaşdırılmışdır. Artıq bu gün respublikamızın təhsil sistemi dünyanın aparıcı ölkələrinin təhsil sisteminə uyğunlaşdırılaraq qabaqcıl təcrübədən bəhrələnməklə, mütərəqqi yenilikləri əxz etməklə inkişaf etməkdə, günü-gündən təkmilləşməkdə və öz bəhrələrini verməkdədir.

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ƏDİBƏ MƏCİDOVA
Xülasə

Məqalədə ana dilinin tədrisi məsələləri: tədris problemləri, yeni təlim texnalogiyaları işıqlandırılmışdır. Ana dilinin tədqiqat obyekti haqqında məlumat verilmişdir. Müasir dövrün tələbinə uyğun olaraq praktik metod və priyomlardan nümunələr göstərilmişdir.

АДИБА МЕДЖИДОВА
КРАТКОЕ СОДЕРЖАНИЕ

В статье освещаются вопросы преподавания родного языка: проблемы преподавания, новые технологии обучения. Приведена информация об объекте исследования родного языка. Показаны примеры практических методов и принципов в соответствии с требованиями современной эпохи.

ADIBA MECIDOVA
SUMMARY

The article highlights the issues of mother tongue teaching: teaching problems, new teaching technologies. Information about the research object of mother tongue is provided. Examples of practical methods and principles are shown in accordance with the requirements of the modern era.

N.Gəncəvi poemalarında vətənpərvərlik və beynəlmiləl ideyaların tərənnümü

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XÜLASƏ

Məqalədə N.Gəncəvi yaradıcılığında vətənpərvərliyin tərənümündən danışılır. Şairin əsərləri məhz bu baxımdan təhlil edilir. Qeyd edilir ki, Nizami zəmanəsinin ən qabaqcıl adamlarından biri kimi ölkəsinin bağlı-bağatlı şəhərlərini, gül-çiçəkli, çəmənli çölləri, başı ağ örpəyə bürünmüş qarlı dağlarını sevərək onun yadelli işğalçılardan müdafiə olunması zərurətini qeyd etmişdir. Şairə görə insanın boya-başa çatdığı yer hər şeydən əvvəl onun üçün əzizdir. Nizami poetik qüdrətinə inandığı üçün vətənini daha da şöhrətləndirəcəyinə ümid bəsləyirdi və öz əsərlərində bu hissləri canlandırırdı.

Açar sözlər: şair, vətənpərvərlik, vətən,ideya,beynəlmiləl, poema

Гюльнара Кязимова

Воспевание патриотических и интернациональных идей в поэмах Низами Гянджеви

РЕЗЮМЕ

В статье речь идет о воспевании патриотизма в творчестве Н.Гянджеви. Произведения поэта анализируются именно в данном контексте. Отмечается, что Низами как один из самых передовых мыслителей своего времени , всем сердцем любивший живописные города, цветущие поля, луга, горы с белоснежными вершинами своей страны, говорил о необходимости ее защиты от иноземных захватчиков. По словам поэта, место, где родился и вырос человек, для него дороже всего на свете. Низами, веривший в свою поэтическую мощь, надеялся еще более прославить родину и выражал все эти чувства в своих произведениях.

Ключевые слова: поэт, патриотизм, родина, идея, интернациональный, поэма

Gulnara Kazimova

Glorifying of the patriotic and international ideas in Nizami Ganjevi's poems

SUMMARY

The article deals with the glorifying of the patriotism in N. Ganjevi's creation. The poet's works are analysed just from this standpoint. It is emphasized that Nizami as one of the most progressive thinkers of that period who loved sincerely the picturesque towns, flowering fields, meadows, mountains with snow-white peaks of his native country spoke about the necessity of its defence from the foreign invaders. In the poet's opinion the place a person was born and grew up in is the dearest for him. Nizami believing in his poetic power hoped to glorify his motherland and expressed all his feelings in his works.

Keywords: poet, patriotism, motherland, idea, international, poem

2021-ci ilin "Nizami Gəncəvi ili" elan edilməsi Prezident İlham Əliyevin klassik irsimizə olan qayğı və diqqətinin təzahürüdür. Qədim və orta əsrlər Azərbaycan ədəbiyyatının ədəbi abidələri, hansı dildə yazıldığından asılı olmayaraq, milli təfəkkürü əks etdirir. Klassik poeziya mənəvi dəyərləri təlqin etməklə yanaşı, Azərbaycanın qədim və zəngin mədəniyyətindən xəbər verir. Nizami Gəncəvinin yaradıcılığı mənsub olduğu xalqın mənəviyyatı, düşüncəsi ilə sıx bağlı olduğundan xüsusi maraq kəsb edir. Mütəfəkkirin Şərq elmi və ədəbi fikrinin inkişafında əvəzsiz xidməti vardır. Nizami dünya mədəniyyəti xəzinəsinə dəyərli töhfələr bəxş etmiş böyük şəxsiyyətdir. Şairin ideya aləmi ümümbəşəri mahiyyətilə seçilir, Nizami irsi dünya şərqşünaslığında tədqiq olunur. Nizaminin Allaha müraciətlərindən birində deyilir ki, dindar olsam da, bütpərəst olsam da, hər növdən olsam da, məni bağışla. Mənimlə işimə görə rəftar etmə! İnsanlığa bu cür yanaşma şairin dünyagörüşünə milli düşüncədən gəlirdi. Bu gün hələ də dünyanın diskriminasiya ilə mübarizə apardığını nəzərə alaraq deyə bilərik ki, XII əsr Azərbaycan şairinin insanlığa bu ali baxışı onu yetirən xalqın humanist görüşlərinin çox əski dövrlərdən formalaşmasının təcəssümü kimi özünü göstərir. Bu günlərdə "Mədəniyyət" kanalının qonağı olan akademik R.Hüseynov 2021-ci ilin ölkəmizdə "Nizami Gəncəvi ili" elan edilməsini həm də azərbaycançılığa töhfə kimi dəyərləndirdi. Şairin 880 illik yubileyinin dövlət səviyyəsində qeyd edilməsi mütəfəkkirin insan və cəmiyyət ilə bağlı düşüncələrinin təbliğində də rol oynayacaqdır. Nizami irsinə 2021-ci ildə daha çox müraciət olunacaq, bu da milli-mənəvi dəyərlərin gənc nəslə aşılanmasına geniş imkan yaradacaqdır. Məlumdur ki, ədəbiyyat mənəviyyatla bağlıdır və onun əsas tədqiqat obyekti insandır. Nizami vətənə, torpağa, doğma dilə məhəbbəti insana xas olan ən yüksək cəhətlər kimi təqdim edir. Yeni poetik məktəbin əsasını qoymaqla şairin yaradıcılığı orta əsrlər hüquqi, ictimasi-siyasi fikir tarixində yeni mərhələ təşkil edir. Nizami beytlərində elm və bədiilik vəhdətdədir. Əsərləri dövrünün bütün elmlərinə dərindən bələd olduğundan xəbər verir. Nizami irsinin müxtəlif elm sahələrində çalışan alimlərin diqqətini cəlb etməsi də sırf bununla bağlıdır. Poemaları fəlsəfi poeziyanın örnəyi kimi də dəyərlidir, burada hər beytdə gizli mənalar yer almışdır. Bu ilin "Nizami Gəncəvi ili" elan olunmasının mühüm cəhətlərindən biri də odur ki, şairin yaradıcılığında tədqiqata ehtiyacı olan sahələrə bir daha nəzər salınacaq, mübahisəli fikirlərə aydınlıq gətirməyə kömək edəcəkdir. Eləcə də, qədim mədəniyyətimizi beynəlxalq aləmdə tanıtmaqda daha geniş imkanlar yaranacaqdır. "Xəmsə" Azərbaycan mədəniyyətinin güzgüsüdür.

Nizami dövrünün ən böyük humanist sənətkarlarından biridir. Onun əsərləri insana xidmət etmək, insanın haqqını və mənafeyini müdafiə etmək, insanı fiziki zənginliyəvə, mənəvi kamilliyə səsləyən bir sənət xəzinəsidir. Nizami yaradıcılığındakı ən mütərəqqi cəhət onun insanı insan kimi yaşamağa, dünyanı zəkası və əməlləri ilə bəzəməyə, zənginləşdirməyə çağırmasıdır. Şair göstərir ki, insan yalnız özü üçün yaşamamalı, böyük məqsədlər uğrunda, bəşər həyatına xidmət etmək yolunda çalışmalıdır.

Çalış, insanların işinə yara,
Geysin əməlinlə dünya zərxara.
Bacarsan hamının yükünü sən çək,
İnsana ən böyük arxadır kömək.

Nizami öz əsərlərində bütün xalqlara hörmət və məhəbbətlə yanaşır. Şair insanı hansı xalqa, hansı ölkəyə mənsub olmasına görə yox, ləyaqətinə, insanlığına görə qiymətləndirməyi əsas götürür. Nizami yüksək bir vətənpərvərdir. Onun əsərlərində vətənpərvərlik müqəddəs bir anlayış kimi verilir. Nizami doğma yurdu Azərbaycandan danışanda bu əsrarəngız diyarın zəngin təbiətindən, mərd və nəcib insanlarından böyük hərarətlə, iftixar hissi ilə söz açır:

Bu mərdlər, gözəllər yurdunda inan,
Çox saysız xəzinə gizləmiş zaman.
Belə şux, sevdalı gülşən harda var?!
Harda var xəzinə saçan bu diyar?!

Nizami vətəni qorumaq naminə canından keçməyə hazır olmağı hər bir vətən övladının borcu sayır. Lakin o, saysız insan məhvinə səbəb olan ədalətsiz müharibələrə qarşı çıxır. Mənəmlik və dünya ağalığı iddiası ilə başlanan savaşların gec-tez məğlubiyyətlə nəticələndiyini göstərir. Nizaminin bu fikirləri bu günümüzün reallığı ilə də üst-üstə düşür, ədalətsiz, işğalçı müharibələrin insanlığa fəlakət gətirdiyini, aclıq və səfalət yaratdığını bütün aydınlığı ilə açıb göstərir.

Dahi Nizaminin vətənpərvərlik ideyalarının ən parlaq təmsilçiləri "Isgəndərnamə"də Nüşabə, "Xosrav və Şirin" əsərində Şirin və Məhin Banudur. Məhin Banu Arrandan Ərmənə (indiki "Ermənistan") qədər geniş ərazidə hökmranlıq edən, öz yurdunu sonsuz məhəbbətlə sevən, ağıllı, mərd, cəsarətli və hünərli bir qadındır. Məhin Banu qadın olduğuna baxmayaraq, öz doğma vətənini yadelli işğalçılardan qorumağa nail olur. O, Xosrovu ilk dəfə gördükdə onu doğma yurdu Bərdəyə dəvət edir. Məhin Banunun yerinə taxta çıxan Şirin də onun kimi vətənpərvərliyi ilə fərqlənir. O, Xosrovu ata yurdunu qorumağa, "xilas etməyə" çağırır:

Cavansan, şir kimi cəsarətin var,
Tacidar olmağa ləyaqətin var.
Ölkəni fitnədən xilas edərək,
Qüdrətini göstər bir dəfə görək.

Xosrova: "Qılınc al, meydanda özünü göstər", – deyən Şirin öyrədir ki, düşməni güclə, qüdrətlə məğlub edib doğma yurdu azad etmək olar. Ulu şairin bu hərbi-vətənpərvərlik ideyası ərazimizin 20%-nin işğalçı ermənilərin tapdağı altından azad edilməsi bugünkü gerçəkliyimizlə necə də müasir səslənir. Şirini böyük məhəbbətlə sevən Xosrov öz doğma vətənini Bəhramdan azad etmək üçün ona qarşı müharibəyə başlayır və qalib gəlir, ölkəsini əsarətdən xilas edir. N.Gəncəvinin ağıllı, cəsarətli bir qadın hökmdar kimi tərənnüm etdiyi Bərdə hakimi Nüşabə həm də "doğma ölkəsinə qol-qanad" verən alovlu vətənpərvərdir. O, öz ölkəsinin müstəqilliyini və ərazi bütövlüyünü qoruyub saxlamağa çalışır, dünyanı fəth edən Isgəndər kimi qüdrətli hökmdarı öz ağlı, fərasəti və cəsarəti ilə "ram" edir, beləliklə, vətəninin azadlığını təmin etməyə nail olur:

Gedərkən Nüşabə bağladı peyman,
Isgəndər verməsin mülkünə ziyan.
Vəsiqə yazmağa şah verdi fərman,
O cənnətdən çıxıb getdi hökmüran.

Dahi şair-pedaqoqun vətənpərvərlik ideyasına görə Vətəni hamı sevməli və qorumalıdır.

Çalış ki, kirpiyin olsun almaz tək,
Ayıq ol, ölkənin keşiyini çək.

Nizaminin bədii iris elmi-fəlsəfi mahiyyəti ilə XIII əsrdən başlayaraq şairlərin, təzkirə müəlliflərinin, alimlərin diqqətini cəlb etmiş, əsərlərinə nəzirələr yazılmış, çox sayda elmi tədqiqatlar ərsəyə gəlmişdir. Azərbaycanda Nizami yaradıcılığının geniş tədqiqinə SSRİ dönəmində başlanılmışdır. Ulu Öndər Heydər Əliyevin təşəbbüsü ilə 1979-cu ildə qəbul olunmuş "Azərbaycanın böyük şairi və mütəfəkkiri Nizami Gəncəvinin irsinin öyrənilməsini nəşrini və təbliğini daha da yaxşılaşdırmaq haqqında" qərar Nizami poeziyasının öyrənilməsində və təbliğində yeni nailiyyətlərin əldə olunmasına imkan yaratdı. Nizami əsərlərinin filoloji və bədii tərcümələri nəşr olundu. Şairin fəlsəfi düşüncələri, poetikası, Yaxın Şərq şeirinin inkişafında istiqamətverici mövqeyi ilə bağlı yeni elmi nəticələri əks etdirən monoqrafiyalar qələmə alındı.

Nizami "Xəmsə"si insanlıq dəyərlərinin toplusudur. 8 əsrdən artıqdır ki, mütəfəkkirin yaradıcılığına müraciət olunur. Orta əsr şairlərinin əsərlərində elə bir ideya yoxdur ki, Nizami irsində yer almasın. İlk poemasında şairi bir sual daha çox düşündürür: "Cahanın yaşı çox keçsə də, başından bir tük də əksilməyibdir. Cavanlığı cahana vermiş bizlər nədən qocayıq, biz ki, ondan doğulmuşuq". Nizamini insan, zaman və cəmiyyətlə bağlı suallar düşündürür. Biz bu dünyaya nə üçün gəlmişik, belə xoş, işıqlı cahan varkən əbədilik nədən axirətdədir kimi suallara cavab axtarır. Xoşbəxtlər ölkəsi ilə tanış olduqdan sonra İsgəndər fikirləşir ki, əgər insan bunlardırsa, onda biz kimik, əgər xasiyyət budursa, bizim xasiyyətimiz nədir? Şairin sualları da, özü tərəfindən bu suallara verilən cavablar da oxucunu düşündürür. "İsgəndərnamə" əsərinin sonunda belə bir ideyanı təlqin edir ki, cəmiyyətin xoşbəxtliyi onu təşkil edən fərdlərin mənəvi kamilliyinə bağlıdır. Nizamiyə görə, kamilliyin birinci şərti Yaradanı tanımaq və özünü dərk etməkdir. Özünü dərk etməyən insan məqamını dərk edə bilməz. Ağıl, iradə, iman və sevgi həqiqətin dərkinə aparır. Şairin səadət quşu olan Hümaya bənzətdiyi insan ədalətli, mərd, xeyirxah olarsa, Tanrının ona bəxş etdiyi məqamı qoruyub saxlaya bilər. Kainatda nə varsa, insanda da mövcuddur. Nizami yazır ki, kainatın hərflərini axtarmaq istəsən, hamısı səndədir. Ağıl və sevginin vəhdəti insanı doğru yola istiqamətləndirir. Şair belə bir nəticəyə gəlir ki, bəşəriyyətin nicatı ədalətin yer üzündə bərqarar olmasındadır. O qeyd edir ki, dünya yaxşıların üzərində qərar tutur. Tanrıdan başqa nə varsa fanidir. Bütün canlıları "müvəqqəti vücudlar" adlandırır. Bu "müvəqqəti vücudlar" gözlərini ədəblə nurlandıraraq bir-birinə xidmətdədirlər. Xidmət sifəti insanlığın surətidir. Nizamini insanın yer üzərindəki missiyası düşündürür.

Mənəvi kamilliklə bağlı düşüncələrində Nizami ağlın və elmin rolunu xüsusi qeyd edir. Onun fikrincə, nəzər saldığımız hər nəsnədə gizli bir xəzinə vardır. Şair milli və dini dəyərləri təlqin etməklə yanaşı zamana uyğunlaşmağı da vacib sayır. Çünki hər kəs öz yaşadığı dövrün övladıdır. Mütəfəkkir belə hesab edir ki, sağlam düşüncə səadətə gedən yolun işığıdır. Özünü tanıyan Tanrını tanıyır və nəfsin qaranlığından təmizlənir. Bu zaman insan ruhunun pak işığı zahirə çıxır. Şərq fəlsəfəsinə görə, qəlb pasdan təmizlənməsə işığı əks etdirə bilməz. İnsanın qəlbi və üzü klassik ədəbiyyatda aynaya bənzədilir. Üzdə və gözlərdə əks olunan qəlbdən gələn nurdur. Nizamiyə görə, insan daxilindəki işığın gücü ilə diri ikən əbədiliyi əldə edə bilər. Buna işarə edərək yazır ki, ölü bir şəxsəm, ancaq mərdanə gedirəm. Dirilər karvanı ilə gedirəm, amma bu karvandan deyiləm. Nizami insan və zamanla bağlı deyilməmiş məna qoymamış, özünün də qeyd etdiyi kimi mənalar fəziləti ilə yeri və zamanı göylərin fərmanına əsasən tutmuşdur. Yəni o, zamanın və məkanın fövqündədir.

İnsan nəfsinin köləsi olmamalıdır, özünü tanıyan insan, nəfsini ağlına tabe edərək əbədilik qazana bilər. Mütəfəkkirin fikrincə, ağıl bağışlanamış can Tanrının bizə bəxşişidir. Can ağılla əbədi diridir. Yaradanın hədiyyəsi olan idrak qabiliyyəti və qəlbindəki sevgi, iman Nizamiyə ölməzlik qazandırdı. Nizami mənəviyyatını qoruyaraq, mənəvi dəyərləri yaşadaraq, ağlın göstərdiyi yol ilə gedib elmin qapılarını səylə açaraq axtardığı işığı tapdı. Ona ölməzliyi qazandıran da məhz bu işıq, yəni düşüncənin işığı oldu.

Nizami yaradıcılığında qadın obrazları da diqqəti cəlb edir. Nizami XII əsrdə gender bərabərliyi ideyasını Məhinbanu, Şirin, Nüşabə obrazları ilə əks etdirir. Qadının cəmiyyətdəki aparıcı rolunu ilk dəfə bədii ədəbiyyatda Nizami yaradıcılığında görürük. Sənətkara görə, qadının müstəqil fikir yürütmək hüququ və sevmək haqqı var. Nizami qadın hüquqlarının müdafiəçisidir. Şair ərəb rəvayətlərinin hüquqsuz, aciz Leylisini dünya ədəbiyyatının ən cəsarətli aşiqinə çevirə bilmişdir.

İnsan xarakterinin və dünyagörüşünün formalaşmasında genetik faktorla yanaşı, mühitin təsirini də vurğulayır. Gəncəvi 14 yaşlı oğluna faydası olan elmi öyrən, sənin sabahkı munisin sənin bu günündür kimi məsləhətlər verir. Nizaminin oğlu Məhəmmədə nəsihətləri hər dövrün gəncliyinə önəmini itirməyən tövsiyələrdir. Sağlam qidalanmadan tutmuş ekologiyanın təmizliyinə qədər zamanın hər dönəmində aktual olan məsələlər şairin diqqət mərkəzində olmuşdur. Eləcə də, bütün dinlərə, millətlərə və irqlərə hörmətlə yanaşması Nizami yaradıcılığını ən ali mərtəbəyə qaldıran və sevdirən keyfiyyətlərdəndir. Həmid Araslı Nizamini insanşünas adlandırırdı. Nə qədər ki insan var, yer üzündə həyat var Nizami yaradıcılığı aktuallığını itirməyəcək.

Nizami yaradıcılığının sehri nədir? sualına cavab olaraq deyə biərəm ki, böyük mütəffəkir insana özünü dərk edərək sevməyi öyrədir. Tanrını və yaratdıqlarını sevməyi, həyatı sevməyi, özünü sevməyi. Yaradılışdan məqsəd sevgidir. Sevgi ilə qidalanmış düşüncənin qarşısında heç bir qüvvə dura bilməz. Çünki bu zaman insan ruhunun pak işığı zahirə çıxır. Nizami qələminin sehri bundadır.

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Chemical Sciences

APPLICATION OF DEEP LEARNING FOR THE ORGANOCHLORINE PESTICIDES IDENTIFICATION

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INTRODUCTION

The identification of organochlorine molecules is a leading task in modern chemical analysis, as these compounds are widely used in many industries. Such industries include, for example, pharmaceuticals, pesticides for the agricultural industry, polymers, etc.

One of the most reliable and common methods for identifying organochlorine molecules is to analyze their mass spectra. Mass spectrometry provides unique information not only about the elemental composition of multi-atomic molecules but also opens up the possibility of determining their spatial structure. This is especially important for monitoring pesticide residues. Many of them have a certain number of isomers. These isomers are observed as separate peaks in chromatographic analysis and can be misinterpreted as different chemical compounds.

At the same time, the fundamental limitation of mass spectrometric analysis is that it can be automated only when identifying already known compounds. That is, the identification process involves comparing the mass spectrum under study with an array of reference mass spectra. If the reference mass spectra array does not contain a sample of the molecule under investigation, it is not possible to reliably determine the elemental composition and spatial structure of the target substance in the sample.

The paper proposes the use of machine learning methods, in particular machine classification, to automatically determine the type of unknown compound. This means training standard classifiers on a large number of pre-classified mass spectra. As a result of the training, the algorithms will be able to recognize the characteristic features of classes of organochlorine compounds by their mass spectra, which will allow for high accuracy in classifying unknown compounds in the samples under study.

There are many advantages to using machine learning to identify organochlorine molecules, such as speed, accuracy, and the ability to process large amounts of data. This approach opens up new opportunities for identifying new organochlorine compounds, studying their chemical properties, and investigating their role in various processes.

One of the main challenges of the proposed machine learning method is to account for the variability of mass spectra, which can be caused by various factors, such as analysis conditions, sample source, and mass spectrometer specifications. Developing machine learning models that are robust to such variations is an important aspect of research in this area.

Despite these challenges, machine learning mass spectra classification is a powerful tool for identifying organochlorine molecules. It helps speed up and automate the analysis process, allowing for faster and more efficient detection, classification, and identification of unidentified chemical compounds.

PROBLEM STATEMENT

Traditional methods of identification of chloro-molecules, such as mass spectrometry, require expert analysis and a lot of time for data processing. The use of machine learning and classification methods allows you to automate the process of identification, reduce the analysis time and reduce the likelihood of error.

To develop an automated system based on the most adequate classifier, it is necessary to determine the space of the molecule features on the basis of quantitative characteristics of its experimentally measured mass spectrum and set a metric in this space. The next step is the choice of an adequate classification algorithm, based on the efficiency of their use to determine the chemical classes of molecules based on the quantitative characteristics of mass spectras of multi-affected molecules.

Thus, the main mechanism of identification of unidentified compounds is the attribution of them to the appropriate class by a trained machine algorithm of classification. However, in the learning process, the classifier forms a set of classes of massives based on their quantitative features. However, the issue of compliance with the formal classes of the mass spectra, the actual classes of chemical compounds is open because it is not theoretically substantiated. The reconciliation of these formally non-dependent sets of classes with the establishment of homomorphism between them is proposed by cluster analysis with the selection of a group of significant features so that the number of formal and actual classes are coinciding and corresponds to the number of clusters identified.

The end result of the research proposes a method of identifying the molecule with a specific machine algorithm on the basis of established statistical dependencies between the spatial structure of the molecule and the quantitative characteristics of its mass spectrum.

ANALYSIS OF THE PROBLEM STATE

Global experience in using deep learning in analytical chemistry

Deep learning is one of the most important and rapidly developing industries in computer assistance in the discovery of medicines [1]. Compared to physical models based on obvious physical equations such as quantum chemistry or simulation of molecular dynamics, deep learning approaches use algorithms for recognizing samples to identify mathematical connections between empirical observations Allows these properties of new compounds. In addition, compared to physical models, deep learning methods are more effective and can be easily scaled for large data sets without the need for large computing resources. One of the main areas of application of Deep Learning in the discovery of drugs is to help researchers in the understanding and use of relationships between the chemical structure of compounds and their biological activity or SAR

[2]. For example, having the results of screening of medicinal substances, it may be desirable to know how to optimize the chemical structure of the compound to improve its binding, biological activity or physicochemical properties. Half a century ago, such problems could only be solved through numerous expensive, temporal and labor cycles of synthesis and analysis of medicinal chemistry. Today, modern Deep Learning methods can be used for QSAR modeling, or quantitative relations (QSPR), and the development of artificial intelligence programs that accurately involve as chemical modifications can affect biological behavior [3]. Many physicochemical properties of medicines, such as toxicity, metabolism, inter-hospital interactions and carcinogenesis, are effectively modeled by QSAR methods [3]. The first QSAR models, such as Hanch and Fry Willow, used simple multidimensional regression models for correlation of spatial structure and chemical properties, such as solubility (logP), hydrophobicity, electronic, etc. [4]. Although these approaches were fractured and successful, they were ultimately limited to the inaccessibility of experimental data and the assumption of simulation linearity. Therefore, high-level chemo-informatics and deep learning methods are needed, which are capable of modeling nonlinear data sets, as well as large data with increasing depth and difficulty.

Chemical analysis of similarity is a fundamental technique for the search for ligands based on the discovery of medicines [5]. Its purpose is to identify and return compounds from a database that has similar structures and bioactivity, which is similar to requesting compounds [6]. The principle of chemical similarity, which argues that compounds with similar structures are likely to have similar bioaactivity, is the main prerequisite for the similarity of virtual screening based on ligands [7].

Deep Learning techniques can be widely classified as a teacher with or without a teacher [8]. In the case of training with the tag teacher, they are assigned to the study data, and after training, the model may provide labels for the given input data. Deep Learning models with the teacher include regression analysis, the method of closest neighbors (KNN), Bay's probabilistic training, the method of reference vectors (SVM), random forests and neural networks. Deep learning techniques without a teacher study directly on indefinite data, identifying the basic patterns of molecular traits. A special case of teaching with the teacher is semi-involved learning learning, in which a small amount of data marked is mixed with unspecified data in the learning process to improve the accuracy of modeling a small and unbalanced data set [9]. Teachers without teacher include dimension reduction methods, such as the analysis of the main components, the analysis of independent components, as well as some methods with the teacher, which also support unconditional learning, such as support vectors, probabilistic graphic models and neural networks [10, 11, 12, 13]. Clustering algorithms are another class of algorithms without a teacher, where the data set is initially divided by predefined metrics of high -intensity space, and then the labels are assigned on the basis of the number of observed categories. Modern Deep Learning techniques provide a powerful set of high-precision methods for the study of nonlinear relationships between the chemical structure of a multi-atomic molecule and the quantitative characteristics of its physical descriptors of different nature.

Machine cluster analysis methods

Cluster analysis, also known as an analysis of cluster or data grouping, is the task of dividing a given sample of objects (situations) into subsets called clusters. The purpose of cluster analysis is to create clusters in which objects are internally similar, while objects from different clusters are significantly different from each other. In this case, the term "cluster" comes from the English word "cluster", which means "bunch", "association" or "accumulation".

In clustering of observations, the main purpose is the informal and economic justification of the division of a certain population into groups. Cluster analysis allows this division without requiring pre-set values on the distribution of the general population. Each object can be described by a set of observed parameters that can be considered as points of points in a multidimensional space.

The main purpose of cluster analysis is to divide objects into groups that show relative homogeneity or similarity by the studied features or variables. Each group contains objects that are similar in terms of studied, while objects in different groups differ significantly. When using cluster analysis by grouping into fewer clusters, the number of objects in each cluster is reduced, but the number of traits or variables under study does not decrease.

Cluster analysis methods can be applied in different situations, including simple grouping of objects on the basis of their similarity by quantitative features. A distinctive feature of cluster analysis is that it is not a typical statistical method, and in many cases does not require statistical verification processes. This allows you to use cluster analysis, for example, in a statistical analysis of data, vector quantization, identification of images and other tasks. One of the advantages of cluster analysis is the ability to break objects into groups, taking into account not one sign, but a whole set of features. In addition, cluster analysis does not impose restrictions on data and allows the use of various data of different nature. This is especially useful, for example, when predicting economic indicators, when input has different structure and traditional econometric approaches become unusable. The task of cluster analysis can be formulated as a set of N vectors, each of which has d signs. The purpose is to divide into subsets according to a given optimization criterion. Usually, this criterion is to minimize distortion. There are different methods of distortion assessment, but most applied implementation uses the sum of the Euclid's average-categorical distances between the vector and the center of the cluster to which it belongs.

One of the most popular clustering algorithms is the K-Means algorithm. It is used in Deep Learning and Data Extraction. It is an unmanaged learning algorithm that group similar data points together on the basis of their similarity.

K-Means is an iterative clustering algorithm that can be divided into several steps. The initial clusters may be initialized randomly or selected with some preliminary knowledge of data.

In the assignment step, each point of data calculates the distance to all centroids and is assigned to a cluster with the nearest center. The distance can be calculated, for example, by Euclidean distance or cosine similarity, depending on the nature of the data and the requirements of the problem.

Once all the data points to the clusters, we move on to the center of renewal of centroids. New clusters are calculated by determining the average value of all points in each cluster. This means that the centroids move to new positions depending on the location of the points in the clusters.

The process of assignment and updating of the centroids is repeated until the coincidence or satisfaction of the stop condition. The coincidence means that the centroids do not change their position between iterations, that is, clustering is stored. The stopping condition can be set on the basis of the maximum number of iterations or changes in intra cluster variances.

One of the main advantages of the K-Means algorithm is its effectiveness, especially with large amounts of data. Because the algorithm is unmanaged, it can automatically detect data structure without prior knowledge of classes or clusters. In addition, K-Means is relatively simple and easy to implement the algorithm.

K-means algorithm options are developed to improve its performance and clustering quality. For example, there are approaches to choosing the optimal value of K, such as elbow or silhouette method. There are also extended versions of the algorithm that will avoid the disadvantages of the base algorithm, such as K-MEANS ++, which improves the initial initialization of centroids, or K-honoid, which uses media instead of average values.

The K-Means algorithm is widely used in different areas, including images, data analysis, user grouping, recommendations, bioinformatics and others. It allows you to identify the structure and group in data sets, which helps to understand the characteristics of the data and carry out further analysis and study.

Classification algorithms

Classification is a systematic distribution of objects, phenomena, processes into genera, types, types for convenient study. This process includes the grouping of concepts and their location in the appropriate order, which reflects the degree of similarity. The classification consists in ordering objects depending on common features or properties that are used to determine the similarity or difference between them. The classification allows you to draw conclusions about the characteristics of a particular group. This process is based on the presence of signs that characterize the group to which the object or event belongs. Classification is also used in a teaching strategy with a teacher when there are already classified objects to formulate rules. The patterns of spectra accumulated in the database are used both to identify the components of the spectrum and to create equations that give accurate solutions to the problem.

Known by Support Vector Machines (SVM) classifier is one of the methods used for classification and regression. It is based on the construction of a nonlinear decision-making boundary in the space.

The basic idea of the method is to find the optimal hyper-surface, which separates two classes of objects in the space of traits. This hyper-surface is selected in such a way as to maximize the distance (pre-defined as a "gap") between the nearest objects of the two classes, which are near the separation border. These objects that lie closest to the border are called support vectors.

SVM has high flexibility and can solve classification and regression problems even when the data is not linearly separate. During the learning process, he seeks the optimal coefficients that determine the position and orientation of the hyper-surface so that it separates the points of class. These coefficients are taken into account for the construction of a separate hyper-surface, as well as for the identification of support vectors - the points closest to the hyper-surface.

The Bayes Classifier is a wide class of classification algorithms based on the principle of maximum a posteriori probability. This approach is used to determine the class of a class for a given object by calculating the functions of plausibility for each class and subsequent calculation of a posteriori probability for each class. The object belongs to the class for which the probability is the highest.

Naive Bayes is quite clear and transparent. It was called "naive" because of the assumption of mutual independence of features. The properties of naive classification include the use of all variables and the definition of all the dependencies between them. The method is based on two assumptions for variables: all variables have the same weight and are statistically independent, which means that the value of one variable does not provide any information about the value of another variable.

Most other classification methods suggest that the probability of an object's belonging to the class is the same for all classes before the classification begins. However, this is not always the right assumption.

Knowledge of the percentage of data belonging to a particular class can be used in the construction of the classification model. This a priori information can be used as additional data when constructing a classification model. Therefore, the use of Bayes classification and Bayes networks allows you to use a priori knowledge and additional data to improve the classification process.

The naive-Bayes approach, like any other method, has its disadvantages. This is an assumption of statistical independence of variables. The naive-Bayes approach assumes that all input variables are statistically independent. In real data, this assumption is often not performed, but the method can still show acceptable results. However, if the conditions of statistical independence are not met, more complex methods, such as Bayes, can be more effective. In addition, Naive Bayes, an approach cannot directly process continuous variables. To use these variables, they must be converted to a discrete scale, for example, breaking them at intervals. However, such transformations can lead to loss of significant patterns in data.

Considering these shortcomings, it is important to realize that the Naive Bayes approach is a simple tool that can be effective in some cases, but does not always meet all the features of the data. When working with more complex data and in the presence of more accurate methods, it may be appropriate to consider other approaches that will avoid restrictions on the Naive Bayes approach.

The K-Nearest Neighbors (K-NN) algorithm is one of the Dep Learning managed algorithms, which can be used for both classification and regression forecasting problems. The main application of K-NN is to classify problems in industry. K-NN can be considered a lazy learning algorithm because it does not have a separate stage of training and uses all available data for classification. In addition, K-NN is a non-parametric learning algorithm, which means that it does not provide for any certain assumptions about the base data or their distribution.

K-NN uses the "similarity of traits" to predict the values of new data points. This means that the new data point is based on how close it is to other points in the training set. However, the K-NN algorithm also has several drawbacks. This is low speed. In real tasks, you usually need to use a large number of neighbors for classification (for example, 100-150). In this case, the algorithm can work more slowly than, for example, solutions of solutions. In addition, it needs a large space of signs. If the space of the object of the object is large, it is difficult to pick up weights and determine what signs are unimportant to solve the problem. The absolute disadvantage of the K-NN algorithm is the dependence on the type of metric. The choice of a certain metric measurement between objects can significantly affect the result. The use of the default of the Euclidean distance is not always justified, and it is necessary to carefully choose the appropriate metric. However, finding the optimal parameters can be resourceful for large data.

There is also no theoretical justification for choosing the number of neighbors. Often, parameters are used, which can be time. In addition, insufficient number of neighbors can lead to retraining and make the method sensitive to emissions.

When choosing the number of neighbors K for the K-NN algorithm, you should avoid extreme values, as they can lead to incorrect classifications. When K = 1, the algorithm of the nearest neighbor becomes unstable to noise emissions, and can incorrectly classify not only the emissions themselves, but also the objects of other classes closest to them. On the other hand, at k = m, the algorithm becomes excessively stable and turns into a constant, which does not produce useful results.

In practice, the optimal value of the parameter K is determined by the criterion of variable control, often using the method of exclusion of objects one by one (Leave-one-out Cross-validation). This method allows you to evaluate the effectiveness of the algorithm for different values of K, excluding one object from the training set and testing it on residual data. The value of K, which gives the best accuracy or other metric indicator, is considered optimal for this classification problem.

The Random Forest classifier is an ensemble of solutions consisting of many deciding trees. This method reduces the problem of retraining and increasing the accuracy compared to the individual tree. The forecast is formed by combining the answers of several trees. Each tree studies regardless of the others on different subsets of data, which will avoid the construction of the same trees on the same data. This makes the algorithm effective for use in distributed computing systems. The idea of begging proposed by Leo Breman is appropriate for distributed calculation.

When accumulating an array of data used for independent training of classification algorithms, it is wise to use many trees with considerable depth. During the classification, the final result will be the class, which was voted by most trees, provided that each tree has one voice.

For example, in the case of a binary classification using a model of 500 voting trees, 100 of them indicate the first class, and the rest 400 - to the second class, the model will provide the second class. When using Random Forest for regression problems, the approach of choosing the value that most trees voted will be unusable. Instead, the average value obtained from all trees is selected.

Random Forest requires considerable computing resources through independent construction of deep trees. Restriction to depth can impair accuracy, as complex tasks need to be constructed many deep trees. Tree training increases linearly with their number.

It is clear that the increase in the depth of trees does not best affect productivity, but increases the efficiency of the algorithm (although increases the risk of retraining). It is important not to worry too because of retraining, as it is offset by the number of trees. But you should also not be shipped. In all cases, it is important to properly adjust the hyper-parameters.

The Machine Algorithm "Decision Tree" can be used as a classifier in machine learning. The solution tree is a Deep Learning model that is used to classify or regress data. In the case of classification, the decision tree divides a set of data into several subsets, based on the values of the input features, and appoints each subset of a certain class or label. Thus, a solution tree can be used as a classifier for the purpose of labels or classes with new unknown data, based on the studied data samples. The algorithm of the solution tree is built in the form of a tree with nodes and branches. Each node represents a test, and each branch displays the possible results of this test. The nodes of the decision tree distribute data to the subsets depending on the values of the trait, and the decision is made on the basis of the value of the target variable in the leaves of the tree.

Decision trees have some advantages, such as easy interpretation, the ability to take into account data heterogeneity and the ability to work with qualitative and quantitative features. However, they can also be prone to retraining, especially if the tree has a great depth and many rules.

In general, decision trees are one of the widely used Deep Learning algorithms and are used in many industries.

THE RESULTS OF EXPERIMENT AND DISCUSSION

Hyper-space of signs vectors for mass spectra of poly-atomic molecules

A typical mass spectrum of organochlorine molecules using deltamethrin as an example is shown in Fig.1. It consists of 450 ionic peaks. The intensity of some peaks does not exceed the level of hardware noise of the mass spectrometer. Such peaks are not taken into account when identifying a molecule. The descriptive features of a molecule are those ion peaks whose intensity is at least three times higher than the level of hardware noise.

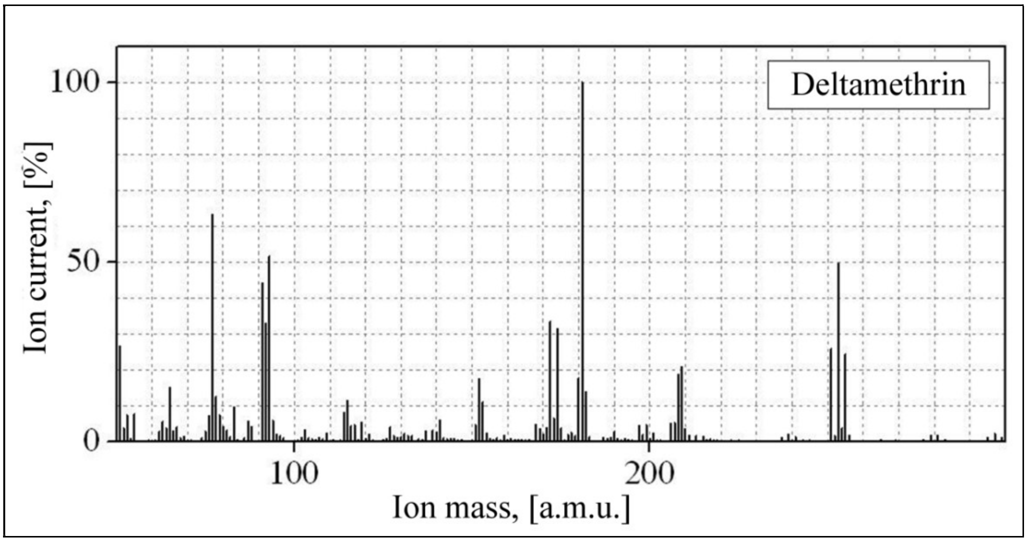

Fig.1. Mass spectrum of deltamethrin

Using a set of ionic peaks of a molecule under study to assign it to a particular chemical class is rather unproductive. This is a consequence of the absence for most classes of chemicals of a stationary subset of ion peaks within the class that are characteristic of each molecule of the selected class. On the example of the mass spectra of some perithroids (Fig. 2.) it can be shown that there is no common combination of characteristic ions of size at least three for this set of molecules.

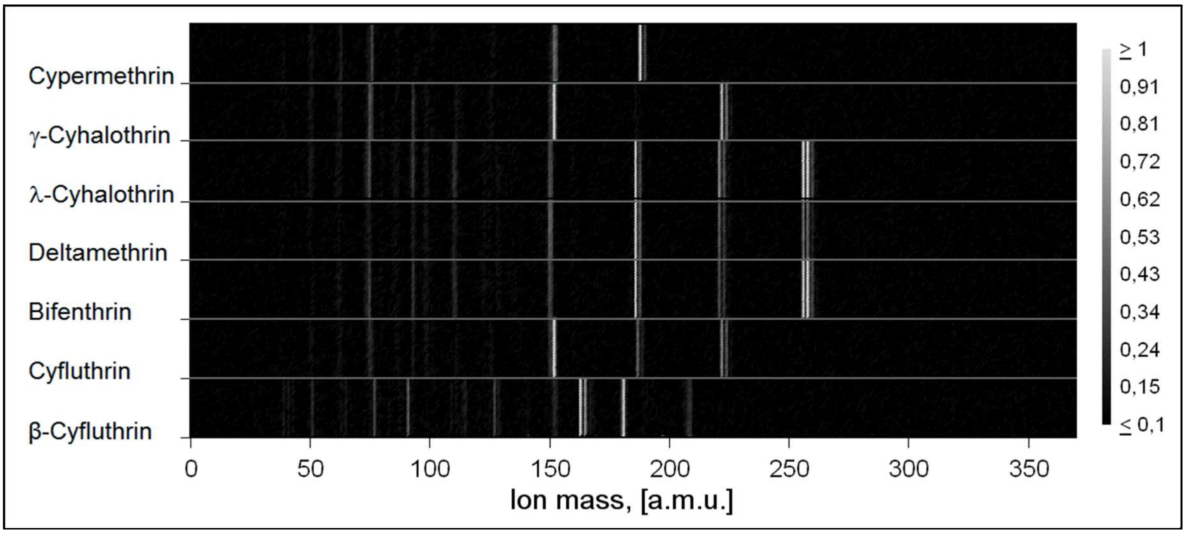

Fig.2. Comparison of mass spectra of pyrethroids

For a formal comparison of the degree of similarity of molecules of the same class, it was proposed to create a hyper-space of feature vectors with the corresponding metric The coordinates of the feature vector were taken as the intensity of the peaks $\vec{\mathbf{I}} \equiv \left(I_1,\ldots I_n,\ldots I_N\right), n=\overline{1,N}$. The dimension of the chosen hyperspace *N* is 450. To create a set of feature vectors of the studied classes of substances, all mass spectra were artificially brought to the same dimensionality, supplementing the missing peaks with intensity values at the level of hardware noise. All mass spectra were normalized to the maximum value of peak intensity in the mass spectrum. The measure of similarity between the two vectors was the angle between the test and reference vectors. The reference vector was the mass spectrum of the biphenyl molecule $C_{12}H_{10}$. The angle between the vectors was found using the scalar product:

$$\cos(\alpha) = \frac{\vec{\mathbf{A}} \circ \vec{\mathbf{B}}}{|\vec{\mathbf{A}}| \cdot |\vec{\mathbf{B}}|} = \frac{\sum_{n=1}^{N} A_n B_n}{\sqrt{\sum_{n=1}^{N} A_n^2} \sqrt{\sum_{n=1}^{N} B_n^2}} \tag{1}$$

The results of the primitive clustering by the selected proximity measure are shown in Fig. 3.

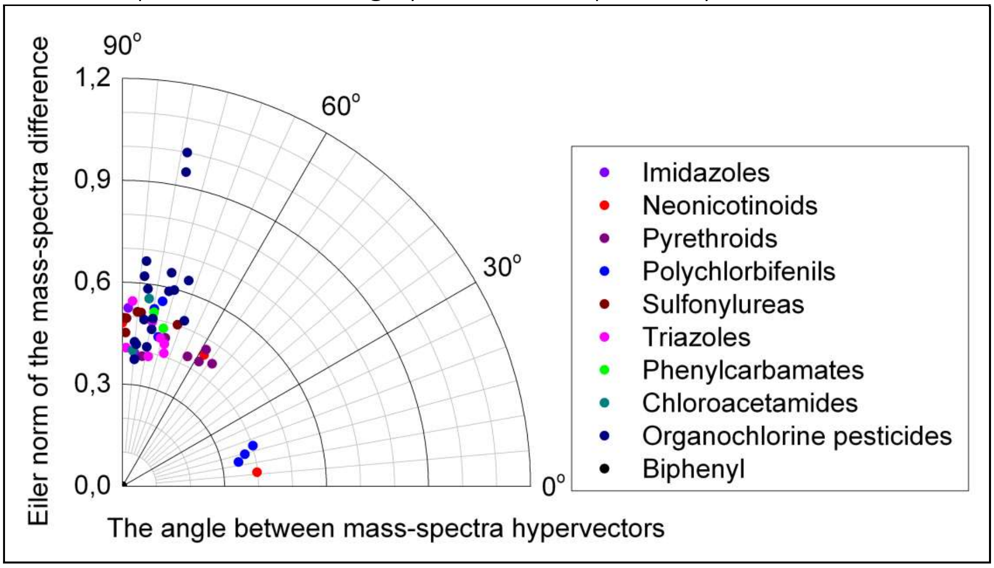

Fig.3. The result of clustering by the angle between mass spectra

Studies have shown that the use of manual clustering does not give a satisfactory result, since molecules of different classes of substances can fall into one primitive cluster, and molecules of the same class of substance form several distant groups. In addition, the number of primitive clusters obtained does not correspond to the number of classes of substances involved in the experiment.

Thus, the experiment showed the need to use standard clustering algorithms based on deep learning methods.

Clustering of organochlorine molecules by the k-means method

The K-Means method was used to the same data set that was prepared for primitive clustering at the angle between the test and support vectors. The creation of a training sample of data was performed by repetition of the experimental registration of the mass spectra of each molecule of the respective class of the substance. 20 experimental mass spectra were taken for the descriptre array of each molecule.

The establishment of the optimal number of non -intersecting clusters was carried out by the so -called "elbow method". For this purpose they built a graph of "elbow". The abscissa axis reflected the number of clusters, and on the axis of the ordinate - the full amount of internally cluster variance (WSS). WSS was counted as the sum of squares of distances between the test vector and the center of the corresponding cluster. WSS is the nature of variance change. It helps to determine what number of clusters the algorithm provides the best data approximation. When WSS passes smoothly according to the graph, it means that the data is included in one cluster. The smoother the schedule we have, the less clusters.

Thus, on the "elbow" schedule the optimal number of clusters corresponds to the point of extremum WSS. In the outskirts of this point, the change of WSS is practically no noticeable. This number of clusters was chosen as optimal for further use in the clustering algorithm (Fig.4.).

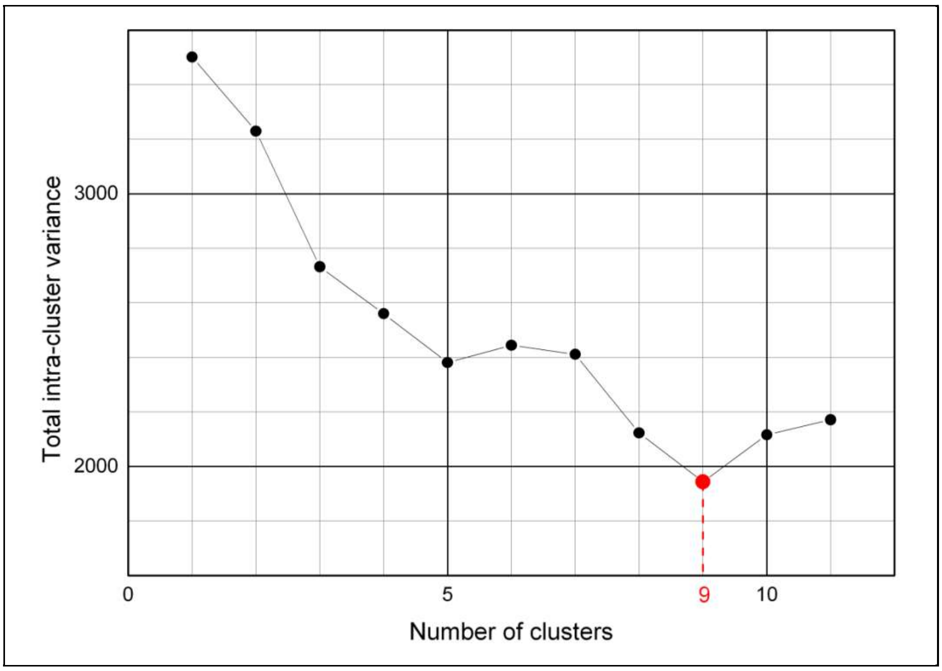

Fig 4. Elbow chart

As the results of the studies have shown, the optimal number of clusters is equal to the number of chemical classes under study. Thus, homomorphism between the formal classes of mass spectra and the actual classes of chemical compounds for the group of the test substances can be considered established.

Classification of mass spectra by machine algorithm “Decision Tree”

Various standard classifiers were used to identify unknown substances. Studies have shown the greatest effectiveness for the classification and further forecasting of the molecule class of the method of "Decision Tree". The construction of a model of "solutions" was carried out using 1059 observations for 450 variables. The sampling of data for the model was broken into training and test. The training sample contains 1000 observations, and the test - 59. This model was built on the basis of a training sample and predicted for test.

The training sample is used to teach the model. It is a subset of data on which the model builds its internal rules and parameters. The model is adapted to a training sample by using the learning algorithm to set the optimal parameters.

The test sampling, on the other hand, is used to evaluate the predictive ability of the model. It is an independent sample that is not used in modeling a model. On the test sample, we check how well the model is able to summarize its knowledge and make forecasts for new, previously unprecedented data. Using a test sample, we can evaluate the accuracy, sensitivity or other metrics of the model. The accuracy of this model is 100%.

The run-up model of "Decision Tree" showed that a large number of variables did not affect the model. That is, the measure of their importance for the model was zero. Variables that are not zero importance are shown in Fig. 5. Their physical content corresponds to the mass of the ion in the mass spectrum. Therefore, important variables can be interpreted as a group of characteristic ions to identify a wide class of chemicals.

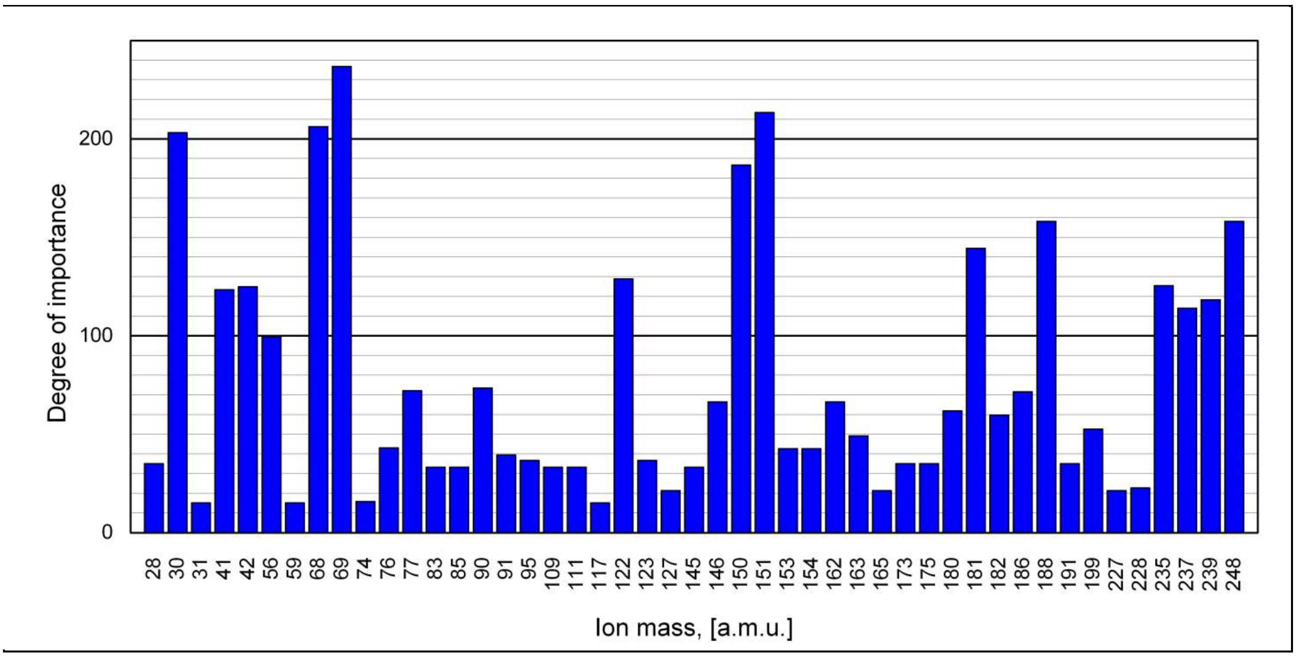

Fig.5. Chart of the importance of variables

For the example of the use of the implemented classifier, we take three well-known compounds, such as λ-cygalothrin, deltamethrin and cypermethrin belonging to the class of pyrethroids. In Fig.6 shows the molecular structures of these compounds, respectively.

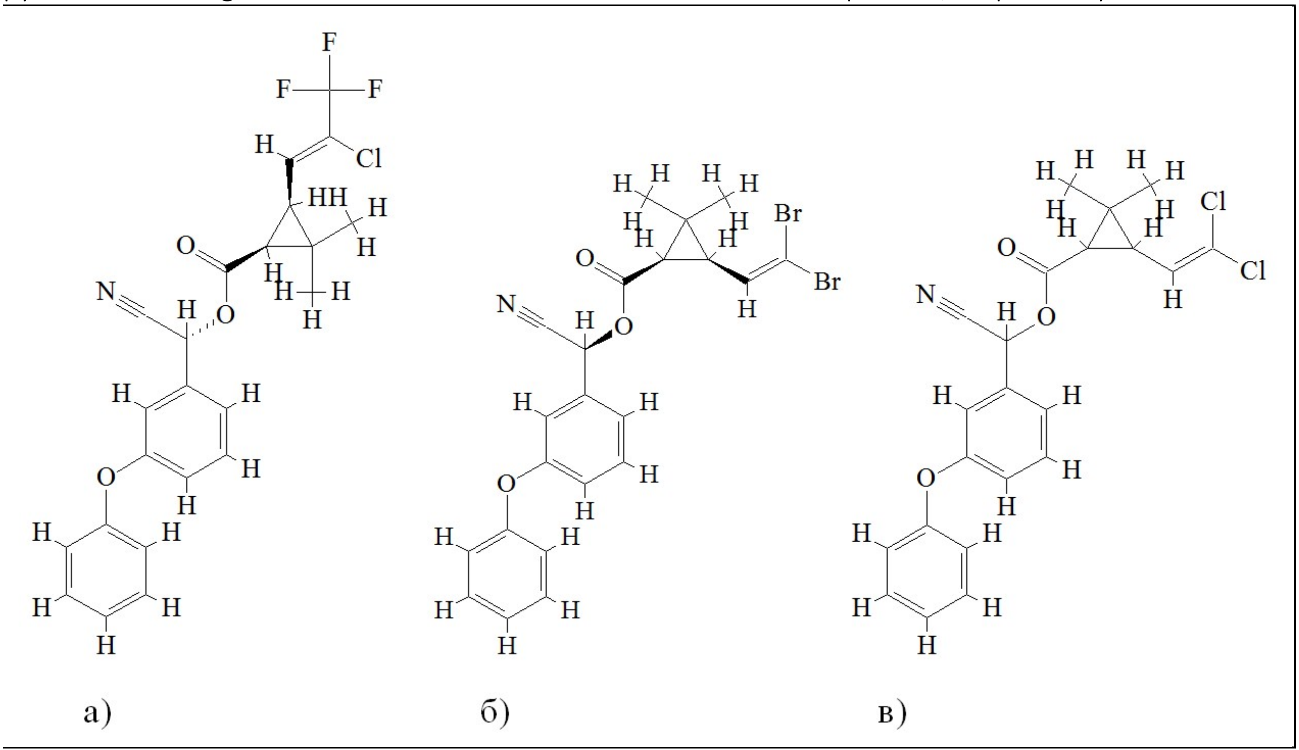

Fig.6. Molecular structure λ-cygalothrin -a), deltamethrin-b) and cypermethrin-c)

As you can see, all three molecules have the same component of the structure, namely: α -cyano -3 -phenoxylbenzyl fragment (Fig. 8).

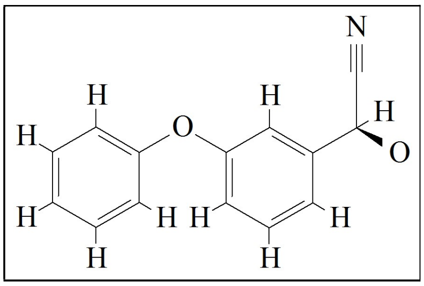

Fig.7. Molecular structure α-cyano-3-phenoxylbenzyl fragment

Therefore, having taken a mass speaker of an unidentified molecule and referred it with the help of an automated classifier to the appropriate class, it is possible to argue with a certain degree of accuracy that this molecule must contain a joint structural component for this class.

CONCLUSIONS

As a result of the work carried out a comparative analysis of standard methods of machine classification as a way of identifying multi-affected molecules by their mass spectra. The Random Forest classifiers and the Machine Algorithm "Decision Tree" were considered. It is established that the machine algorithm "Tree of Decisions" is more suitable for the identification of poly-atomic molecules by their mass spectra.

In order to prove the completeness of the data contained in the mass spectra for the breakdown of molecules into classes, a hyper-space of vectors of signs for molecular mass spectras was constructed by their element composition, and their clustering of K-Means was conducted. It was shown that the number of clusters of mass spectra coincides with the number of classes of the substances under consideration, which indicates the correctness of the problem of identification of multi-affected molecules by machine classification of their mass spectra.

In the R-Studio environment, the software implementation of the classifier based on the machine algorithm "Tree of Decisions" was carried out on the platform R. Testing of the software implementation of the studied method of identification on the experimental mass spectra of such classes of substances as biphenyl, imidazoles, neonicotinoids, pyrethroids, polychlorobiphenyls, sulfonurons, triazoles, phenylcarbamates, chloracetamide and organo-chlorinate pesticides to the appropriate class of a substance not worse than the accurateness of the mass spectrometric device.

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Sociological Sciences

ТҰЛҒАНЫҢ ӘЛЕУМЕТТЕНУІ БАЛА МӘДЕНИЕТІ ЖАҒДАЙЫНДАҒЫ ӘЛЕУМЕТТІК-ПСИХОЛОГИЯЛЫҚ ҚҰБЫЛЫС РЕТІНДЕ

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әлеуметтану ғылымдарының магистрі, Ө.Жәнібеков атындағы ОҚПУ, Аккредитация және мониторинг бөлімінің маманы
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Кілт сөздер: тұлға, бала, әлеуметтену, мәдениет, салт-дәстүр, психологиялық құбылыс.

Қазіргі таңда күнделікті қарқынды өзгеріс бүкіләлемдік деңгейде жүріп жатқанда әр адамды біртұтас әлеуметтік тұтастық пен қоғамның құрылымына қосуды талап ететін мәселе ең өзекті болып табылады. Әр тұлға өзіне дейінгі ұрпақтың өмір сүру тәжірибесін тыс қалдырмай, өзі өмір сүріп жатқан қоғамның құндылықтарымен қоса игере алуы бұл мәселенің өзектілігін арттыра түседі. Бұл үдерістің негізгі тұжырымдамасы – әр адамға қоғамның толыққанды мүшесі болуға мүмкіндік беретін жеке тұлғаны әлеуметтендіру.

Тұлғаның әлеуметтенуі – бұл әр адамның әлеуметтік құрылымға ену үдерісі. Осы үдеріс нәтижесінде қоғамның құрылымы мен әр адамның құрылымында өзгерістер болады. Бұл әр адамның әлеуметтік белсенділігіне байланысты. Осы процестің нәтижесінде әр топтың өзіне тән барлық нормалары игеріледі, әр топтың бірегейлігі көрінеді. Яғни, атадан балаға мирас болып келе жатқан ата-бабамыздың өмір сүру тәжірибесі, өмір сүру салты жаңарып, жаңа кейіпке еніп заманауи түрде дамиды немесе заман талабына сай жоқ болып кетеді. Жеке адам мінез-құлық үлгілерін, құндылықтар мен әлеуметтік нормаларды өз бойына жинақтайды. Мұның бәрі кез-келген қоғамда сәтті жұмыс істеу үшін өте қажет болып табылады.

Жеке тұлғаның әлеуметтену процесі өмір бойы жалғасады, өйткені қоршаған әлем үнемі қозғалыста болады, бәрі өзгереді және адам жаңа жағдайда жайлы өмір сүру үшін өзгеруі керек. Өмір – үздіксіз өзгерістер мен жаңартуларды қажет ететін тұрақты бейімделу процесі десек те болады. Адам әлеуметтік болмыс. Әрбір жеке тұлғаны әлеуметтік қабаттарға біріктіру процесі өте күрделі және ұзақ жүреді. Өйткені, ол әлеуметтік өмірдің құндылықтары мен нормаларын және белгілі бір рөлдерді игеруді қамтиды. Осы тұста тұлға әлеуметтену барысында өз бойына салт-дәстүр мен ұлттық құндылықтарды игерсе өз ұлтының ұлттық болмысын жандандырып,ары қарай жалғасуына жағдай жасайды.

Тұлғаның әлеуметтену процесі оның дамуында үш негізгі кезеңнен өтеді. Бірінші кезең – әлеуметтік құндылықтар мен нормаларды игеру, нәтижесінде жеке тұлға бүкіл қоғамға сәйкес келуді үйрену. Екінші кезең – жеке тұлғаның өзін-өзі дараландыруға, өзін-өзі тануға және қоғамның басқа мүшелеріне белгілі бір әсер етуге ұмтылуы. Үшінші кезең – әр адамды белгілі бір әлеуметтік топқа біріктіру, онда ол өз бойындағы қасиеттер мен мүмкіндіктерді ашады.

Бүкіл процестің дәйекті жүруі ғана бүкіл процестің сәтті аяқталуына әкелуі мүмкін. Әлеуметтену процесінің өзі жеке тұлға әлеуметтенуінің негізгі кезеңдерін қамтиды. Негізгі кезеңдердің ішінде мыналарды бөліп көрсетуге болады: еңбек етуге дейінгі кезең, еңбек ету кезеңі, зейнет кезеңі.

Жеке тұлғаны әлеуметтендірудің негізгі кезеңдері: бастапқы әлеуметтену – туылғаннан бастап жеке тұлғаның қалыптасуына дейін жүреді; Екінші әлеуметтену – бұл кезеңде тұлғаның жетілуі мен қоғамда қалыптасуы жүреді. Бұл мақалада осы кезеңдердің алғашқысын қарастырайық.

Бастапқы әлеуметтену туылғаннан басталады дедік. Ал әлеуметтену процесі тікелей отбасындағы тәрбиеге байланысты жүреді. Ал қазақ халқы тәрбиені бала құрсаққа біткеннен бастаған. Аяғы ауыр болашақ ана таби таза азқпен қоректеніп, таза ауада тыныстап, тыңдаса құлақтың құрышын қандыратын жыр дастандарды тыңдаған. Қазіргі медицина құрсақтағы балаға сыртқы дыбыстың әр алуан әсері барын әлдеқашан дәлелдеп қойған. Құрсақта жаңа қалыптасып келе жатқан шарананың қандай мінезді пенде болып туарына сырттағы әуез айтарлықтай ықпал етеді екен. Атам қазақ аттың жалында, түйенің қомында көшіп жүріп ән айтқан, күмбірлете күй тартқан. Адуын мінез бәйбішелердің өздері келін-кепшікті алқақотан жинап ән салдырған, бой жаздырған. Мұның ар жағында — ұрпақ қамы, дәстүрлі тәрбие мәйегі жатқыр. Ән шырқаған көңілден ауру қашарын әлмисақтан білген, шадыман көңіл жас анадан шаттық кернеген, мінезді ұрпақ туады деп сенген. Аяғы ауыр келіндерді лас жермен, қас қарайғанда түзде жүргізбеген, жаназа шығаратын үйге кіргізбеген. Бұның өзі болашақ сәбидің қамы үшін жасалған сақтық шаралары болып есептеледі.

Бала дүниеге келгеннен бастап оған деген күтім мен жауапкершілік ерекше болған. Туылғаннан қырқынан шыққанша буыны қатып бойы сұңғақ болсын деген ниетпен күнде жуындырып, майлап, буындарын созып, денесі жылы әрі таза жатсын деген ниетпен бесікке салған. Бесікте жатқан балаға туылғанынан бастап құлағына «бесік жырын» құйып өсірген. Бесік жырының мәтінінде бала ұйқысының тыныштығы мен өмірінің мәнді болуына тілектер мен баланың болашығынан күтілетін үміттер айтылады.

«Ұлт боламын десең, бесігіңді түзе» – деп М.Әуезов айтқандай қазақ тәрбиесінде бесіктің орны бөлек. Сәби кезінен бесікке жатқан бала бесіктен түрлі жыр-дастанды, тәрбиелік маңызы бар ертегі, өлеңдерді естиді. Халық арасында ауыздан ауызға көшіп ел арасында таралып кеткен бесік жырында діни өлеңдер, әуезді әңгімелер бар. Бесік жырының мақсаты баланы тыныштандыра отырып, баланың санасына ұлттық тәрбиенің, діннің нәрін сіңіру.

Бала өсе келе өзі аяққа тұрып, тәй-тәй басып, алғашқы қадамдарын жасай бастағанды халық арасындағы абыройлы, беделді, өзгеге үлгі боларлық жасы үлкендерге баланың тұсауын тестіріп, батасын алған. Бұл дәстүрдің мақсаты баланың сол адамға ұқсасын, сол адамның жолын сәбиге берсін деген ниет. Бұл ғылымда иммитация деп аталады. Яғни көргенін қайталау. Баланы жастайынан жақсы жайсаңдармен таныстырып, олардың батасын алуға үйреткен. Бұндағы мақсат баланың иммитация жасауы.

«Баланды бес жасқа дейін патшаңдай күт. Бес жастан он бес жасқа дейін құлыңдай жұмса. Он бес жастан асқан соң досыңдай сырлас» деген халық даналығы бар. Баланың туылғаннан 5 жасқа дейінгі кезеңі тек қана жақсы іс-әрекетті көріп, соны қайталауымен өтеді. ол жастан асқан соң баланың жынысына қарай тәрбиесі ерекшелене түседі. Ер баланы атқа отырғызып, садақ атқызып, ер адамға тән мінезге баулиды. Сүндетке отырғызып, «Сен енді жігіт болдың» деп арнайы мәртебесін бекітеді. Ал қыз баланың құлағын тесіп, шашын өсіріп шашбау тағады. Етек жеңі ұзын көйлек кигізіп, жүрісін түзейді. Қазақ халқы болашақ ана деп түсінген қыз баласының тәрбиесіне ерекше мән берген. Киген киімі мен жүрген ортасы ерекше назарда болған. Қыз баланың шашына таққан шашбауының өзі ақ оның жүрісін түзеп, иесі жайлы ақпарат бере алған. Шашбаудың сыңғырлап шыққан үнінен ақ ол шашбауды таққан қыздың жүрісін аңғаруға болған. Жүрісінен мінезі көрінген. Егер шашбаудың дауысы жәй шықса, шашбаудың иесі биязы, ұяң, ибалы екендігі түсінікті. Шашбаудың дыбысы шыққан кезде бозбалалар бойын тіктеп, дөрекі сөзді тоқтатып, қыздың құлағы дөрекі сөзі естімесін деп жинақталған.

Қазіргі психологиялық-педагогикалық әдебиеттерде "балалық шақ" ұғымы үш аспектіде қарастырылады: 1) балалардың өмір сүру тәсілдері, ересектермен қарым-қатынас, тәрбиелеу әдістері; 2) мәдениеттегі және бұқаралық санадағы баланың символдық бейнесі, жас ерекшеліктері, жетілу критерийлері туралы әлеуметтік-нормативтік идеялар; 3) балалық шақ мәдениеті, баланың ішкі әлемі, оның мүдделері мен мүмкіндіктері. Көптеген ғалымдар "балалық шақты" адам даралығының автономды субмәдениеті ретінде түсіндіреді. И.С. Кон "Бала және қоғам" еңбегінде "балалық шақ әлемін" кез-келген жеке халықтың және жалпы адамзаттың өмір салты мен мәдениетінің ажырамас бөлігі ретінде қарастырады. "Балалық шақ" - бұл ересек адамның өмірлік даму жолының бастауы. Ересек адам балалық шақ мұрасын алып жүреді. Бала ересек адамсыз өмір сүре алмайды; оның ойлары, сезімдері, мінез-құлқы ересектер әлемімен тығыз байланысты және белгілі бір деңгейде тәуелді. Бала әлеуметтік тәжірибені, құндылықтарды, қоғамға да, "өз этностарына" да тән нормаларды игере отырып, белсенді, белгілі бір деңгейде өзінше әлеуметтік құндылықтар жүйесі мен адам тәжірибесін жаңғыртады.

Дәстүрлі білім беру моделін заманауи формалармен салыстыра отырып, И.С. Кон оның тұрақтылығына, сенімділігі мен тиімділігіне назар аударды. Ұлттық дәстүрлі білім беру мәдениеті этникалық қауымдастық шеңберіндегі материалдық және рухани өмірді реттеудің қалыптасқан тәсілдерін түсінуге болатындығын атап өтті. Тәрбие баланы біліммен, ережелермен және құндылықтармен таныстырушы ретінде әрекет етеді.

М. Мид мәдени этникалық дәстүрлер дамып, балалық шақтың мазмұнын анықтайды деген тұжырым жасады. Мәдениеттің маңызды ерекшелігі – онда дәстүрлі идеялардың-тарихи дамыған және таңдалған құндылықтардың болуында. Әрбір мәдениет жалпыадамзаттық құндылықтарды қамтиды, олардың негізінде мінез-құлықтың белгілі бір түрлерін таңдау, оларды ретке келтіру жүзеге асырылады, осылайша мәдени модельдердің белгілі бір өзгергіштігі қалыптасады. Сонымен, М. Мид мәдениеттің келесі типологияларын ажыратады: постфигуративті мәдениеттер немесе ата-бабалар мен дәстүрлерге бағытталған мәдениеттер, онда балалар өзінен бұрынғылардан үйренеді; балалар мен ересектер замандастарынан үйренетін конфигуративті мәдениеттер; ересектер балаларынан үйренетін префигуративті мәдениеттер. Автор: "Енді біз тарих үшін жаңа кезеңге кіріп жатырмыз, онда әлі белгісіз болашақты алдын-ала түсінетін жастарға жаңа құқықтар беріледі". Жеке тұлғаны тәрбиелеудің бұл парадигмасы ұрпақтар сабақтастығы арқылы өзара байланыс орнатады. Ұрпақтар арасындағы алшақтық болмайды, өйткені мәдениеттің қабаттары әрқашан этникалық қауымдастыққа жататындығын: тіл, дін, ата-бабалар туралы аңыздар мен әңгімелер, батырлардың ерліктері немесе жалпы азаптарға бай тарихи жады айқындап тұрады. Осы тұста ұрпақтан ұрпаққа мұра ретінеде беріліп келе жатқан халық ауыз әдебиеті мен тағылымды тарихымыз, салт-дәстүріміз естен шықпауы қажет.

Конфигурациялық парадигмаға негізделген этникалық менталитеттің барлық зерттеулері екі негізгі ережеге сүйенеді: біріншіден, белгілі бір этносқа тән барлық мәдени элементтер өзара байланысты деп қабылданады; екіншіден, кез-келген этникалық мәдениетке жататын балалар сол мәдениеттің модельдерін қабылдаған деп саналады.

Мәдениетті жеке тұлғаның дамуының шарты мен ілгерілеуі ретінде қарастыру маңызды. Тұлға – бұл қоғамда орын алуға мүмкіндік беретін белгілі бір психикалық даму деңгейіне жеткен адам. Жеке тұлғаны әлеуметтендіру процесі ретінде дамыту белгілі бір әлеуметтік жағдайларда жүзеге асырылады. Дамудың әлеуметтік жағдайы ерекше әлеуметтік кеңістік ретінде ересек адам жасайды және баламен өзара әрекеттесу сипатын анықтайды.

Выготскийдің баланың мәдени дамуындағы кез-келген функция екі рет, екі жоспарда, алдымен әлеуметтік, содан кейін психологиялық, алдымен адамдар арасында интерпсихикалық категория ретінде, содан кейін баланың ішінде интрапсихикалық категория ретінде пайда болады деген ойы маңызды. Тек ересектермен өзара әрекеттесу кезінде баланың "жақын даму аймағы" жүзеге асырылады, бұл динамикалық оқытуға ықпал етеді, ол дамудың алдында тұрған кезде ғана сәтті болады және жетілу процесінде болатын функцияларды өмірге шақырады.

Белгілі психолог С. Л. Рубинштейн бұл іс-әрекет тек "жасау" және адамның сыртқы ынталандыруға реакциясы емес екенін атап өтті. Ол субъектінің объектіге ауысуы ретінде әрекет етеді, яғни, екі жақты. Субъектінің қызметі ол бағытталған объектімен анықталады, ал субъектінің өзі осы қызметте қалыптасады. "Қызмет" ұғымын енгізу мінез-құлық пен сананы зерттеудің бірыңғай пәніне біріктіруге және сана мен іс-әрекеттің бірлігі туралы тезисті ұсынуға мүмкіндік берді.

Әрекет арқылы баланың мәдениет құндылықтарын игеруі жүреді. Бұл құндылықтар субъектінің жеке өмірінің объективі арқылы тұлғаның психологиялық құрылымына жеке құндылықтар түрінде енеді, мотивация көздерінің бірі, оның мінез-құлқы және әлемге деген көзқарасы болып табылады – деп жазады Б. Г. Ананьев. Жеке құндылықтар қоғамның рухани мәдениеті мен тұлғаның рухани әлемі арасындағы байланыс қызметін атқарады.

Бұл идеялар А. Н. Леонтьевтің еңбектерінде дамыды. Ол баланың психикалық дамуы білім мен іс-әрекетте қамтылған мәдени-тарихи тәжірибені игеру процесіне байланысты екенін атап өтті. Әлеуметтік-тарихи тәжірибені игеруде әрбір жас кезеңінде жетекші қызмет түрі маңызды рөл атқарады, - деп атап өтті А. Н. Леонтьев. Ол мәдениетті даралықтың және бірегейліктің субъектісі ретінде тұлғаның шығармашылық өзін-өзі реттеу процесін қамтитын қызметтің нақты тәсілі ретінде қарастырады. Оның зерттеулерінің арқасында дамудың әлеуметтік жағдайы ойын әрекеттерімен байланысты болды.

Тұлға мен қоғам тірі өзара әрекеттеседі, бір бүтінге жатады. Тұлға – бұл қоғамдық қатынастардың жиынтығы, қоғамдық тәжірибені иемдену. Сонымен бірге, жеке тұлға барлық құндылықтарға деген өзінің көзқарасын білдіреді және заттар мен идеялар әлемін иемденіп қана қоймай, өндіруге, құруға, рефлексиялауға қабілетті. Ол интегративті белсенділікке ие, таным саласында, эмоционалды-бағалау, мінез-құлық қатынастарында көрінеді. Өмір сүру шарттары, мәдени мұра жеке тұлғаның белгілі бір қасиеттері мен құндылықтарын қалыптастырады. Этникалық мәдениет жеке тұлғаның белгілі бір түрін қалыптастырады, ал жеке тұлға этникалық дәстүрлерге өзінің бірегейлігін әкеледі, іс-әрекет процесінде өзін этно-мәдени болмыс ретінде қалыптастырады. Әр этномәдениетте өзіне тән инвариант бар - тұтас тұлғаның бейнесі, кемелді адамның бейнесі, этникалық идеал, ол бүкіл этнос үшін біртұтас білім беру жүйесінің өзара тәжірибесі, белгілі бір мәдениетте үстемдік ететін тұлға типі негізінде қалыптасады және этномәдениеттің шығармашылық дамуына негіз болатын тән жеке көріністерді қамтиды. Психолог В.Т.Кудрявцевтің зерттеулерінде жеке тұлғаның мәдениетті игеруі шығармашылық процесс ретінде қарастырылады, мұнда "басқалар үшін де, өздері үшін де ашылу" жүреді. Қазіргі психологтардың пікірінше, баланың психикалық дамуының қайнар көзі әлеуметтік-мәдени, жалпы адамзаттық тәжірибені иемденудің өзі емес, оның нақты өзгеруі болып табылады. Трансформация объектілері мәдениет объектілері, осы объектілермен жұмыс істеудің әлеуметтік дамыған әдістері, оларды қабылдау мен түсінудің стандарттары, объектілерге қатысты адами қатынастарды құру модельдері болуы мүмкін.

Мәдениетті түсініп, өзгерте отырып, адам мәдениеттің мұрагері болады, этникалық сананың өзіндік ерекшелігін, оның этникалық ерекшелігін көрсетеді. Яғни, әр тұлға өз этникалық ортасында әлеуметтене отырып, ата-баба тәжірибесін өз бойына заманауи тұрғыда сіңіріп, оның нәтижесі ретінде жаңа өзінше бір мәдени элемент әкеледі. Оны осы тұлға мен ата-баба тәжірибесінің колоборациясы деуге әбден болады. Бұл мәдени элементтің түп негізінде ұлттық құндылық жатуы тиіс.

Еріктілік және өзін - өзі реттеу-баланың жеке дамуының негізі. Мінез-құлықтың еріктілігі сыртқы реттеуден өзін-өзі реттеуге біртіндеп көшуге негізделген. Жеке тұрғыдан алғанда, баланың дамуы еріксіздіктен, импульсивтіліктен, мінез-құлық реакцияларының ситуациялық сипатынан және жалпы мінез-құлықтан оның еріксіздігіне, реттелуіне қарай жүреді. Бұл тенденция баланың мінез-құлқын басқару, саналы түрде мақсат қою, оларға қол жеткізу құралдарын әдейі іздеу және табу, қиындықтар мен кедергілерді жеңу, жаңа мәдени шығармашылық формаларды игеру және құру қабілетінде көрінеді. Еріктілік және өзін - өзі реттеу – баланың интеллектуалды және жеке дамуының негізгі сызығы. Мінез-құлықтың еріктілігі сыртқы реттеуден өзін-өзі реттеуге, шығармашылық әлеуметтенуге-дараландыруға біртіндеп көшуге негізделген. Бұл тенденция әсіресе сыртқы бақылау мен бағалаудың туындысы болып табылатын өзін-өзі бақылаудың қалыптасуында, жеке қасиеттердің өзін-өзі дамытуында айқын көрінеді.

Кеңінен танымал шетелдік тұжырымдамаларда ұсынылған Тұлғаның дамуының қозғаушы күштері мен жағдайларын талдау осы күштер мен шарттардың қалай түсіндірілетінін көрсетеді. З. Фрейд бойынша, жеке дамудың негізі туа біткен дискілер немесе инстинкттер болып табылады, мұнда биологиялық дискілер психикалық энергияның жалғыз көзі ретінде танылады. К. Юнг бойынша, даму – бұл "даралау" жалпылықтан саралау ретінде көрініс табады. Дараландырудың түпкі мақсаты - "өзіндік", тұтастық пен барлық психикалық құрылымдардың толық бірлігіне қол жеткізу. А. Адлер туғаннан бастап адамға "қауымдастық сезімі" немесе "қоғамдық сезім" тән деп тұжырымдады, бұл оны қоғамға кіруге, әдетте өмірдің алғашқы жылдарында пайда болатын өзінің кемшілік сезімін жеңуге және әртүрлі өтемақылар арқылы артықшылыққа қол жеткізуге итермелейді

Балалық шақ мәдениеті мен қоғам мәдениеті контекстіндегі тұлғаның қалыптасуы мен дамуын зерттеу әлеуметтік - мәдени жағдайларды құруға және есепке алуға бағытталған салыстырмалы түрде бақыланатын тәрбие ретінде әлеуметтенудің маңыздылығын бекітуге мүмкіндік береді. Сонымен қатар, балалық шақтың мектепке дейінгі кезеңі баланың өміріндегі ерекше, өзіндік құнды кезең ретінде қарастырылуы керек, онда мектеп жасына дейінгі балалардың әлеуметтік, жеке-жеке, мәдени-тарихи ерекшеліктері көрінеді. Осы тұста әлеуметтену процесінің ұлттық тәрбиемен тығыз байланыс атап өткен жөн. Баланың туылғаннан 5 жасқа дейінгі игерген тәжірибесі болашақтағы өмірінің қалай өрбитінінің көрсеткіші болады.

Mechanisms and ways to improve the quality of life of older people in the Republic of Kazakhstan

Yerzhigitova Banu

The goals and objectives set in the National Plan are to be implemented in accordance with the Action Plan to improve the situation of the older generation "Active Longevity" in the Republic of Kazakhstan until 2025 in accordance with the annex to this National Plan.

In the proposed document, the National Action Plan for Improving the Situation of Older Citizens "Active Longevity", the following basic concept is used: active longevity of the country's elderly people as a state of social, economic, physical and psychological well-being of older citizens, which provides them with the opportunity to meet their needs, engage in various spheres of society and is achieved with their active participation [1].

Quality of life is the satisfaction of human needs determined by culture and value system. "It is a broad concept that reflects a person's physical health, psychological state, level of autonomy, social relationships, personal beliefs and relationship with environmental features" (World Health Organization, 1994). In older ages, it is largely determined by the ability to maintain autonomy and independence in meeting needs and fully participating in the life of society.

Currently, there is a global trend of population aging, affecting almost all countries of the world. If in 2012 the share of pensioners in the world population was about 11%, then according to forecasts in 2050 it will increase to 22%. This problem is also relevant for the Republic of Kazakhstan. As of 2012, the number of residents of our country aged 60 years and older was 3.5 million people, or almost 19% of the total number of people living in the Republic of Kazakhstan. In the future, aging will become even more widespread: according to the official demographic forecast, the proportion of the population aged 65 years and older will exceed 28% by 2030.

The socio-demographic group of elderly and old people is one of the most numerous and fastest growing. The number of people in the "third age" is increasing not only absolutely, but also relatively, resulting in a significant shift in the demographic structure of the Republic of Kazakhstan, like many other countries, towards pension groups.

Help Age International points out that the 21st century is witnessing unprecedented global demographic changes associated with increasing life expectancy around the world, and population aging is central to this, as by 2050 older people (defined as those aged 60 years or over) older) will account for more than one-fifth of the world's total population (22%), with their population numbering 2.03 billion versus the current 809 million (11%).

The aging of the population gives rise to a number of economic and social problems: the demographic burden on the working-age population is increasing, complicating the solution of problems of material support for older people; Difficulties arise related to social security, organization of work and leisure, medical and consumer services for older people [2].

For the oldest person, retirement is accompanied by a change in occupation, lifestyle, financial situation, etc. There is a need to adapt to cultural and everyday changes. The process of adaptation to old age is not painless both for the person himself and for his environment. It is further complicated by the fact that the country is undergoing rapid socio-economic and cultural changes. These processes affect not only the political and socio-economic spheres, but also the cultural basis of society. There is a profound modification of the system of values and models of socio-economic behavior.

The market nature of the economy in itself inevitably leads to differentiation of incomes of the population, to increased inequality, and the emergence of rich and poor social groups. Older people, compared to other categories of the population, have much less opportunity to fit into new socio-economic relations. Due to age-related changes, they have difficulty developing a new dynamic stereotype; their life experience, acquired in a different social system, does not correspond to the new socio-economic situation and the changed value guidelines of society.

Due to the increase in human life expectancy, the need to support the social well-being of older citizens is growing. The purpose of this article is to study the level of well-being of older people in Russia and identify factors that increase it. To resolve this issue, you must complete the following tasks:

1. Identify factors influencing the well-being of older people;
2. Analyze Russian society from the point of view of these factors;
3. Develop recommendations for improving the well-being of older people in the Republic of Kazakhstan.

The concept of well-being is defined as a state of a person that provides an individual with the ability to live a life that is fulfilling for him. The level of subjective well-being is influenced by a number of factors. Firstly, satisfaction with your financial situation.

Secondly, the factor of having a family. It determines the level of psychological comfort for older people, and often the level of material well-being. The presence of other family members of the husband (wife), children, grandchildren determines the meaning of family happiness and becomes a sign of demand [3].

Thirdly, social factors are of great importance (availability of an apartment or room, improvement of housing, proximity to medical and welfare institutions, etc.).

How convenient and close are social facilities, how well thought out are the city transport routes and lifts that make their movement easier, taking into account the age characteristics of the older generation. And finally, the social well-being of older citizens also depends on their free time, abilities and opportunities to establish and maintain good relationships with other people, as well as the ability to translate their resources into positive emotions and relationships that are important to them.

To assess the dynamics of the quality of life of older people, the Global AgeWatch Index was developed, first published in 2013 by HelpAge International. This indicator brings together a set of comparable data based on the financial situation of older people, health, education and employment, as well as good living conditions. These factors were not chosen by chance; they were identified by older people and politicians as key components of the well-being of people in old age. Due to data comparability problems, materials from only 91 of 193 countries were used. However, the study includes 89% of the world's population over 60 years of age [4].

As the Global AgeWatch Index shows, people in countries that have adopted progressive social security policies for all their citizens throughout the life cycle are more likely to reap the benefits in terms of improved health and well-being in old age. This year, Sweden, ranked No. 1 by Global AgeWatch, celebrates the centenary of the social pension, a system introduced when the country was in what would now be called a “developing economy.” The same can be said about Norway, which is in second place. It introduced its rights-based social pension in 1937, long before it achieved its current high-income status.

Based on the position in Russia’s ranking, it can be stated that the Kazakh pension system is far from perfect, pensioners still need social assistance and protection, therefore, innovative approaches to pension management, aimed at ensuring that the institution of pension protection fulfills the function of forming human capital. Proposals for improving the situation include borrowing advanced foreign experience with adjustments to Russian specifics and developing public-private partnerships in the field of pensions.

The second important area should be improving the quality of healthcare. First of all, it should include improving the timeliness and quality of medical care and the availability of medicines for older people. This refers to both territorial accessibility in any corner of the country and affordability, implying the widespread availability of inexpensive drug options for which doctors will write prescriptions. The third direction is improving the well-being of older people by creating a comfortable and convenient environment.

Shops and all institutions necessary for a pensioner should be within walking distance, transport infrastructure and a unified social card should be developed, making it as easy as possible to gain access to all types of financial and social services. It is necessary to create conditions for convenient movement of disabled people around the city and their involvement in active life [5].

In conclusion, we can say that in recent years, social indicators researchers have significantly improved the concepts and methods for measuring the quality of life of older people, as well as the tools for long-term monitoring of social development. The development of theoretical models and empirical analyzes in quality of life and well-being research has significantly expanded knowledge about the levels, variation, components, and determinants of individual well-being.

We can even give examples from the international charter to improve the quality of life of older people. Care issues, in turn, are mentioned when it comes to the right to social security, including social insurance, and the right of everyone to the highest attainable standard of physical and mental health. Article 25(1) of the Universal Declaration of Human Rights states that everyone has the right to a standard of living adequate for the health and well-being of himself and his family, including food, clothing, housing, medical care and necessary social services, and the right to security in case of unemployment, illness, disability, widowhood, old age or other loss of livelihood due to circumstances beyond his control. Articles 9 and 12 of the International Covenant on Economic, Social and Cultural Rights refer respectively to social security, including social insurance, and health care [6].

Based on new research, it was possible to compare the level of well-being of older people in different countries of the world and identify weaknesses in individual countries. In Russia, the quality of life of older people is relatively low. The implementation of long-term targeted programs, the implementation of measures to develop social infrastructure, the development and implementation of social projects of great public importance can largely contribute to solving this problem.

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