S.Seifullin Kazakh Agrotechnical Research University

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S.Seifullin Kazakh Agrotechnical Research University

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Сборник международной научно-теоритической конференции «Student and Science: future view», включает доклады молодых ученых, студентов и магистрантов из Казахстана, России, Узбекистана и Грузии. Материалы сборника будут интересны научным сотрудникам, преподавателям, учителям средних школ, колледжей, магистрантам, студентам учебных и научных учреждений.

В сборнике приведены результаты исследований молодых ученых Казахстана и стран ближнего зарубежья по следующим направлениям: гуманитарные науки, естественные науки; технические науки; экономические науки; архитектура и дизайн.

В сборник включены доклады участников, отражающие результаты изучения актуальных научных проблем современности, а также новаторские идеи и практические рекомендации.

The collection of the scientific and theoretical conference «Student and Science: future view» contains the reports of young scientists, students and undergraduates from Kazakhstan, Russia, Uzbekistan, Georgia. The materials of the collection will be of interest to researchers, lecturers, teachers of secondary schools, colleges, undergraduates, students of educational and scientific institutions.

The collection contains the results of research by young scientists from Kazakhstan and neighboring countries in the following areas: Humanities, Natural sciences; Engineering sciences; Economic sciences; Architecture and design.

It reflects the results of the study of topical scientific problems of our time as well as innovative ideas and practical recommendations.

Humanities

UDC: 811.1/.2

ASPECTS OF THE SEMANTICS OF CAUSATIVE CONSTRUCTIONS IN FRENCH

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Causality is a functional-semantic category expressing a causal relationship in which the effect of a subject or event causes a change in the quality, state or action of another subject [1]. Causative or factive verbs are those which serve to express causal relations in a sentence.

Based on the theoretical material studied (V.G. Gak, T.A. Abrosimova, E.E. Cordy), we analysed a number of sources of socio-political content ("Le Figaro" and "Le Parisien" magazines).

The relevance of our work is represented by the general interest in the problem on the part of scholars, methodologists and teacher-practitioners. The aim of this study is to identify semantic features of causative constructions. The objectives of the work were as follows:

1. define the terms "causation", "causative constructions".
2. give semantic characteristics of causative verbal constructions
3. carry out semantic analysis of causative constructions with verbs "faire" and "laisser".

The term "causative" in French, due to the presence of the auxiliary causative verb faire, is often replaced by the term "factive". But the construction with *faire* is actually only one way of expressing causation, and the factive meaning is a type of causation. Factive constructions are used to show that the subject (subject) causes (by using the verb *faire*) another person (object), or allows (the verb *laisser*) another person to perform an action expressed by the infinitive [2]. These causative verbs, in the sentence, are put in the correct tense [3].

A causative construction is a construction linked by a semantic and formal relationship. We consider the constructions represented by the verbs: (se) faire + inf and laisser + inf. The causative construction consists of the following 4 elements:

Subject, causer of the action - N1; Object, executor of the action - N2; Causative verb - V1 (faire); Causative verb - V2

For example: *Ça me <u>fait rêver</u>*. (N1 N2 faire V2)

A characteristic feature of the causative relationship is that the subject does not perform the action, but prompts the other party to do the action. Example: *Je <u>fais manger</u>*

les enfants. Thus, causative verbs, are verbs that express the effect on an object in order to make or allow an object to act, to change the state of an object. The most frequent causal relations are expressed with the verbs *faire* and *laisser*, but implicitly the meaning of causation is contained in the semantics of many transitive verbs. Thus, *renverser* is equivalent to *faire tomber* and *renvoyer* to *faire partir*.

In our work, we consider causative constructions based on the verbs *faire* and *laisser* + infinitive. In these constructions, the subject refers to the source or the cause of the action expressed by the infinitive. They are translated in the following ways:

1) Omission of the verb faire. It is used when the indication of the actual bearer of the action seems insignificant. Example: *Maman fait lire les enfants*. – Mom teaches the children to read.

2) The causative conjunction is replaced by a single verb. The replacement option is often used if the infinitive is a non-transitive verb. Example: *Et tend à faire tomber les traditionnelles règles sociales qui entourent le port d'un vêtement*. – And seeks to destroy the traditional social rules relating to the wearing of clothes. Or *Cette goutte de vin fit déborder le vase*. – This drop of wine overflows the vase.

3) Replacing *faire* with a word combination, if *faire* is translated by an imperative verb. Often used when the infinitive is a transitive verb. Example: *Mon père ne se fit pas attendre*. – My father did not keep me waiting.

4) Reflexive causative constructions. Non-transitive verbs of perception, feeling and others can be transferred by reflexive verbs, e.g.: *Des cris se font entendre*. – Screams are heard.

During the study, we analysed more than 60 articles, of which causative constructions with the verbs *faire* and *laisser* were found in 82% of the articles. After analysing more than 150 examples of causative constructions, we concluded that the most frequent way to translate the verb faire is with a verb with an incentive meaning. The concepts of "causative construction", the term "causative" and "causative verbs" were revealed in the paper. The observations, results and conclusions obtained during the study can be used in the teaching of theoretical grammar courses in French and Russian, in writing textbooks, in the research work of undergraduate and postgraduate students.

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UDC: 81-2

LEXICO-SEMANTIC ANALYSIS OF PEDRO SANCHEZ'S POLITICAL DISCOURSE

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The statement that language is a participant in any kind of human activity will be true. Of course, such an important element is needed by people for social contacts, and therefore plays an important role in the political paradigm.

So where does the value of linguistic analysis of political discourse come from? The answer to this question is given by Baranov A.N., saying that the language features used by politicians – for example, various stylistic techniques – change the processes taking place in society. One of his main theses in favor of this type of research is the fact of the influence of political discourse on the formation of social realities. By this, Baranov A.N. means that the choice of certain linguistic features can influence the behavior of the electorate and allows politicians to successfully manipulate public consciousness [1, 245]. Hence, the practical value of this kind of research is taken, which allows in the future to understand and to some extent control social reality through the prism of politics.

It is worth noting that lexical units and language phrases used within a certain context most strongly influence the nature and style of political interaction. In this regard, this paper presents a linguistic analysis of the public speeches of the Spanish politician Pedro Sanchez from September 2022 to February 2023 within the classification of T. Patterson and A. Burkhardt.

The classification of Harvard scientist Thomas Patterson is based on 4 key concepts: political issue, policy issue, personal issue, campaign issue [3]. He suggests dividing the political discourse depending on the topic of the message. Thus, the “political issue” involves the consideration of texts and speeches containing information about debates, internal negotiations and the interaction of various political parties. “Policy issue” focuses on the opinion of the party about some problem and options for its solution. It is not uncommon during the election campaign for parties to try to prove themselves to the electorate, so they resort to publishing materials containing propaganda and agitation; this kind of information should be attributed to the “campaign issue”. Also, the image of many parties is based on the image of a charismatic leader. Consequently, in the discourse of political organizations, it is often possible to find information about its individual personalities. T. Patterson suggests referring such materials to a “personal issue”.

Returning to the topic of the study, I would like to emphasize that the collected data for the selected period – September 2022 – February 2023 – allow us to draw the following conclusions. 79% of Pedro Sanchez's discourse consists of a “political issue”, in these speeches the politician expressed his opinion on a certain problem more and on behalf of the party offers its solution. Such dominance of one type from the classification can be explained by the situation that has developed in the political area. In this case, popular rallies caused by discontent with the Spanish Government could very likely trigger the process of intensified work of the state apparatus. Thus, the excitement of the electorate affected both the work of the political mechanism and the discourse of its individual representatives.

Equally can be found in Sanchez's speeches “policy” and “personal issue”. These topics account for 10.5% of the discourse for each. Their presence is explained by two factors. The first is the debate taking place in the State structures of Spain. It is at such speeches that one can most often meet the “political issue”, which is expressed by analyzing the actions and criticizing other parties. The second is the scandal surrounding the person of Pedro Sanchez himself, which, of course, forces him to defend his candidacy and talk about his merits; it is this fact that explains the presence of the “personal issue” policy in the discourse. Within the framework of Sanchez's speeches, the “campaign issue” was not highlighted, which is explained by the absence of an election or an election campaign.

The most frequently encountered bundle within this classification can be considered “policy + political issue”, which is most often presented in the framework of debates with representatives of parties (most often VOX).

In addition to semantic analysis of texts and speeches by Pedro Sanchez, lexico-semantic research can also be carried out to understand which speech methods and for what purpose the politician uses [2, 75]. Most often, within the framework of political discourse, speakers use special terms that are also present in the speeches of the Prime Minister of Spain. The terminology from the field of political science is the most widespread, which is represented by the following lexical units: el código (code), la ley (law), Naciones Unidas (UN), socialista (socialist), laborista (laborist), socialdemócrata (social democrat), la derecha (right-wing), democrática (democracy), espacio institucional europeo (international European space), la resolución del tribunal supremo (supreme court resolution), el socialismo (socialism), la institutionalización democrática (democratic institutionalization), el poder ejecutivo (executive branch), el poder legislativo (legislative branch), la fiscalía (prosecutor's office), los tribunales (courts), una doctrina (doctrine), la declaración unilateral (unilateral declaration) and many others. The presence of this kind of terminology is logical and is explained by the very sphere of discourse.

The next most common vocabulary can be considered socio-political linguistic units. Their presence in the speaker's speeches is based on the connection between social and political spheres; politicians cannot talk about social realities without mentioning terms peculiar to the sphere. This category is represented by the following units: países vulnerable (vulnerable countries), desigualidad (inequality), la fraternidad (fraternity), la revolución francesa (French revolution), el humanismo (humanism), pena (guilt), el movimiento feminista (feminist movement), los inmigrantes (immigrants), discurso de odio (hate propaganda) and others. Also, one of the most common types of vocabulary is economic terminology, the presence of which is explained by the inextricable link of economics, sociology and political science: el sector financiero (financial sector), recursos públicos (public resources), la financiación (financing), la crisis energética (energy crisis), suministro de gas (gas supplies), las clases medias trabajadoras (middle-class workers), el poder adquisitivo (purchasing power), la inflación (inflation) and so on.

It is worth noting that in the last few months (January-February), one can observe an increase in the vocabulary associated with the topic of ecology in Sanchez's political discourse: la reducción de emisiones (emission reduction), la neutralidad climatica (climate neutrality), los efectos de cambio climático (consequences of climate change), el cambio climático (climate change), etc.

Equally important is the consideration of stylistic techniques that a politician uses in his speeches. At this stage, it should be noted that Pedro Sanchez's speeches to the press and on television are mostly neutral and not emotionally colored (55% of publications). In them, as a rule, not only means of expression are rarely found, but even euphemisms are present. For example, in a speech about the law “Solo sí es sí”, Sanchez talks about the “undesirable effects” caused by the law (“efectos indeseados”), while avoiding mentioning facts unpleasant to his government. However, a politician's speech changes when a speaker enters the field of debate with opposition parties. Sanchez's speech immediately becomes emotionally colored and such stylistic techniques as sarcasm and metaphors appear (such emotionally colored speeches occupy 45% of the politician's discourse during the specified period). Examples of metaphors are the following phrases: “hemos llegado a un momento de la historia” – came to a historical moment, “el futuro de oportunidades” – the future of possibilities, “hablar con hechos y no solo con palabras” – to prove not by word, but by deed, “camino hemos trabajado juntos” – the path that we walked together, and so on.

Moreover, within the framework of the political struggle, Pedro Sanchez's speech becomes more idiomatic, this is expressed in the use of the following idioms: “unos llevan la fama y otros cardan la lana” – while some speak, others do, or “dar la cara” – to be responsible for their actions. Quite often, a politician reacts to the words of his competitors in the same way, using sarcasm in his speech: “Ese plan antidemocrático, señoras, no existe ... Solo esixte una fantasía de sus propagandores” (“This antidemocratic plan, gentlemen, does not exist... It exists only as a fantasy of its propagandists”).

Thus, we can conclude that the speech of Pedro Sanchez is quite diverse. On the one hand, we can observe emotional coloring, metaphorical and sarcastic in inter-party debates, however, on the other hand, neutrality in official statements and speeches for federal channels and newspapers. In addition, during the analyzed period, we can observe how social realities affect the actions of politicians and their discourse.

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UDC: 81'25

TRANSLATION PECULIARITIES OF ENGLISH NON-FICTION LITERATURE INTO RUSSIAN LANGUAGE ON THE MATERIAL OF BOOKS ABOUT JAPAN

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The genre of non-fiction, which literary critics also call the documentary prose, originated in the middle of the 20th century. It is now becoming more widespread both in foreign countries and among domestic writers and authors of Internet blogs. This literary genre, which has its own peculiarities, helps modern authors to grab the attention of a wide range of readers to their works, to the topics which they raise in them. Due to the unique author's language, authentic and realistically described events and historical facts, it arouses high interest and trust among readers. Thus, the translation of such a specific genre requires special knowledge and skills in order to achieve an adequate and equivalent translation.

The purpose of our study was to determine the specifics of the translation of the non-fiction genre from English into Russian.

The objectives of the study include:

1) to study peculiarities and genre features of documentary prose;

2) to analyze culture specific concepts of translation;

3) to determine lexical and grammatical transformations, as well as translation strategies;

4) to identify culturally specific (Japanese) vocabulary both in English and Russian variants of the books in question.

In the process of working with the theoretical foundations of the study, we came to the following conclusions:

1. Scientists distinguish the features of the non-fiction genre as follows: 1) the plot is based on a real documentary fact and the author's personal experience; 2) historical events and implementation are being viewed through the prism of the author's perception; 3) the plot is built "scene by scene"; 4) special attention in the work is on the place and the time of described events and actions; 5) the style of the author's language style is literary [1;4;5].

2. There are various classifications of non-fiction texts, which are based on the key features of the genre - "identification markers". They help linguists to determine whether a literature work belongs to the particular genre or not [1;8].

3. In terms of cultural approach, translation is being perceived as a case of cultural interaction, as a private case of intercultural communication, therefore, the translators must have deep knowledge of the culture they are working with [2;9].

In the practical part of the work, we analyzed the books in question of the non-fiction genre in more details and compared them with the translation texts. As a result of the study, we have identified some patterns:

1. Grammatical substitutions, among other grammatical transformations, predominate throughout most of the translation texts. For example, “It’s still in publication in the original version” («Она все ещё публикуется в оригинальной версии»), “I was once invited to an old estate in England” («Однажды меня пригласили в старинное поместье в Англии») [3].

Joining the sentences are found in the least amount.

2. Among lexical transformations, the most commonly used technique is transcription. For example, Yobai (Ёбаи), Kanji (Кандзи), Kazurabashi (Кадзурабаси) [6;7].

3. The translations text of books in question are built on the basis of foreignization and supplemented by the comments of the authors and translators to explain meanings of accidental gaps, which helps to preserve and reproduce the features of Japanese culture and its everyday realities. For instance, “After walking for a while, you come upon groups of small altars, known as tsuka (mounds)” («После долгой прогулки вы обнаруживаете перед собой несколько маленьких алтарей под названием цука (насыпи)»), “Entering, you see directly before you a stone torii (the entrance gate to the shrine itself”) («Войдя, вы увидите прямо перед собой каменные тории (ритуальные врата к святилищу)») [3].

4. Thematic groups of realities are categorized as follows: 1) national food (kushikatsu – кусикацу); 2) toponyms (Kazurabashi – Кадзурабаси); 3) household and interior items (Nabeshima – Набэсима); 4) cultural realities connected to traditions and way of life (tanzaku – тандзаку); 5) social realities (yobai – ёбаи).

In conclusion, non-fiction books have some specific features and peculiarities, which translators must take into account when working with literature of this genre.

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STYLISTIC FEATURES OF THE WORKS OF JULES VERNE BASED ON THE NOVEL "MAÎTRE DU MONDE"

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Jules Verne is considered one of the most famous writers. His works are known all over the world thanks to his gift to immerse the reader in the world he describes. He had a great influence on fiction. He is considered the founder of the science fiction genre.

Even in our time, the works of Jules Verne remain as popular among readers. His work with the word is amazing, because he masterfully uses many stylistic means and techniques. Thanks to them, his works remain relevant after 200 years.

The aim of the work is to study the stylistic features of the works of Jules Verne on the example of his novel "Maître du monde", written in 1904.

The style of Jules Verne is characterized by the use of metaphorical and allegorical images in order to convey the emotions and feelings of the characters.

It is worth noting the role of epithets, which consists in coloring the meaning of sentences. With their help, the author shows his attitude to the character or subject [1]. In the novel "Maître du monde" you can find such epithets as: *sinistre claret* [4, c. 10] – *a sinister, warning light* [5, c. 12], *mortelle inquiétude* [4, c. 200] – *the night* [5, c. 80]. They help to convey the ominous environment surrounding the characters, to give an emotional coloring to the current situation. They also help to understand the character of the main characters. For example, *carrure géométrique* [4, c. 274] – *square shoulders* [5, c. 111], *une énorme tête sphéroïdale* [4, c. 274] – *the enormous spheroidal head* [5, c. 111].

One of the crucial tropes that is often found in the works of Jules Verne is metaphor [3]. Thanks to its figurative meaning, it helps to better understand the phenomena described, since it is easier for a person to imagine them if he relies on the images known to him: *dans l'autre monde* [4, c. 114] – *disappeared forever* [5, c. 48], *l'œil plus ardent que jamais* [4, c. 314] – *with an eye more burning than ever* [5, c. 124].

An interesting feature of the works of Jules Verne is the use of phraseological units. If we consider the words of phraseology in particular, they do not seem to be related to each other, but in the context they acquire a different meaning. Their imagery and expressiveness help to complement and decorate the offer. For example: *au fond* [4, c. 54] – *at heart* [5, c.27], *je fis honneur* [4, c. 226] – *I did full justice* [5, c.91].

Personification is also often found in his works. Thanks to the assignment of animate actions to objects, we can more concretely imagine the described environment: *la terre même ne menaçait-elle pas de manquer sous le pied* [4, c. 19] – *with the earth itself threatening to disappear from under the feet of the fugitives* [5, c.16], *nombre de pensées assaillirent mon esprit* [4, c. 308] – *thoughts assailed me* [5, c. 121].

Despite the fact that scientists have not yet come to a single decision on the linguistic status of comparison, it is impossible not to note the importance of the role it plays in the text [2]. Like the above-mentioned tropes and means, the comparison helps the reader to present a brighter picture: *des cheveux courts, un peu crépus, à reflets métalliques, comme été un toupet de paille de fer* [4, c. 274] – *the hair was short and crisp, with a glitter of metal in its light* [5, c.111].

After analyzing this work, we can conclude that Jules Verne, thanks to his artistic talent for using tropes and stylistic figures, helps the reader easily immerse himself in a fictional world, understand the emotions of the characters and independently come to the conclusion conceived by the author. It was this goal that the writer faced during the writing of the work.

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UDC: 81

THE COMPARATIVE ANALYSIS OF ENGLISH AND GERMAN IDIOMS IN THE SEMANTIC FIELD "WORK": THE CORPUS STUDY

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Idioms allow us to understand the culture under study, its unique character, historically established features of everyday life, attitude to the world, to life and to work. Work is an integral part of human activity, which is the reason for the emergence of a wide range of idioms belonging to this semantic field. The necessity of the research lies in an insufficient comparative study of idioms of the semantic field "work" in the English and German languages. The authentic empirical material was obtained from the English [5] and German [6] corpora.

A. N. Baranov and D. O. Dobrovolsky made a significant contribution to the study of phraseological theory [1]. Their fundamental study revealed semantic, syntactic, and national specifics of idioms and influenced the further research in the field of phraseology. One of the studies in the field is S.M. Yusupova's dissertation, which is the first to conduct a comparative analysis of idioms in four languages (English, German, Russian and Chechen) [4].

The aim of the study is to identify the semantic features of idioms of the semantic field "work" on the basis of comparative analysis of English and German dictionaries and the data from language corpora. The empirical basis of the study constitutes two hundred idioms collected by a random sampling from phraseological dictionaries of German [2] and English [3] languages.

The results of the study reveal that the majority of the idioms does not have full equivalents in other languages. This can be explained by the fact that the cultural experience of each nation is unique. However, there are many phraseological expressions close in meaning; the difference between them lies in the images and objects of reality used in them.

An Example can be found in the "useless work". In English, the lack of benefit from someone's work can be described by the idiom ***to flog a dead horse***. In German, the closest in meaning idiomatic expression is ***den Bock melken***, which can be translated as "milking a goat". In the two examples, the meaning conveyed is identical, using the image of animals to describe the main message, but, due to cultural and historical features of everyday life, the uselessness of an activity is presented differently.

Similar images can also be found in idioms of the semantic field "Work". In German, there is an idiom ***sein tägliches Brot machen*** and in English ***someone's bread and butter***. Despite the external similarity, the German version has the distinctive "tägliches" - daily, while the English version emphasizes "butter". There are also minor semantic differences. The English idiom implies a routine work, while in German the idiom means "getting sustenance by challenging work".

In the course of our study, we found out that there are both differences and semantic similarities between English and German idioms. In both English and German languages, the idioms reflect the attitude of the representatives of these nationalities to the concept "work". We were able to identify the following sub-taxa of the semantic field "work": dismissal, hard work, easy work, beginning of an activity, completion of an activity, industriousness, idleness, useless work, success in work, failure in work, skills, patience, results of work, responsible work, rest after work. Based on corpus data, the assumptions that the selected idioms are used in modern language were confirmed.

A comparative analysis of the semantic field "work" showed that it is an important part of life in both English and German cultures. Laziness and industriousness proved to be the most frequent semantic categories of idioms. In both cultures, career success and desire to earn money are emphasized. Consequently, the semantic field "work" is closely interrelated with the semantic fields "money" and "success". The semantics of many idioms point to the need of work as the main tool to achieve well-being. Idleness is often the subject of ridicule, irony, and social censure. Thus, through the study of idioms in semantic fields, it is possible to get to know the worldview of diverse cultures of different nations and to identify the similarities and differences between them.

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UDC: 82-1

CONCEPT OF ENGLISH NATIONAL CHARACTER IN POETRY

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National identity is one of the most urgent research questions discussed from different perspectives. This problem is studied in psychology, philosophy, cultural studies, sociology, literary studies. As a subject of the national identity, national character distinguishes stereotypical image of the nation which includes beliefs, mental abilities, specific skills, or preferences. It is the national character that makes a particular nation unique, containing a cultural code.

The relevance of this topic is a philosophical understanding of the mechanisms of generating different images of mass consciousness that are being addressed in the current culture. The images of one's own national character, the mores of the nations is an inaccurate reflection of the present objective reality, and they transformed with the help of different cultural processes by cognitive constructs.

The subject of our study is the artistic interpretation of the concept of the English character represented in British poetry of the 20th century.

The purpose of the study is to determine the features of the national character in the works in works by Lewis Carroll, William Gladstone, Robert William Service, G.K. Chesterton and Edward Lear.

In connection with the chosen goal, we have identified the following **tasks**:

1) to reveal the definition of the concept of "English national character";
2) to define the psychological characteristics, models and norms of behavior, cultural values inherent in the English national character;
3) to show the essence of the concept of the English national character in the works of poets of the twentieth century.

The theoretical basis of our work consists of works reflecting various aspects of the topic: the works of E.A.Bagramov, M.M.Bakhtin, V.N.Basilov, R.F.Benedict, S.G.Bocharov, S.M.Harutyunyan, G.Hegel, E.S.Purgin, S.A.Tokarev, V.Wundt, I.S.Yunosov and others.

One of the definitions of national character is given by Olshansky: **national character** is set of peculiarities of perception of the world and reactions to it, which are most sustainable and characteristic for the given national community. Also Olshansky wrote that national character is a certain combination of emotional and sensual phenomena showing themselves, primarily, in feelings and moods, as well as in the speed and intensity of reactions to things happening [1]. Another researcher Kon is very skeptical towards the attempts to describe national characters psychologically. In his opinion, **national character** understood as an unchangeable entity inherent to all members of a nation is a psychologic myth, … the term national character reflects a certain historical reality [2]. Doctor of Psychology Bolshunova regards national character as a form of distinct historic existence of a nation: **national character** is the form of a nation's existence, the way it appears in history as it is fixed in its language and its changes, its values, the ways it solves its historic tasks, its social behavior, the distinctness of its psychic traits [3].

Speaking about the English national character, we will talk about what is included in the idea of "Englishness" — the quintessence of everything that is considered truthfully English, about the essence of the entire English world. One of the key features of English character is commitment to traditions — many call this line conservatism. The aspiration to keep in original state of feature of life and behavior, the rituals and habits sometimes finished to the point of absurdity — from the modern and non-English point of view — distinguishes British from most of other people, is exposed these, others, to sharp criticism, but also at the same time does them tourist attractive to the whole world. It's no secret that tea drinking is one of the main traditions of the British.

Tea in England is more than just tea. As the British joke, it's easier to imagine England without a queen than without tea. Tea drinking traditions are observed by both the queen and ordinary Britons. Tea accompanies an Englishman throughout his life, invariably present in every English home. The outstanding British Prime Minister of the XIX century, Sir William Gladstone, dedicated blank verse to tea:

Tea, The Cure – All.
If you are cold, tea will warm you.
If you are too heated, tea will cool you.
If you are too depressed, tea will cheer you.
If you are too exhausted, tea will calm you.

The observance of traditions, snobbery and arrogance are the very traits that characterize the English national character [4]. I would like to show this on the example of the "Book of Snobs" by W.M. Thackeray:

Around me they flatter and fawn
The young and the old,
The fairest are ready to pawn
Their hearts for my gold.
They sue me –
I laugh as I spurn
The slaves at my knee,
But in faith and in fondness
I turn Unto thee, unto thee!

There is another side of the British, it is excitement. Often in the works of poets you can find a description of how the characters gamble and are interested in horse race [5]. Robert William Service wrote a poem about gambling called Roulette. Initially, the poem depicts a fairly bleak situation; the heroine of the story is anxious because she is afraid of losing everything. She decides to stake all of her ten thousand francs and hope for the best.

I'll wait until my money's gone
Before I take the sleeping pills;
Then when they find me in the dawn,

Remote from earthly ails and ills
They'll say: «She's broke, the foreign bitch!»
And dump me in the common ditch [6].

English humor also does not remain without attention, which, according to many scientists, is a bright manifestation of the English national character. The English artist Edward Lear was famed all over the world not by painting, but by short and very funny absurd poems – limericks. The founders of the classic literary absurdity were Lewis Carroll and Edward Lear.

There was an Old Man of Peru,
Who dreamt he was eating his shoe.
He awoke in the night
In a terrible fright
And found it was perfectly true! [7].

The image of an Englishman in the works of above-mentioned authors are endowed with snobbery and arrogance, a practical mindset and sanity. All these qualities are a prime example of the English national character.

Thus, the national character is understood as a behavioral model, a typical model for a given people and conditioned by the unity of public consciousness, the commonality of the system of collective ideas about the world, society, personality and norms of behavior of each person. We considered the peculiarities of the English national character in poetry and convinced that literature enables to easily and better understand certain oddities of the English.

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UNIQUENESS OF TRANSLATION OF WORKS OF FICTION WITH REGARD TO GENDER THEORY (BASED ON ENGLISH AND RUSSIAN LANGUAGE)

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The development of gender studies was reflected in the social sciences and the humanities, both at the state and at the interstate level. Gender theory first appeared in the United States. Its initial form - feminism - considered only women's studies and passed its formation in three waves, due to which there was a division into directions and formation of theoretical and methodological base [3]. The framework of gender studies distinguishes the concept of "sex" from that of "gender". Gender is a social construct, defined by society, even in language. In contrast to gender, sex is a biological construct [3].

At the end of the 20th century, gender theory spread beyond the United States and Europe, and gender issues reached the international level. The systematic study of the relationship between language and gender in global linguistics began in the 1960s and 1970s of the 20th century [2]. Before the emergence of gender studies as a separate branch of science, the study of the relationship between language and gender was only a peripheral position in the linguistic science of any language. Masculinity and femininity are the main categories of gender linguistics, and they are the issues that deserve separate attention in the literary context [1].

The gender aspect plays a big role in the creation of the artistic image. A literary text, being a complex sign system reflecting conceptual reality, is also a way of verbalization of gender concepts [1]. Being one of the text aspects, the gender component also needs adequate translation for a more accurate communication of the author's intention and the individual realities of the work of fiction.

When the author describes the characters in the work with gender-concentrated vocabulary, the translator faces the task of accurately conveying the author's intentions and preserve them in the translation [2]. In our research, the novel "The Sandcastle" by Iris Murdoch, translated by Irina Trudolyubova, is of particular value, because it contains a large number of gendered realities, expressed through linguistic units of English and Russian languages. For example, the characters' proper names and personal pronouns are often translated into Russian by replacing personal names and pronouns with gendered words (She tried gently to convince him that it was not so [5] – Но девушка ответила без всякого раздражения, что уходит лишь потому, что хочет спать [4]; He tried to help it out by giving Miss Carter a rather rueful and very friendly look [5] – Он пытался загладить неловкость тем, что послал девушке взгляд одновременно и сокрушенный, и дружественный [4]). Often adjectives referring to gender-colored words are translated through replacement with an adjective with stereotypical coloring (little secretary [5] – глупая секретарша [4]). Also in the Russian translation the words, pursuing the same goal, can change the gender (…he can observe us, the old fox [5] – …сам будет исподтишка наблюдать, старая лиса [4]). It is also interesting that the brand of Miss Carter's car, Riley, when translated into Russian takes on the masculine gender and quotation marks to indicate the inanimate nature of the object, despite the fact that in English “Riley” is considered a female name. This can be seen in the agreement of the verbs with the noun (She let in the clutch and the Riley gilded off again [5] – Она включила сцепление, и «райли» вновь тронулся с места [4]).

Thus, we can conclude that in translation, gender marking often manifests itself in the fact that the same word in different languages can refer to different genders, and it is important for the translator to consider the gender aspect when translating works of fiction. The time period in which a particular work was written also plays a large role in translating works to more accurately convey the difference between men and women in society [1]. Many of the translations become canonical in the literary world, so it is important to keep the correct gender coloring of the work from the beginning. The identified features also show that the distortion or misrepresentation of gendered images can distort or fail to convey the author's intention at all [1]. The practice of neglecting the author's gender identity leads to distortions in the perception of the work. The translator also needs to look at the extra-linguistic context and adapt the gendered images in the translation to more accurately translate the fiction.

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GOOD PRACTICE IN ASSESSING LEARNERS' WRITING

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Annotation: In this article it is about methods training of students in the letter. options and reception increaseing motivation of students are considered.

Keywords: assessment, diagnostic, difficulties, integrate.

Assessment is an essential part of teaching and learning a language. Biggs and Tang highlight that "what and how students learn depends on how they think they will be assessed" [1,164]. Moreover, Long states that without assessment "teaching would be a rather unfocused activity [2, 47]. Therefore, the purposes of good practice in assessment should be clearly determined. There are three main purposes in assessment: diagnostic, formative and summative.

Diagnostic assessment helps a teacher to understand what the students know. Cohen et al. emphasize that diagnostic assessment defines "student's particular strengths, weaknesses, difficulties and needs..." [3, 327]. It enables a teacher to determine how the lessons should be designed, what s/he should focus on, and what should be done to make the learning process and assessment productive and effective. Therefore, a teacher's task is to diagnose students' knowledge using the assessment methods that should be valid, i.e. assessing what should be assessed and not evaluating any extra knowledge/skills. BETT

After diagnosing students knowledge and skills, formative assessment starts. Cohen et al. state that formative assessment is "assessment for learning" [3, 329]. It helps a teacher to form the learning process and improve students' achievement. That is why, the assessment methods chosen by a teacher are very important. They should be authentic, i.e. true to real life and appropriate for the level. Being aware of plagiarism can also make assessment authentic because a teacher should be confident that a student will not copy a part from his/her peer's work or from any other sources. Moreover, assessment should be based on the learning outcomes, which show what students will be able to do. Knowing and understanding the learning outcomes enable learners to have a clear picture of the learning process and final results. That is, the assessment will be transparent to students. Taylor emphasizes the importance of transparency in assessment and refers this principle to the connection between the learning outcomes and assessment criteria [6, 2].

A major feature of formative assessment is providing timely feedback to students. It gives an opportunity for learners to see where they are, what they have achieved and what areas should be improved to achieve the intended learning outcomes. Taylor emphasizes that feedback gives an opportunity to "*motivate students, promote their ability and desire for self-assessment, and develop aptitudes for independent and life long-learning" [6, 8]. That is, learners should be stimulated for further learning. Feedback is considered to be an informal method of assessment as it is not mark-based. Comments can be given both in written and oral forms. It might be important to have a special pro-forma for a written one. The pro-forma serves as a record of students achievement and they can refer to feedback whenever they want.

Long points out that learners received detailed comments in the pro-forma improved their scores by 30% [5, 50]. Oral feedback can be given individually and in groups. Providing group feedback enables a teacher to give general comments showing what has been achieved by most learners and what areas should be improved. However, individual feedback provides more opportunities for students to have a face-to-face discussion, give more questions and get more explanation, Comments can be also provided by the learners themselves and their peers as they become additional sources for each other and can reflect on both their own and peers' work.

Working on the feedback enables students to learn from mistakes, improve their 'weak' points and to be ready for summative assessment, which Cohen et al. define as "assessment of learning" [3, 329]. Learners show the end product of a definite learning process. However, it is not the final stage in learning as one of the principles of effective assessment is long-lasting learning. Students should know what they have achieved and thus go to the next stage in their learning process.

In summative assessment, grading is very important for students as they see whal they have learned and how well they have performed. Summative assessment is mark based, therefore, it is formal. Criterion-referenced approach, "which grades against sets of predetermined criteria" [4, 171] is crucial in this assessment. It will give an opportunity for students to see what and how well has been done and what needs futher improvement. Summative assessment is also provided with feedback which can both written and oral. However, unlike formative feedback proforma should show the actual mark with comments. In summative assessment marking process is also important. The final decision should not be biased i.e.be reliable. Light and Cox explain realiability as “consistency in marking”:thus, a teacher is fair to all the students. It can be reached through cross and second marking. Cross marking is process of marking the same works (randomly chosen out of al) by a group of teachers and discussing them before the marking process of all the works to be marked starts. It is significant to have second marking (re-marking a work by a second teacher)in order not to have discrepancy and avoid subjectivity. Both types of marking enable teachers to make the assessment reliable. Hence, good assessment "lets staff know how they and their students are doing and it gives them the performance indicators that they need" [2, 3].

Having discussed the purposes and principles of good practice in assessment, it is appropriate to focus on an essay, which is considered to be one of the open-ended types of written assessment. Cohen et al. claim that essay as an assessment method has some advantages because it enables learners to [adapted from 3, 344]:

integrate, apply and synthesize knowledge (the students analyze printed and online sources and search for necessary arguments which can be incorporated in the essay) demonstrate the ability for expression and self-expression (the students choose the topic of their interest, and prove their own opinion on the problem presenting the arguments)

demonstrate higher order and divergent cognitive processes (the students evaluate the material they read and the essay they write)

It is essentional so that any essay writing process should be started with a diagnostic test. The learners can be asked to write a short piece (a paragraph or an Essay) on the topic relevant to the programme (syllabus). This diagnostic test enablesto understand that although the learners might have some knowledge on writing, they will led more knowledge and skills on paragraph development, incorporation of sources, and some knowledge on language (appropriate vocabulary, punctuation,grammar, etc.).

As one of the principles of good practice in assessment is transparency, the students should be provided with the task description and essay assessment criteria, which can be given in print or sent electronically. Since giving timely feedback is one of the princiles of effective formative assesment as well, during the learning process of the learners areto be provided with writen or oral feedback on the chosen topic,thesis statement, sourses and and essay parts (introduction, body paragraphs and conclusion).Some students might experienee difficulty in choosing a topic an or writing a thesis statement.Therefore, formative feedback should be as frequent and timely as possible. It might be given both individually and during the classes for the whole group. The learners can also work in pairs/small groups and peer assess each other's writing as it is an important way” . of improving students" understanding of the criteria and thereby enabling them to feel more confident about their understanding of the demands of the course" [4, 173].

The final version of the essay, i.e. summative assessment, is usually submitted in the middle or at the end of semester. The tutors mark the work and may fill in the summative feedback pro-forma.

It is the formal method, the essay is assessed against the criteria (content structure, referencing conventiona, language, argumentation, etc.). The feedback should be also provided because long-lasting learning is important for language learners.

Summing up, it is important for every language teacher to take into account assessment principles and purposes while designing an assessment task for writing. This knowledge will enable language instructors to become more professional not only in teaching but also in assessment as " .. good teaching helps students to become aware that educationally valid assessment is an opportunity to learn and to reveal the depth one's knowledge". Without being able to evaluate students knowledge and skills appropriately, teachers will not be able to deliver the relevant content, see how their students are learning and if their teaching methods are effective in the given context.

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UDC: 42+37

ADEQUACY OF THE TRANSLATION OF AGRICULTURAL TERMINOLOGY AS A LINGUISTIC PROBLEM

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Abstract: the problem of translating agricultural terms is particularly acute in the face of scientific and technological progress and the development of scientific research in this area.

Key words: abbreviation, agricultural, equivalent, terminology, translation.

Difficulties in translating terminology are one of the main obstacles to communication in agriculture.The main difficulties in translating the terms cause differences in the structure of the terms of the English and Uzbek languages, the ambiguity and variability of the correspondences in the translation, the material manifestation of which are polysemy, homonymy, intra-industry synonymy, hyponymy, antonymy. Multicomponent terms and equivalent vocabulary that are not fixed in bilingual dictionaries and do not have a permanent equivalent in the translation language also cause difficulties in the translation.

A characteristic feature of agricultural terms is that many of them consist of simple words that are not terms. It is also interesting that some words in terms-phrases get a meaning that is not given in the dictionary.

Agricultural terminology is characterized by the peculiarity of the functioning of various terms in it, which can be distinguished into terminological groups, such as plant growing, breeding, agricultural chemistry, seed production, genetics, etc. As the collected and studied lexical material showed, the main term-forming part of speech is the noun. However, our analysis made it possible to state that adjectives and verbs can act in addition to nouns in the function of the agricultural term.[1]

In agricultural terminology, there are a large number of borrowed lexical units. Based on this feature, most of the analyzed terms are translated by transliteration (27%). Quite often, among the methods of translation, there is the selection of the equivalent (37%), tracing (18%), or the translation of terms using the genitive case (6%). A descriptive translation was used for more complex terms, to clarify if the meaning does not match the realities or if there is no equivalent. The word order during translation has changed due to the difference in the systems of the source language and the target language. Transcription, a mixed way of translating, and translating terms using prepositions were not used so often.

It was noted that abbreviations are quite common in the research material. These are mainly the names of various agricultural structures. The results of our analysis allowed us to state that the studied abbreviations do not have equivalents, abbreviations in the Uzbek language.

We have proposed the following methods for their translation into Uzbek:

transliteration;

decoding the abbreviation during translation and compiling a new abbreviation from the translated components;

decoding of the abbreviation during translation and use of the full form in the text of the translation;

decoding of the abbreviation during the translation, compilation of a new abbreviation from the translated components and translation commentary.[2]

The problem of an adequate translation of agricultural terminology, as well as the interpretation and translation of English abbreviations, seems to us very interesting and promising for further more detailed research. agricultural terminology abbreviation translation

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VOCABULARY IS THE KEY POINT TO ENHANCE COMMUNICATION SKILLS

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Abstract: The present paper deals with the specific vocabulary acquisition in the learning process. In an academic language learning environment each word is considered to build up a whole wall; with a small step to help students enrich specific terms which related to the certain area to communicate easily as well to write too. This process requires some time in professional life. Studies have shown that the more words you know in a foreign language, the more you can use it in real life situations. In this study we will approach the theoretical studies related to specific vocabulary acquisition.

Key words: acquisition, replenishment, certain meaning, facilitate, recall, a wide range of, focus on.

Having a rich vocabulary is the most important criterion for the success of modern person in many areas of activity, as a result of which the enrichment of the lexicon of a particular linguistic personality is an important task of learning. Vocabulary replenishment contributes to the active formation of the student's competence base, expressed in the mastery of his personal, communicative, regulatory and cognitive universal learning activities in society. Possession of a rich vocabulary will allow the student to realize his educational potential in any aspect.

A person who knows more words can speak, and even think, more precisely about the world. A person who knows the terms scarlet and crimson and azure and indigo can think about colors in a different way than a person who is limited to red and blue…words divide the world; the more words we have, the more complex ways we can think about the world (Stahl & Nagy, 2006, p. 5).

According to Steven Stahl (2005), "Vocabulary knowledge is knowledge; the knowledge of a word not only implies a definition, but also implies how that word fits into the world." We continue to develop vocabulary throughout our lives. Words have power. Vocabulary is important when learning a new language. Because it can be defined by language words. Including phrases that have a certain meaning as separate words or fragments of several words. There are many aspects to learning a language[1].

Especially for English learner's vocabulary is the most important.

Besides that, vocabulary is a very important part of communication. Because it improves all areas of communication and without it we cannot express our feelings. An extensive English vocabulary improves general communication, for example; listening, speaking, reading and writing. A large number of words will help you express your thoughts meaningfully.

Nonnative speakers of English need to increase their vocabulary in order to succeed in their academic pursuits in an English-speaking educational environments. A strong vocabulary knowledge base is necessary at every stage of the learner's second language acquisition. Regardless of the student's level of knowledge of grammar and pronunciation; effective communication is impossible without adequate vocabulary knowledge. Developing the learner's vocabulary skills ultimately facilitates richer listening and speaking abilities (Chang, 2007; Joe, 1998; Joe, Nation, & Newton, 1996; Newton, 1995), reading abilities (Cobb, 2008; Haynes, 1993; Laufer, 1992; Nation, 2001; Nation & Coady, 1988; Wesche & Paribakht, 2000), and writing abilities (Engber, 1995; Ferris, 1994; Hinkel, 2004; Laufer, 1998; Laufer & Nation, 1995). Research highlights that learning words in a systematic manner is very important for both word retention and the facilitation of the learner's later production (Carter, 1998; McCarthy, 1996; Nation, 2009; Roberts, 1999)[2].

Numerous vocabulary acquisition studies confirm the value of wide reading. The more the student reads, the more the student's vocabulary expands (Nagy & Scott, 1990). Specifically, Tekman and Daloglu (2006) stated that extensive reading "can help students to deepen their knowledge of a word's different meanings and contexts" (p. 236). Nagy et al. (1987) suggested the amount of word knowledge gained while reading relies on three main factors: (a) the frequency of word exposure, (b) the text quality, and (c) the student's ability to infer meaning and recall the new words learned while reading. Thus, the most important factor in vocabulary development is the amount of reading that takes place. Word acquisition occurs by reading. Therefore, in order to realize substantial vocabulary expansion, a student must read extensively (Nagy et al., 1987)[3].

Words can be stored in terms of their graphological forms as well as by their meanings. Graphological forms can greatly enhance word storage and recall. There are more words in English that are related by common roots or bases than many other languages (McCarthy, 1996)[4].

Vocabulary should be recognized as a central element in language teaching. When it comes to the English language experts consider it has the "largest vocabulary in the world" (Bhar et al., 2021) Educated native speakers of English are supposed to know approximately "20,000-word families or 70,000 words". Educated non-native speakers of English know less than one quarter of the native speakers‟ vocabulary. Thus, if we agree with these statistics, we realize that ESL students must increase their vocabulary if they want to become good practitioners of the language. This vocabulary material can be attained via textbooks, videos, photocopied handouts, newspaper or anything which informs about the language being learned[5].

The most important aspect of knowing a word is the collocational partnerships of the word (Folse, 2004; Sokmen, 1997). As the word parts "co" and "location" suggest, a collocation is a word or phrase that is frequently used near the target word. Learning chunks and groups of words that go together is a very effective way to expand the learner's vocabulary power (Lewis, 1993; Nattinger & DeCarrico, 1992; Sokmen, 1997). The more active students are in their vocabulary acquisition process, the more active readers and writers they will become. It is important to remember that effective storage of words will ultimately lead to effective communication procedure in conversation[6].

Communication will be productive when the conversation makers are effective enough to communicate competently, simply, clearly, sincerely and dynamically. Communication necessary for close sympathetic relationships in society and for the transformation of people, material and thoughts from one place to another. This process includes receiving and a response that serves as feedback. Therefore, communication is interactive. Today, coercion to learn English is no longer just political, but scientific and technological[7].

English language is the most prevalent language to communicate for people as well as there is a problem which many students face. Most students are not ready to communicate easily because they have lack communication skills. One who is good at effective communication thinks soundly, enjoys selfesteem, dignity and gets respect in society, academic or profession. Academic vocabulary is for specialized discussions, or for publications, English for agricultural field, taught using academic vocabulary, leads to framing the personality of the future engineer, actual student, towards a professional and a specialist, not only in knowing how to implement the acquired knowledge but also how to transmit it and express it, either in writing but also when speaking and communicating. English language is the most used and taught and we could also say that it is one of the most significant academic languages. In teaching English language to agrarian learners, teaching resources should match with the students need. Therefore, English for special purpose textbooks must be fulfil some of the students need (Karimi and Sadeghi, 2013). Vocabulary development is key indicator of the progression of all four skills of language learning[8].

Academic vocabulary represents an important part from the sub fields of vocabulary, respectively, high frequency words, academic vocabulary, technical vocabulary and low frequency words, where part of the English language was reunited in order to create pedagogical purposes (BAUER,et all., 1993). The high frequency words and the academic ones were gathered in more vocabulary lists, Coxhead's AWL (2000) and West's GSL (1953), being taken into account as priority when teaching vocabulary classes, including shaping and increase of development materials. Academic vocabulary started to be considered and analyzed to be common to academic texts from different types of texts and areas, resulting that, when compared with technical one, it is much more preferred and accessible for a foreign language professor, this observation pointing out its advantage [9]. (NATION et all., 2001)

A good knowledge of the English academic vocabulary in the field of Agriculture will improve all the skills of the students: speaking skills (speaking with fluency, good pronunciation, good conversation with specific agriculture terms), as well as reading ones and comprehension (understanding the main ideas of the text.

English language is necessary for communicating with clients and visitors. The great majority of participants from both groups described English language as an important tool for agricultural professionals to communicate with visitors and clients.

Some of the results of this study have shown that the most important English language skills for students of agriculture study program are speaking skill and reading skill. Reading skills is very vital for the students of agriculture because the language contained in the textbooks and scientific journals used by massive students. With reference to the role of language, the ability to communicate well in English is extremely crucial when it comes to career progression and employability. Being mastering to present the report of field activities to the audience by using English is very important.

Robinson (1991, p.49-51) states that the common instructional tasks in ESP course are role-play, simulation, case-study, project work, and oral presentation by which the instruction effectively promotes communication and professional skill as well as language skills of students.

Many ESL students are studying English because they want to attend an English-speaking university, excel at higher level study and land a well-paying job. A large vocabulary can help them do just that. The students English vocabulary, particularly English language specialized in agriculture, can add information and new vocabulary. Furthermore, learning English vocationally can be beneficial to their employment in both communication and business, and acquiring English vocabulary can aid in the improvement of their English language.

As you can see from the above discussion, there is clearly a strong link between a person’s understanding of vocabulary and an individual’s skill with language as a whole, whether as a native or a language learner[10].

This means that if we want to improve the overall standard of English language teaching and create better learning materials for our students we need to focus closely on vocabulary.

Using a vocabulary analysis tool is one of the most effective ways to do this as it provides greater insight into how common/frequently used or complex different vocabulary is, and also the CEFR level of those words.

This helps English teachers and curriculum developers to develop more effective learning materials for our students and improve our understanding of the English language as a whole.

People use a wide range of vocabulary on a daily basis. In this case a good stack of vocabulary helps people to express their attitude or to continue conversation.

Conclusion. It can be concluded, that learning specific vocabulary provide students with opportunities to communicate accurately, as well as allows them to access academic language and facilitates their comprehension of increasing complex texts. Students who have a rich vocabulary tend to be deeper thinkers, express themselves better and read more. It leads to be more successful academically and communicatively.

Conversations about books help students to learn new words and concepts and to relate them to their prior knowledge and experience. Students learn vocabulary when they are explicitly taught both individual words and word-learning strategies as well as when they hear and see words used in many different contexts-for example, through conversations with native speakers if it is possible otherwise they can communicate with their acquaintances who know the language better, and through reading extensively on their own.

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THE ACTUALITY OF USING PROJECT AND ACTIVITY METHODS IN TEACHING FOREIGN LANGUAGES

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Abstract: This article it is about methods of training foreign language. Different methods and receptions with use of information technologies are studied.

Keywords: language, monitoring, analyze, compare.

Recent years indicate a significant increase in the interest in society to a foreign language. It is recognized as the language of professional communication in various fields of activity. The most important task of the teacher is to increase the motivation to learn English from students.

Today, teachers are reconsidering the arsenal of impact on the minds, will. emotions of students with a view to introducing them into the rich world of culture and traditions of the country of the studied language. The ways and methods of forming all types of speech activity are reviewed: reading, speaking, listening, writing. The activation of the educational process and the cognitive activity of students is facilitated by the introduction of gaming technologies into the learning process, along with traditional occupations [1].

The optimal pace of the lesson are followings: Material delivery in the most accessible rational way

Non-standard placement of student workplaces in the classroom rotation of horizontal (work at the table) and vertical working planes An unconventional interview system

Most of the listed components can be used at all stages of language training Bid one of the most useful techniques is using project technologies in foreign language lessons.

The method of projects is a comprehensive teaching method that allows individualizing the learning process, enabling the student to show independence in planning, organizing and monitoring his activities. The project method allows students to show their independence in choosing a topic, sources of information, the way they are presented and presented. The project methodology allows individual work on a topic that is of greatest interest to each participant of the project, which undoubtedly entails increased motivated activity of the student. He chooses the object of research, he decides for himself. to confine himself : to a textbook in English (simply by performing the next exercise), or read other literature. However, often students turn to additional sources of information, analyze, compare, leaving the most important and entertaining[2].

The initial stage of work on the project - the introduction and discussion of the topic is offered in the usual lesson, in parallel basic vocabulary, grammar, students learn simple sentences.

Practical work on the project begins at the stage of "fixing the material" and "repetition" and becomes a harmonious part of the unified learning process.

One of the main features of the project activity, in my opinion, is the orientation toward achieving a specific practical goal - a visual representation of the result, whether it's drawing, applique or composition. In the teaching of English, the project method provides an opportunity for students to use the language in situations of real everyday life, which undoubtedly contributes to better learning and consolidation of knowledge of a foreign language. Projects are different: in duration, in content.

I would like to cite as an example the lesson-project that was conducted on the topic "Ecological tourism in the modern city. On the green path deep into history. " We were inspired to organize and conduct the lesson: firstly, interest in the history of our city, secondly, concern about environmental problems that are taking place today in our city.

As a result of discussions with the students, it was decided to create two groups of historians and ecologists who studied the ecological state of the school's micro district and studied the history of the monuments and memorial sites of our micro district. During the project, wonderful excursions were born, presentations of a historical and ecological group Called "Historic Places of My Micro district" and "Green Trail" were created and presented to students, teachers, city visitors[3].

The use of project methodology in English classes, even within the framework of the school curriculum, showed that students:

-Achieve good results in learning a foreign language

-Have a practical opportunity to apply the skills gained in computer science lessons

-Understand the need for interdisciplinary connections

-The project method has several advantages over traditional teaching methods. The main advantages are:

-Increasing the motivation of students in learning English

-Visual integration of knowledge in various subjects of the school curriculum. Space for creative and creative activity.

A teacher who wants to teach students to think should look at how students get knowledge and not how they simply reproduce them. Obtaining, knowledge requires certain mental skills, such as analytical, problematic, problematical, creative, reflective thinking A very relevant technology in the teaching of academic subjects, including the English language in the light of new educational standards is critical thinking technology in English classes. Critical thinking is a system of judgments that is used to analyze things and evens with the formulation. Reasonable conclusions allows you to make informed assessments interpretations, as well as correctly apply the results to situations and problems. The skills of critical thinking can not be developed spontaneously. The teacher must manage this process. English lessons help develop critical thinking through a variety of materials and interactive approaches. Self- awareness plays an important role in this process. Thanks to critical thinking and self-awareness, one can understand the connection between thoughts and emotions. Although it is commonly believed that they are independent of each other, but in fact feelings are based on a certain level of thought and thought appearing at a certain level of feelings[4].

So, what skills are necessary for critical thinking? In order for the student to use his critical thinking, it is important for him to develop a number of qualities, among which. D.Halpern singles out:

Readiness for planning. Thoughts often arise chaotically. It is important to organize them, build a sequence of presentation.

Flexibility. If the student is not ready to accept the ideas of others, he can never become a generator of his own ideas and thoughts. Flexibility allows you to wait with a judgment, while the student does not have a variety of information.

Perseverance. Often, when faced with a difficult task, we postpone its decision for later. Developing persistence in the tension of the mind, the student will necessarily achieve much better results in training.

Willingness to correct their mistakes. A critical person will not justify their wrong decisions, but draw conclusions, take advantage of the error to continue learning Awareness This is a very important quality, involving the ability to observe oneself in the process of thinking activity , to follow the course of reasoning.

Search for compromise solutions. It is important that adopted decisions are perceived by other people, otherwise they will remain at the level of statements.

The purpose of teaching a foreign language is the communicative activity of students, i.e. practical knowledge of a foreign language. The teacher’s task is to intensify the activities of each student, create situations for their creative activity in the learning process. The use of new information technologies not only revitalizing and diversifies the educational process but also opens great opportunities for expanding the educational framework, undoubtedly, it has a great motivational potential and contributes to the principles of individualizing learning. Project activity allows students to act as Authors, creators, enhances creativity, expands not only the general out look, but also contributes to the expansion of linguistic knowledge.

The next actual method in teaching foreign language is the activity method. The method of teaching, in which students do not receive knowledge in their final form but extract them themselves in the process of their own active educational and cognitive activity is called the activity method. According to A. Diesterweg, the activity method of teaching is universal. "Accordingly, he should have acted not only in primary schools, but in all schools, even in higher educational institutions." This method is appropriate everywhere where knowledge must be acquired, that is, for every student[5, 6].

Active learning is a way of organizing the learning process, in which the learner acquires knowledge over their transfer by the teacher, and the methods, forms and means used stimulate this process, take into account the individual characteristics of the student and provide the required level of motivation. With this form of organization of the educational process, the teacher needs to correctly orient the students' cognitive activity, orient them in the information space and provide the necessary methodological assistance in time.

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THE IMPORTANCE OF PROFESSIONAL COMMUNICATIVE COMPETENCE IN TEACHING FOREIGN LANGUAGE

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Language is a communication tool on the one hand and a cognitive tool on the other. This postulate is consistent with the general understanding of the essence of a person's communicative competence as knowledge, ideas about language and the ability to speech actions, skills in the speech sphere. These two sides of teaching languages are gaining knowledge about the language and gaining knowledge of the language itself. Today they are perceived as equally important processes and serve to form an adequate understanding of a linguistic phenomenon. They serve the development of skills to use this phenomenon in real communication in the methodology of foreign languages too. Therefore, the communicative-cognitive approach is recognized as the leading approach to teaching foreign languages in modern conditions [1].

In the context of broad international relations with other countries, it is important to communicate with foreign specialists, develop professional and business contacts with foreign partners and colleagues, and read various publications in a foreign language. Recently, there has been a growing demand for the study of a foreign language, not only in higher education institutions, but also in schools, especially in professionally oriented classes. Demand will grow in the years to come. This is explained by the fact that the number of educators who study a foreign language for general communication is reduced. Educational institutions are increasingly coming to the conclusion about the advisability of learning a foreign language by profession. The goal of teaching a foreign language in higher education institutions is to master a foreign language as a means of communication, and to acquire professionally-directed foreign-language competence for the successful performance of further professional activities.

Competence in a certain field is the possession of competence, containing its personal relation to the subject of activity. In accordance with the definitions of these terms, competence should be understood as a given requirement, the norm of educational training for students of non-linguistic specialties, and competence — as its real personal qualities and experience. Most researchers consider competence both as a characteristic of the personality and as a set of communicative, constructive, organizational skills of the individual, that is, they understand by competence the ability not only to have knowledge, but also potentially be ready to apply them in new situations. According to N. Izoria, communicative competence is an integral personal and professional quality of a person with a certain level of language education, which is realized in readiness on a certain basis to a successful, productive and effective activity using the communicative and information capabilities of a foreign language, provides an opportunity effective interaction with the environment through appropriate language competencies. In the psychological literature, the concept of «communicative competence» is a definition of knowledge-based and sensory experience of the ability of an individual to navigate in communication situations. So, foreign communicative competence is an integral characteristic of the professional activity of a specialist that covers such substructures: activity (skill, knowledge, skills and methods of performing professional activities); communicative (ability, knowledge, skills and methods of professional communication) [2].

In the general strategy of teaching foreign languages in non-linguistic faculties of the university, there is a requirement to develop a foreign communicative competence in the professional sphere of communication. Common European Recommendations on language education determine the main directions of professional training of specialists, presupposes the achievement by students of a non-language faculty of a sufficient level of foreign-language communicative competence in the professional sphere of communication. Communicative speech competence of the personality is realized in the performance of various types of speech activity, namely: perception, awareness, reproduction (oral or written). It should be noted that scientists consider from different positions such concept as «competence» [3].

In modern society, specialists with abilities and skills that allow a professional to be more maneuverable and successful in present conditions of market relations, carrying out effectively lots of labor activity, being at the same time quite socially adapted, is in great demand. The purpose of the article is the need to determine the scientific and practical importance of the professional competence of the student and teacher as direct interacting initiators and participants within the educational process, its development, in turn, is a prerequisite for the further professional formation of a future specialist. Prospects for the development of education are due to both the use of innovative methods and technologies in the meaningfulness of the educational process, and the growth of the teacher’s professional competence. Recently, in psychological and pedagogical research, the issue of forming a professionally competent working specialist in any area of modern production has become particularly relevant. Within recent social environment, the model of socio psychological of a competent specialist lays the emphasis on such personality psychological qualities as independence in solving complex problems, autonomous use of knowledge, skills, discipline, a satisfactory image of one's self; the ability to conduct coordinated communication, management of personal communication in a team, the internal need for self-development. Great importance can be assigned to a communication process, in the implementation of one of the important functional properties of professional competence, namely, the one that integrates development of creative abilities, so ingenious communication it takes place both internally and at the intercultural level, implying the usage of a foreign language. The new many-sided and all-around world puts forward new requirements to a successful application procedure in general and works with personnel in particular [4]. As far as a distinctive feature of the present state of affairs in various fields of economy, business is the presence of joint ventures and / or all kinds of relations with foreign partners, so it is hard to imagine communication with the personnel without a foreign language, as a means of communication. Almost everyone agrees that for modern managers, English is not a luxury, but a tool to do some efficient work in the professional sphere. The competence can be considered as the formation of the ability, for the qualitative functioning of an employee, in the field of a particular discipline applying some special knowledge, skills, ways of thinking, awareness of responsibility for their own actions aimed at organizing and applying creative abilities in a professional sphere. Of great importance in the implementation of the functional properties of a professional and personal competence, integrating the development of creative abilities is the communication process.

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TECHNOLOGY INNOVATIONS IN TEACHING AND LEARNING

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Modern education requires a new approach to teaching methods in schools. It isclear that it is necessary to release a specialist not only with good knowledge, but who knows how to use them in practice. To teach students to think independently, make decisions, work in groups, develop communicative, creative abilities, take responsibility for themselves, teachers and masters have to learn and use new techniques. Innovation is not any innovation or innovation, but only one that seriously improves efficiency the current system [1].

Innovation activity in its most complete development involves a system of interrelated types of work, the totality of which ensures the emergence of real innovations. Namely:

● research activities aimed at gaining new knowledge about how something can be ("discovery") and how something can be done ("invention");

● project activities aimed at developing special, instrumental and technological knowledge about how, on the basis of scientific knowledge, in given conditions, it is necessary to act in order to get what can or should be (“innovative project”);

● educational activities aimed at the professional development of subjects of a particular practice, at the formation of each personal knowledge (experience) about what and how they should do so that an innovative project is embodied in practice (“implementation”).

The real progress of a country is measured by the priority it lays on education.So education in every country needs to be a high-priority situation including new changes and innovation to it education process. The disposition to acquire and add technology to it, it is necessary to encourage teachers and students to have better contact with this technology, to reinforce, practice and increase knowledge in different areas and language learning is no exception to this fact.

The impact of innovation in education has been huge. The inclusion of technology has redefined education in more ways than imaginable. Today, we will be looking at some innovative teaching methods that teachers can use in their classrooms to make their lessons more meaningful and interesting. Without further ado, let’s take a look at some of the innovative teaching methods.

Technology in education is a vast topic with a lot of possibilities and opportunities. It is education technology that has made it possible for teachers to make classes more fun and interesting. We know that things are better done than said. Suppose I say that triangle is a figure with three sides, for someone who doesn’t know what a triangle is, they will only get a vague idea. At the same time, when I draw it on the board, understanding is better. With technology, this triangle can be animated, and its 3D figure,i.e., the pyramid can be shown and the understanding will certainly be better. With the use of technology in education such as online teaching tools, animations, etc, teachers can make their classes interactive and make sure that students stay engaged.

The role of technology is very important in our century. For example: when people able to communicate with their friends, book something, pay bills and aware of news within less time without difficulties, they could do their jobs well and easily. Nowadays technological advances are very essential into not only business but also educational system. In addition, modern teachers and learners have several opportunities to communicate each other efficiently while doing another job. According to the research of Professor Chirac Patel [2] innovative technologies provide both teachers and universities' students with opportunities which help to develop English perfectly.

The professor showed the following advantages in the process of teaching and learning the English language. They are: – To encourage students' interest and motivation in learning process: Nowadays traditional teaching methods are not popular while innovative technology consisting audio, visual animation effects. Besides, innovative technology offers an atmosphere which greatly encourages students' interest in learning process. – To help students to develop communication ability: This method motivates students' feelings in learning and provides the students greater thoughts. This strategy offer activities as debates and group discussion which help students to develop working together skill. – To improve effect of teaching system: Innovative teachings help teachers to make the best class efficiency. For example, large classes, many students it is difficult for the students to improve their speaking skill. Innovative technology does not waste time and space, and creates more comfortable environment.

Technological equipment is a helper for teachers while making efficient lessons. – To improve an appropriate communication between teacher and learner: Developing interaction between teachers and students is a basic matter. If during the lessons, students use innovative technologies regularly, they will have different questions. Then they have to communicate with their teachers.

The project method can be used in teaching a foreign language on almost any topic, since the selection of subjects was carried out taking into account the practical importance for the student. Here is the example of applying the project methodology while studying the topic «School» in English lessons. The common goal is to create a school project in which all the children would like to learn. The students are divided into groups based on the desires of the children to work together to solve a certain part of the overall task. Parts of the project are discussed in groups. As a result, the following areas of work will be singled out:

1) the creation of a school building project, its design and school territory;
2) compiling rules for students and teachers of the school;
3) a description of the school day;
4) a description of extra-curricular activities of children;
5) a school uniform project.

At one of the last lessons, the project will be protected by groups. Each group will make their presentation. Such tasks are very exciting for students, they feel responsibility for the performance of such work. At the same time, they master such skills as working with the Microsoft Power Point program, the ability to find interesting materials, illustrations. And at the very performance students learn to declare, develop their oratory skills, ability to prove and defend their point of view, spontaneously answer to the questions asked, they do not be afraid of public speaking and become self-confident. [3].

Modern technologies offered by us will help to achieve maximum efficiency in the classroom time. In our opinion, classes based on the above principles (communicative-oriented and personal-oriented) can eliminate the existing shortcomings noted by us in the professional training of students of academic lyceums in active oral practice. As the analysis has shown, the last decades the methods of teaching a foreign language have evolved under the sign of communicative-oriented learning, which includes personality-oriented learning. In the university and school programs in foreign languages, the communicative goal is taken as the basis. This, in turn, set a certain movement to the process of communication in this direction.

Innovative learning is currently replacing supporting learning. It is considered to be the educational system's reaction to the society's transition to as higher stage of development and reaction to the changed goals of education. Innovative learning is learning that stimulates innovative changes in the existing culture and social environment. It acts as an active reaction to the problem situations, which appear in front of each single person and the society in general. It is called to prepare not only a "learning person", but also an "acting person". Moreover, all elements of supporting learning are present in the innovative process; the only question is the definition of the proportion between reproductive and productive, active and creative components. This tendency is due to the integration processes in science, in the formation of the modern style of scientific thinking of a person and the integration processes in education itself.

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IMAGES IN THE STORIES OF HEROLD BELGER AND THEIR LANGUAGE REPRESENTATION

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Herold Belger is a well-known Kazakh translator, prose writer, publicist of German origin. During his life he published 60 books and had over 2000 publications. [1, 12 b.]. Gerold Belger is also a translator of Kazakh literature and has translated over 200 works of Kazakh writers [2, 13 b.]. The translator also translated books by German writers. In the course of translating books, he articulated his sense of style.

Throughout his life, he was engaged in writing and the following books of his pen appeared: “Altyn Asu”, “Face to Face with Time”, “Daladagy Shagala”, “Tomorrow there will be sun”, “Pine house on the edge of the village”, “Quiet conversations at noisy crossroads”, “House of the Wanderer”. One of the books by Gerold Belger "Favorites" was published in 2014, which contains selected works of the writer, stories, sketches, essays, sketches.

The book contains a variety of stories of the writer, reflecting life situations. None of his stories are like the other. Each story of the writer carries a shade of the writer's life and his imagination. The following stories were included in the book "Favorites": "Abilmazhin", "Steppe strawberry", "And bitter Chimed the farewell hour", "Army Biscuits", "I alone Bid the Cranes Farewell", "My Compatriot from Caracas", " Rysbek RedHead from village Kastek”, “On the edge of the Precipice”, “The Lucullan Feast”, “Eid al-fitr”.

The stories of Gerold Belger carry a variety of images. His stories are full of images containing such concepts as "losses and gains", "struggle", "share", "persecution", "fate", "family", "religion". This article discusses the images of the stories of Gerold Belger and their language and style representation. Each of his stories carries a certain message. For example, in the story "Abilmazhin" we meet an old man and his old wife who lost their sons in the war. This story shows images of «a loss», and at the same time «gain». The concepts of "loss and gain" can be found in the story "Abilmajin".

The concept of «acquisition» is presented in the form of a boy who was found by Abilmazhin in the following example:

Пример 1: – *Эй, чей будешь? Из какого аула? Говори же! Ой-бой, совсем окоченел. Ну, садись же!* Человек с трудом вскарабкался на лошадь. Абильмажин снял длинный *кушак*. – Эй, *байбише*, гостя тебе привез! Сбросил шаль, потом *стянул* не то пальтишко, не то пиджак: перед ним в громадных валенках стоял *мальчонка* [3, 28 б.].

Перевод 1: *“Hey, who goes there ?”* “*Where are you going ?”. “From which aul do you hail ? Tell me this instant!” Oh dear*, you must be frozen stiff. *Get up here on my horse”.* The little man continued to stand where he was. “Come on and get up here! Give me your hand.” Abilmazhin removed his *long belt*. “Heh, *woman*, I’ve brought you a quest!” He threw down the shawl, then removed a coat or a jacket: before him, in enormous *felt boots*…” [4, 64-65 б.].

In this example, the dialogue contains short phrases. The hunter, when he picks up the boy, he addresses him with the utmost frequency and clarity. The short speech can be explained by the fact that the hunter quickly wants to get the information, and also by the fact that he spent the whole winter day outside. The realism of the picture is observed due to the brevity of phrases. Brief phrases of dialogue were rendered incorrectly and not in a concise manner. There are also realities in the original, such as “Baibishe”,“kushak”, but they were not saved in the translation and were translated using the domestication technique “woman”, “belt”.

Elements of colloquial speech in the verbs *“говори же”, “садись же”* were lost in translation. In the original passage, actions are expressed by verbs, which are conveyed by phrasal and regular verbs. The sensual state of “surprise” is described by the author with the help of an interjection «*Ой-бой*». In translating the interjection, the translators used the method of compensation. In the original text, one can notice that the author uses a diminutive suffix in the words “мальчонка”, “пальтишко”, which was inevitably lost in translation. The word "мальчонка” is translated by using the method of compensation in the following way "a little man". Thus, we can say that concept of the gain is seen via the image of the boy and presented by the author through such means as, for example, short phrases (*Эй, чей будешь? Говори же! Из какого аула)*, realias *(“Байбише”, “каленки”, “кушак”)*, colloquial vocabulary (*Говори же*, *садись же*), interjection (*Ой-бой*), diminutive words (“*мальчонка”)*.

We can meet the concepts of «lot» or «fate» in the story «I alone Bid the Cranes Farewell». The story is about a dog named Rex who lived a happy life until his owners decided to leave him and move to another country. The dog remained in the care of the new owners, who treated him with disdain. The dog decides to leave home and from the new owners in order not to see his new evil owners.

Пример 2: Он не хотел, чтобы его новый хозяин – *лысый кривоногий коротышка*, от которого *вечно дурно пахло,* – смотрел на его окоченевший труп, распухший, *с оскалившейся мордой* и грязным *хвостом-метелкой* несколько дней, пока его не вывезет «*мусорка*». Нет, этого пес не допустит [75].

Перевод 2: He did not want his new master, that *bald, stumpy, bandy-legged man*, who was *always followed by a foul smell*, to see his stiff corpse, swollen, *with a foul grin on his face* and with *a dirty bushy tail*, until he would be taken away on the back of *the cart.* No the dog would not let that happen [104].

In this example the author uses the narrative device in which actions occur one after another. The writer Gerold Belger quite often uses this technique in order not to take the reader's attention away from the climactic actions given at the end of the story. All actions given in the passage were translated into English by selecting the appropriate direct equivalent. Some verbs, such as *«швырнул»*, *«вывозить»*, *«выволок»* are translated into English through the method of shifting language units, in which verbs are transmitted by phrasal verbs. In this regard, it can be noted that this is due to the divergence of language systems. The verb «*пахло»* was translated by the translator through the paraphrasing technique «*followed by a foul smell*».

The author also uses several adjectives to describe the appearance of a person, in the passage «*лысый кривоногий коротышка»*. These adjectives have been translated into English as «bald, stumpy, bandy-legged man». The colloquial word «shorty», «stumpy man» is translated through the technique of shifting language units, where the word moves in a row of phrases. The author also uses adverbs to enhance the impression of the presented actions.

In the example, «*вечно дурно пахло*» the translator used a paraphrase technique and conveyed the meaning of the passage in his own words as follows: «always followed by a foul smell». The author uses metonymy in the word «*Мусорка*». By *«мусоркой»* the author means «people who come and take out the garbage». The translator uses the explication technique when translating the metonymy «would be taken away on the back of the cart». Thus, we note that the translator, when translating metonymy, reveals its meaning, but does not convey the stylistic device.

The comparison technique is used by the author in the passage «грязным хвостом-метелкой», where the tail is compared to a broom. The translator translated the comparison as follows «a dirty bushy tail». The translator here applied the method of changing the image, where an incorrect transfer of the appearance of the tail «грязный кустарный хвост» is noted. In the phrase «хвостом-метелкой» we get the image of a long tail, which usually sweeps everything behind it. Because of this, there is a comparison of a long and shaggy tail with a broom, but in translation we get the image of a «грязного кустарного хвоста». In translation, we believe that the comparison should be translated as «sweepy» or «размашистый».

The concepts of «доли» or «судьбы» are presented through the images of an «animal» that leaves its home and evil new owners. This image is represented through verbs depicting successive actions. Other linguistic and stylistic means include several adjectives within one sentence, metonymy, colloquial vocabulary. The author also uses adverbs to enhance the impression of the actions presented in the story.

As a result, having examined the images, we came to the conclusion that the author uses certain means in order to build his images. These means in the translation are not fully transmitted due to the peculiarity of the language structure and style of the writer.

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THE ROLE OF THE ENGLISH LANGUAGE IN OUR LIFE

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Learning an English language In the modern world Is one of the most important components of a successful person. Knowledge of English language broadens the horizons, allows you to learn the culture and customs of another people. We can not deny that English language plays an important role In all areas of life. [1]

English is a global language

The language that is spoken the most over the globe is English. The language that is taught as a second language the most frequently worldwide is English, despite not being an official language in many nations. Under international agreement, it serves as the primary medium of communication between airplanes and airports. The key sign of its global status is how widely used it is as a first or second language. [1]

Importance of the English language in education

For pupils in school, the English language is extremely vital. The English language has evolved into the fundamental educational language in the contemporary world.

Every educational system in the world uses English as its primary language of instruction. For the kids, learning and comprehending the English language is crucial for future academic endeavors. The majority of schools, colleges, and universities offer instruction in English. It is essential to initially master the English language in order to comprehend the books, lectures, and homework. The vast majority of students aspire to study abroad. In other nations, it is exceedingly challenging to survive without knowing and using the English language.

So, studying the English language is crucial for those who desire to pursue further education abroad. [2]

English is the language of International Communication

Language is the fundamental tool for conversing with others and exchanging ideas.

Each nation and region has a unique national language as well as sublanguages. Given that there are more than 100 different languages spoken worldwide, learning and understanding each one is incredibly challenging. English is the most widely spoken language in the world and is crucial to learn if you want to communicate with people from all over the globe. The most widely used and easily understood language in the world is English. Whenever you go in the world, you will find English speakers. You can easily connect with your friends, businesses, and other individuals all across the world thanks to the English language. [2]

The English language Helps In Business

For businesses, knowing and using English opens up a wide range of possibilities. Speaking and comprehending the English language is crucial for business.

A businessman's goal is always to increase their market share globally. They are continually looking to expand their company globally. On a global scale, they conduct business with other businesspeople. Understanding and speaking English is crucial for conducting business with and corresponding with other foreign businessmen or businesswomen. The majority of businessmen or businesswomen have no trouble understanding and speaking English. In the English language, you can simply manage them. [3]

The English language in Entertainment

Since English is the language of entertainment, the mass of movie industry pictures and TV shows are now produced in this language. Because English is the language that is spoken and understood by the greatest number of people worldwide, books, journals, and stories are also published in it to be read globally. The English language is used to create many different types of games. Individuals enjoy playing a variety of games that are written in English so that they may be easily understood. The official language of the entertainment industry is English. The majority of entertainment products are produced in English. Knowing and speaking the English language gives access to the world of entertainment to the people. [4]

The English language In Travel

Traveling is greatly aided by the English language. Because English is a language that is extensively spoken and understood wherever you travel. There are several benefits to knowing and using the English language. Making hotel reservations and other types of reservations, as well as placing food orders, may all be done with ease by people who can comprehend and speak the English language. Language is the fundamental medium for interacting with others and sharing your thoughts and feelings. You can interact with people who speak other languages more readily since you can understand and speak English. As English is a universal language, you may connect and speak with tourists from all over the world. Also, you can connect and speak in English with the locals and ask for assistance from them.

You can travel solo if you can communicate in and comprehend English. [4]

The English language Helps to Get a Job

English is necessary to land a decent job and earn more money. Several multinational firms and commercial organizations look for candidates with a solid working understanding of English. Even local job postings call for candidates who are fluent in English. Those who travel abroad for work must also be able to speak English. For a number of vocations, such as air hostess, pilot, travel guide, media manager, etc., English is a need. Inquire about: English is necessary in today's information superhighway environment in order to easily access any information , almost the internet and information technology are both in English. [3]

Conclusion

In summarizing the findings about the function, importance, and applicability of the English language in the contemporary world, it is important to note the following. You can obtain more useful information if you know a foreign language. The majority of Internet content, films, and music are created in English. Understanding the language will remove any distortion that may have been introduced during translation.

English-language illiteracy effectively isolates you from many modern-day civilizational achievements. Instead of thinking more broadly, you confine yourself to a relatively narrow information and linguistic dome. Once more, over 54% of the material on the internet is in English. An international language allows you to receive a quality education at a famous university, a dream profession and full-fledged communication with foreigners from any part of the earth.

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SUCCESSFUL TEACHING WAYS OF ENGLISH GRAMMAR FOR TEENAGERS

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English grammar is notorious among teenagers for being hard and boring. Drills and gap fills can bore everyone to death, Present Perfect is constantly confused with Past

Simple, and the difference between adverbs and adjectives seems vague, malicious irregular verbs leave no chance to be remembered. Familiar, isn't it?

Today's article will shed some light on the basic principles of teaching grammar in general and provide examples of activities especially useful in lessons with teachers who want elevate their teaching skills [1].

Present grammar with interesting instances:

If teachers teach students grammar rules with giving task from old books and learning by heart rules, they don't want to learn at all. However, if we want see excellent result, we must train students who can think critically and apply these grammatical skills in real life. Whatever we teach, setting up the context is important. Because, it is interesting and exciting.

We can present a grammar topic with the help of a personal story, an anecdote or a song, also a rap. For example, nowadays a lot of teenagers read comics and we can give rules of grammar and their examples in the comics. It will be more understandable and clear for them. Another example, Ron Clark teacher explained all the presidents of USA with singing rap about presidents. We should use his method in the grammar when we teach rules that teenagers must learn by heart.

Use games based on grammar topics. Games are very effective when we use in the first lesson. It attracts teenagers, so they are looking forward to your next lessons. We should use games with visual aids, reference schemes. It is one of the ways of mnemonics, so they will remember the grammar rules for a long time [2].

I have made a special game to stimulate the inner motivation of students; the name of the game is "Be imba in English grammar". During the game, students roll a dice, and according to the number of dice they find it on the poster, gaining points by answering a question. Imba is a slang word that is often used among teenagers. We call Imba who is the strongest, the most wonderful person. We train them to be winners by calling them Imba and offering a small prize, and prove that English grammar is simple and interesting. We can use this method in any part of the lesson, but it is a very effective method for reflection to guess how much information the children have understood from topic [3].

Teach teens to use grammar in real life:

It is necessary not only to teach students theory, but also to apply it in practice for real life. First of all, find the ways or facts when their interests and future professions should be closely related to the English language. Then, they admit that English is useful to them. As soon as we define the goal, we will teach teens how to perform practical tasks and exercises that help them improve their grammatical skills. For example, we will teach them to pronounce concepts and, most importantly, to use one of the complex grammatical skill "Reported speech" correctly. At the end of the method, we ask students to find mistakes in each other. Due to they are able to use collective learning or team work and the perception of critical opinions. That way we kill two birds with one stone, it is really useful and valuable [2].

Give rules and be demanding: In psychology, many teenagers like tough and demanding teachers in their educational activities, but at the same time fair, kind, educated teachers. Therefore, we establish rules and requirements for students, to create their further high-quality education and upbringing [4]. They think that they are smart winners or in slang dictionary "imba" if they get good grades with correctly doing the requirements in the task of a strict but fair teacher. Do not forget you need to be sure that teenagers are not afraid of you, but rather respect you.

Use N.S.Lysenkova's method in teaching:

Frequent use of the technology of prospective learning by N.S. Lysenkova in the process of teaching grammatical skills. The main purpose of this technology is to teach students for new material in 5-7 minutes with little time. As a result, students easily and quickly understand the grammatical topic that they will learn in the following lesson. First they find out about a new topic, and then they discuss, at the end of the method they do a lot of exercises on the reference schemes in the previous lessons [5]. Finally of this technology, students learn to work together as a team, listen carefully, actively participate in the lesson and fully understand the lesson without attending any additional classes.

The last principle is "Giving feedback to each other". Adult students most often understand the importance of feedback and reflection in the English lesson. They are ready to analyze their results and progress and share their opinions about what they liked or disliked in the lesson. But teenagers may have linguistic and psychological difficulties when they want to give feedback. If we ask students at the end of the lesson what they get from new material only verbally, they will answer that they understood the lesson in order to quickly go to recess. This means that the reflection is carried out incorrectly. Despite, we want students to provide only high-quality education? [5] So, at the end of the lesson, we often have to involve students through games and quizzes, and these games should correspond to the topic with special lesson material. Thus, we can observe how well they learned the theme of the lesson, which material was unclear; we can even make an assessment.

All in all, delivering grammar to teenage students is not always easy. However, contextualized, meaningful and creative instruction will bear fruitful and definitely be rewarding both for teacher and learners.

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TEACHING STUDENTS A FOREIGN LANGUAGE IN A PROFESSIONAL DIRECTION

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This article considers the structural features of the content of foreign language teaching in a professional direction. At the same time, the advantages and possibilities of professionally oriented foreign language teaching are discussed. Even now, the establishment of a foreign language in the educational system, the appearance of a professionally oriented foreign language teaching program in higher education institutions is one of the positive changes. The development of personal qualities of learners as professionals is of great importance in professionally oriented foreign language teaching [1].

In the message of Nursultan Abishuly Nazarbayev to the people of Kazakhstan: "Remember that the future of our independent country is in the hands of bright, educated, intelligent, young people who speak a foreign language together with their mother tongue, that is which is a modern requirement - who can speak English fluently, who can express their thoughts clearly and openly», - he said [2]. Today, many professions, such as international relations, computer networks, journalism, etc., provide a great opportunity for professional development of foreign relations. It is quite possible for any specialist to achieve great success with a complete mastery of a foreign language. That is why the need for a specialist with a complete command of a foreign language is increasing. The technology of teaching foreign languages is rapidly developing. It is very important for many students to improve their knowledge of a foreign language in addition to developing their majors at higher educational institutions. Therefore, in order to become a successful professional owner, mastering a foreign language is the main condition. Vocational-oriented foreign language teaching means teaching students a foreign language by connecting it with topics related to their profession, using foreign language relations, grammar, lexical and structure in speech contexts. That is, it is required to carefully select educational content in professionally oriented foreign language teaching. Training materials should be focused on topics related to providing them with opportunities for professional growth [3].

The main meaning of vocationally oriented foreign language teaching is the development of the student's professional development and the acquisition of additional professional education, the sharing of special subjects related to the foreign language and profession. In this regard, knowledge of a foreign language is considered for the purpose of personal professional development of students and improvement of their professional skills. Also, students' mastery of a foreign language creates a great opportunity for a graduate of a higher education institution to become a professionally qualified specialist who can carry out business relations with a foreign partner as a professional in the future [4].

The purpose of teaching foreign language to students studying in a non-linguistic specialty is to reach the level where they can fully use the language in practice in their future professional activities. Vocational training considers not only the professional orientation of the content of the educational material, but also professional activities that form professional qualifications. It is not enough for a modern graduate to simply read and translate professional texts, he needs to be able to use a foreign language in various communication environments [4].

Vocational training requires integration of foreign language and profile subjects, careful selection of the content of educational material. The educational material should be aimed at the latest achievements in the field of any profession, in turn, it should reflect the scientific innovations related to the professional interest of the students, and they should be such that they allow professional growth.

N.D.Galskova, who pays special attention to the language as a means of forming the professional direction of the future specialist, noted that a two-way connection is established between the student's desire to acquire special education and the success of language learning when reading professionally oriented language material. According to him, a foreign language is an effective tool for professional and social orientation at a technical university. N.D.Galskova defines a number of pedagogical conditions for the formation of the professional orientation of a future specialist:

- clearly formulating the goals of foreign language speaking activity;
- social and professional direction of this service;
- satisfaction of students when solving individual tasks;
- formation of students' creativity in solving individual tasks;
- favorable psychological climate in the educational team.

Currently, a number of higher education institutions are working in Kazakhstan on a professionally oriented foreign language teaching program. For example, it should be noted that the famous universities of the country are Nazarbayev University located in Astana, Süleyman Demirel University located in Almaty, SDU, Aktobe Regional State University named after K. Zhubanov located in Aktobe, the language of instruction is English. That is, all subjects are taught in English. Some subjects are taught by highly qualified foreign teachers. In addition, there are several universities that have not been mentioned [5]. Such positive changes taking place in such prestigious universities, transition to a professionally oriented foreign language teaching program in all universities of the country, now aims to meet the requirements of the times. Professionally oriented foreign language teaching is not to forget or put out of use our mother tongue, but to make the youth of an independent country developed, educated, creative, active, able to speak freely anywhere, able to work freely in foreign countries, independent, mature, highly qualified is the training of young people. It is also ensured that the mother tongue never goes out of use. That is, students learn as a result of two-way communication of the language.

A three-stage module formation model is needed in the context of the development of a person's language ability in higher economic educational institutions.

It is necessary to create this model by using professional-oriented educational materials [5].

The formation of this three-stage model includes:

1. General foreign language teaching (Pre-Intermediate level);
2. Professionally oriented foreign language training 2nd course (Intermediate level - Language for Specific Purposes);
3. specialized professional-oriented preparation course in 3-4 courses (Upper-Intermediate and Advanced levels - Language for Academic Purposes)

When teaching a foreign language, a student should know the following types of study:

1. study the text according to the specialty in order to obtain detailed information and convey its content through a written translation into the native language;
2. reading while familiarizing - it is illustrated by the ability to understand 70% of the main information by following the direction of the author's argument and the development of the topic;
3. in order to get acquainted with the content of the general text and on the basis of the selected information, the skill of describing the text is to read the text (review) at a glance;
4. comprehensive research study - a type of study that requires searching for certain information from other sources of information.

Also, the main requirements for the student:

• being able to fully understand the author's point of view, idea, and express his opinion on that topic;

• the author's ability to draw a conclusion about the effectiveness or ineffectiveness of the proposed solution;

• comparison of other data obtained on the same subject;

• able to draw conclusions based on information obtained from different data while performing the same task in another situation.

It is very important to use the language effectively and to know different parts of the language (grammar, vocabulary, etc.) in conversation, as well as their meaning and functional use, i.e., in which situations to use them correctly in speech communication. Grammatical knowledge provides professional communication in written and oral communication without distorting the meaning of sentences. One of the main tasks of teaching a foreign language in non-linguistic organizations is to teach understanding of a foreign language. Teaching of reading texts in professionally oriented foreign language teaching is mainly characterized by the thematic program of texts by students' specialty, as well as by the expansion of the scope of the use of information obtained by students in the course of studying their specialty. Learning to read a text is not only to speak a foreign language, but most importantly, to understand, evaluate, and use the received information. To get a successful result, it is necessary to teach students to systematically supplement their vocabulary, to understand the rules of formation of temporary forms and their meanings, to translate specialized dictionaries and texts, and to develop the skill of fluent vocabulary [5].

Strategic cooperation with foreign partners of current Kazakh higher education institutions is developing on the basis of government support. In this regard, the scientific paradigm of Kazakhstan education is also changing in the context of the growing globalization of the socio-economic and cultural-political life of the world community. Today, the competence orientation of the educational process aimed at forming complex skills, skills and knowledge that is used in practice is becoming more relevant. The need for the harmonious development of the personality of the modern society places new demands on the educational system. The task of modern education is to educate citizens who are able to "discover" the blue edge of knowledge on their own, to provide quick orientation in the flow of information that can find the right decision in a choice situation. The implementation of this task requires a qualitative new approach to the training of university students, - believes P.J.Zhumabaeva.

In conclusion, language has a great place in human life. Knowing one language opens many doors of opportunity in your life. Not to mention the need of the times, there is no advantage in knowing the language for the future of our country's development. Professionally oriented foreign language teaching aims at this direction of development. Therefore, we need to be able to see the benefits and possibilities of changes made for development and prosperity.

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CLIL TECHNOLOGY IN HIGHER EDUCATION

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Abstract: Nowadays, some schools of our republic try to integrate curricula subjects. That means that students use not only their acquired knowledge but also their skills across curricula. Thus, speaking of foreign language tuition, students use English medium to study subjects such as geography, history or mathematics that were originally taught in the native language, in this case in Czech. This type of learning is exploited in the so-called Content and Language Integrated Learning (CLIL), which involves teaching a curricular subject through the medium of a foreign language. The purpose of this paper is therefore to discuss CLIL, its benefits, constraints and tips for teaching.

Keywords: CLIL, foreign languages, teaching, benefits, constraints.

CLIL is an educational approach that integrates language learning and disciplinary content learning. The term CLIL was coined by European language experts and educators within the European educational setting in the 1990s [6] the period when multilingualism and language education became a crucial issue in the European context [6]. In the early 1990s, the CLIL approach was known to solely a small group of European language experts and language teaching practitioners, who were involved in the bi-plurilingual education provision prompted by the European Commission [3] This movement in bi-multilingual education was not unique to the European educational context. For the last three decades, the research studies that have been carried on bilingualism using content-based language instruction in the North American context and the research on CLIL practices in diverse educational contexts have indicated that integrating content and language teaching not only helps the acquisition of linguistic and academic competencies, but it also has various cognitive and motivational benefits. Abbreviation "Subject-language Integrated Learning" (Content and Language Integrated Learning (CLIL)) It has become the most widely used term describing the study of subjects such as geography, mathematics or biology through a foreign language and the study of a foreign language through the study of a subject.

Experience in integration a language with a non-linguistic subject has been practiced in the educational space of European countries for about three decades. Although the term "Subject-language integrated learning" (Content and Language Integrated Learning (CLIL)) it was first officially used in 1994, history the integration of the subject and language goes back 5,000 years ago, when the Akkadians after the conquest The Sumerians began to learn the local Sumerian language, using them as a teaching tool [4]. Attempts to teach and teach in an additional language in order to increase language competence have been made in various ways around the world and at all times. For example, immersion programs developed by the Government of Canada for the English-speaking population of the country and the opening of international schools in Mexico 1973, as well as bilingual programs in the USA in 1979. Coyle, Hood and Marsh emphasize that bilingual education and immersion in the language environment, characteristic for specific regions; language teaching based on the content of the subject; teaching or teaching English as an additional language, ultimately led to the emergence of pre-met-language integrated learning [2].

Obviously, the need for a system of bilingual schools and integrated learning models was mainly in regions where there is a great diversity in languages and national identity, the need for language competencies for authentic communication and mutual understanding between people.

The European Commission and the Council of Europe were instrumental in the inception of CLIL [2]. CLIL was not originally intended as a content and language teaching approach. Rather, the original aim was the development of an “innovative foreign language teaching method” which could (a) respond to changing demands and needs in language learning, (b) promote plurilingualism and (c) create synergy for the economic development of a plurilingual Europe. This search for a foreign language teaching method that would increase exposure to AL instruction and diversify the linguistic landscape in the European educational context was also inspired by the success of bilingual immersion programs in Canada and the results of research on content-supported bilingualism. Consistent with research on immersion and other models of additive bilingual education, CLIL has been shown to have numerous linguistic, academic, and social beneficial outcomes. Not surprisingly, CLIL students have been found to be typically more engaged than students in regular second language programs, due to the authenticity of the content that drives the learning experience [3]. Likewise, CLIL students do better on tests of second language competence compared to students in regular second language programs [6].

However, students in CLIL and similar additive bilingual programs also typically do as well, if not better, on tests of their first language skills (e.g. English language/literacy), compared to students learning their first language in a monolingual program [9]. This is consistent with research on the supportive interrelationship between first and second language development [2].

Finally, CLIL students have also been shown to demonstrate higher levels of intercultural competence and sensitivity, including more positive attitudes towards other cultures [8]. As elaborated within the *National Statement and Plan For Languages Education in Australian Schools 2005–2008* [10], intercultural competence makes an important contribution to students’ overall educational experiences, including skills to better understand oneself and others, and to appreciate and use ‘diverse ways of knowing, being, and doing’: ‘Such capabilities assist learners to live and work successfully as linguistically and culturally aware citizens of the world [7] offers an explanation for why CLIL tends to produce so many positive outcomes for learning.

The key reasons include:

1. Learners benefit from higher quality teaching and from input that is meaningful and understandable.
2. CLIL may strengthen learners' ability to process input, which prepares them for higher-level thinking skills, and enhances cognitive development.
3. In CLIL, literacy development takes place in the first language, which is cognitively beneficial for the child. Later, literacy skills will transfer to the additional languages.
4. In CLIL the learners' affective filter may be lower than in other situations, for learning takes place in a relatively anxiety-free environment.
5. Learners' motivation to learn content through the foreign language may foster and sustain motivation towards learning the foreign language itself.

One of the challenges that CLIL teachers face is setting up a planning procedure. They have to find a balance between what needs to be taught (national curriculum) and what can be taught in a foreign language. Both content and language should be put into appropriate time frames and teaching tools should produce effective outcomes. They usually have to decide how much of the CLIL methodology they can implement in their teaching environment. The techniques they use comprise e.g.: problem solving, analyzing, decision-making and they mainly aim at developing critical thinking and key competences. As CLIL is implemented in a variety of ways depending on a school and even a certain class

within one school, teachers are responsible for choosing the right teaching materials. They either adopt materials available on the market or the Internet, or prepare teaching aids themselves. Another challenge is connected with assessment of teaching and learning. As teachers advocate, they evaluate their own teaching and also encourage students to self-reflect using a variety of tools (quizzes, strategy games, mini-projects, etc.). Because CLIL teaching is very complex, CLIL teachers try to cooperate with others (either subject or language teachers), share good practice and support each other.

As everything in life, CLIL has advantages, but also challenges that cannot be ignored, since being aware of them contributes to teachers being better able to deal with CLIL and, consequently, to a more successful learning process. If we look at all the five challenges described above, it is possible to notice that the planning process of a CLIL lesson has to be more careful and is potentially more time-consuming than a regular English-as-a-foreign-language lesson. After all, there are more variables and more content to be taken into account [1].

Ellis [8] states that content based language learning are premised on the supposition that learners would well learn language which engages them in learning content matter. In a language point of view, the CLIL approach provides lots of opportunities to the teacher to implement in the classroom. The teachers should pay more attention to few things while conducting the classroom activities. The activities should be interesting and it must include additional information. In that the learners must involve very enthusiastically. It develops learners' self-confidence and motivation which provides a pleasant atmosphere to the classroom. However, the subject teachers may find it unethical, not up to the mark to use this approach in the classroom to teach both content and target language [9].

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THE INTEGRATION TRAJECTORY OF THE DESCENDANTS OF FORCED KAZAKH MIGRANTS INTO THE WESTERN EUROPEAN SOCIETY (“CASE STUDY”: GERMANY, FRANCE)” (SINCE 1920-30S)

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Abstract: The article refers to the stages of the migration way of Kazakhs. Various theories of migration are considered as the status of migrant changes. The milestones of the history of the Kazakh people, the causes of mass migration of ethnicity, which led to global migrations of the people, are displayed. Mass migration of the last century was forced by policy which was proposed by Soviet government. Considering the way of surviving for forced migrants is also the matter of the research.

Keywords: Kazakh people, theories if migration, forced migrants, refugee, labour migration.

When we study the various incidences of immigration that took place in the past, we see that it is impossible to collect them under the same category. It is imported to note that the stages of immigration at different times for the entire Kazakh people were different. The migration statuses differed as people, as there were violent and voluntary reasons. In this regard, we consider the trajectory for the entire migration process, from 1930 to nowadays, the importance and the role of integration for surviving and being successful of Kazakh migrants' descendants. Integration, we can say, incorporation into the European society, which was completely alien\different in social type that is the issue to be researched.

The collectivism policy of Soviet governance, led several nations, especially Kazakhs, to the "intentional" woe. Consequently, poverty-stricken Kazakhs had to move to the neighbouring countries, such as China, Mongolia, and further to Afghanistan, Iran and Turkey. The facts about famine of 1920-1933 were published only in foreign press. For instance, Robert Conquest, a British historian, mentions in his work of "The harvest of sorrow: Soviet collectivisation and the terror-famine" that the loss of Kazakhs were about 4 millions [1].

Outcomers of Kazakhs in the early 1930s. outside the country can be considered as refugees and ethnic migration at the same time. Nomadism, being a manifestation of border migration, during the period of famine acquired the features of forced emigration. A significant part of the ethnic group was involved in migration. The specifics of this ethnic migration were determined by the fact that representatives of a traditional society with a developed ancestral structure migrated. The outflows were caused by a humanitarian disaster, the causes of which are rooted not only in crop failure, but also in the current policy in the agricultural sector related to the resettlement and co-operation of peasant farms [2].

Throughout its history, the Kazakh diaspora had a violent or forced character of migrations, due to political and religious reasons. Since the 1960s, the labour migration to the countries of Western Europe, America and the Persian Gulf began to develop, which did not radically change the violent nature of migrations, but in contrast, it was more as a consequence of economic reasons. In addition, until the early 1960s migrations of Kazakh people to other countries were featured by mass character, and in the modern period, individual movements with the practice of calling their families to the recipient country are more characterized.

According to statistics data, Germany has the largest Kazakh diaspora in Europe - 3 thousand people, this is about 250 families. In France, according to approximate estimates, from 2 to 3 thousand Kazakhs live. Most ethnic Kazakhs in Germany and France are the third generation of Kazakhs who came to Europe from Turkey as labour migrants more than 100 years ago. One of the major migratory flows of the last century was the Turkey-Western Europe corridor, which opened up favorable conditions for labour migration of Turkish citizens, including ethnic Kazakhs who had previously migrated to the Republic of Turkey from China through India and Pakistan.

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that the stages of immigration at different times for the entire Kazakh people were different and migration statuses differed as they moved due to their violent and voluntary reasons. In this regard, we consider the trajectory of the entire migration process, from 1920 to nowadays descendants of those forced Kazakh migrants and their integration into the European society, which was completely alien\different in social type.

Migration moves and shapes societies to a much greater extent than politicians and researchers concerned with those societies would like to believe. Social realities have long outstripped attempts to order and control them by means of internal national and external European borders.

In order to successfully predict the flows of forced relocation, identify the causes of such migration and choose the necessary measures to support forced migrants, it is necessary to understand the causes of this type of migration. By forced migration, we will mean a set of territorial movements that are associated with a permanent or temporary change in the place of residence of people for reasons beyond their control, as a rule, against their wishes (natural disasters, environmental disasters, military operations, violation of the fundamental rights and freedoms of citizens) [3]. Due to a sharp drop in the standard of living, the existence of a threat to human life and health. To understand the causes of migration, many sociological theories have been created that explain this phenomenon. Consider them in the context of forced migration, based on the typology proposed by S. Blatner and E. Nagaitseva [4]. According to the proposed typology, all sociological concepts involved in the study of the causes of migration can be divided into three groups: structural, interpretative, unifying.

Structural paradigms consider organizational-functional, systemic, social aspects of social life, society as integrity, its elements. Migration in the light of these paradigms affects social transformations that are long-lasting, occurring in human communities, and thus perform sustained socially significant functions or, according to E. Durkheim, cause dysfunctional states [5]. Forced migration, in our opinion, is a consequence (the anomia of the division of labour resulting in individuals having to leave their place of residence) and the cause (at the place of arrival) of such conditions [5]. Structural paradigms include the positivist approach, the theory of human ecology, etc.

From the point of view of a positivist approach the study of migration is necessary to identify objective patterns of the phenomenon for the subsequent assessment of 746 consequences for society migration behavior within the framework of this approach is the result of individual choice which is influenced by a number of factors geographical economic environmental where economic factors play a leading role the positivist approach is based on classical economic theories thus the representative of this approach M. Todaro [6] called the main reason for migration the desire of a person to improve his economic situation citing the example of urbanization the villagers who did not find work due to great competition were forced to migrate to cities among other reasons political instability the desire to change the socio-cultural environment were mentioned an example of economic determinism in migration is the neoclassical economic macro-level theory according to her the reason for the appearance of migrants is the difference in the level of economic development of geographical regions refugees leave areas characterized by labour redundancy and go to areas with fewer labour resources in this case refugees can be considered people who leave their place of residence not for the sake of increasing monetary income but because of the inability to get the minimum necessary amount to save life this is their difference from labor migrants.

Migration problems were studied by the theory of social ecology proposed by R. Park [7]. This theory had a great influence in the until the 1970s. XX century in American sociology, but then its importance decreased. Migration, according to this theory there is a social adaptation to changes within the organization of the population, as well as (or) in the external surroundings, the causes of migration can be found only by comparing the characteristics of different places in the resettlement system. The theories of the interpretive group focus on the study and interpretation of human behavior, motivation in personality activity. Such theories include the theory of social action of M. Weber [8]. According to this approach, migration is the result of urbanization, which forced some people to leave their former places of residence and migrate to the city.

Unifying (dialectical) theories. According to this type of theory, social reality is analyzed as an inextricable connection of objective and subjective, structural and dynamic, social and personality-individual. An example from a group of such theories is the theory of the migration system of networks. The meaning of the theory is as follows: individuals with social capital a connection with migrants (who were such in the past or are currently) have access to social capital, which significantly increases the likelihood that they themselves will become migrants [9]. In accordance with it, networks are sets of connections: family, friendly, between migrants (in our case refugees) in the recipient country and potential refugee migrants in the donor country. Migration, according to this theory, once started, tends to increase the flow of migrants, which continues as long as there are social ties and everyone has not migrated [10].

It is worth noting that, in our opinion, the theory of Everett S. Lee deserves special attention. The peculiarity of his theory is that, in our opinion, the factors identified by him can combine, include a set of the above-described theories, which most widely assess the causes that push the individual to migrate. In his article “The Theory of Migration” [11; 50] he, identifies a number of factors contributing to migration. These include, first, factors related to the territory of origin of the migrant; secondly, the factors related to the territory the purpose of the migrant; thirdly, factors that contribute to overcoming migration barriers; fourth, personal factors. In this case, the migration mechanism works as follows: an individual, or group, having a set of certain factors that affect them in their place of residence 748, and who do not suit them, seek to enter another territory where such factors are absent, as well as there are no barriers to reaching this territory, or the migrant is confident that he can overcome them. This migration theory was also called the “push-pull theory”. Extrapolating the theory of Evvert S. Lee [12] on the situation of forced migration, examples of the "push" to such migration may be injustice, the danger of becoming a victim of violence, a difficult economic situation. In this case, the "attraction" for a certain territory is the fact that there is no situation similar to that in the territory of origin. An important role in choosing a target territory is played by a third group of factors the existence (or absence) of certain obstacles. These may be the physical remoteness of the intended target territory, the existence of legal barriers to entry and the recognition of the individual as a refugee.

Summing up, we repeat that existing sociological concepts can be divided into three groups. The first group is structural paradigms. According to them, migration affects social transformations that are long-lasting, occurring in communities of people, and thus perform sustainable socially significant functions or cause dysfunctional conditions. Sociological theories related to the interpretive group when studying the causes of forced migration focus on the study and interpretation of human behavior, motivation in personality activity. From the point of view of unifying theories, the causes of migration should be sought in social reality, which is an inextricable connection of objective and subjective, structural and dynamic, social and individual[13]. In this concern, we observe the increasing importance of population movement as the demographic development of the world, the sharp decline in the population and the trends in its demographic ageing, that is why the scientific and practical need to study migration as a global social phenomenon is growing, using the enormous potential of sociological sciences.

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PERSPECTIVES OF TPR METHODS IN LEARNING ENGLISH BY PRESCHOOL CHILDREN

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Learning English from a young age is becoming increasingly important in our globalized world. Learning a foreign language early is an ideal way to develop children's cognitive, linguistic, and social skills. However, teaching a foreign language to young learners requires unique methods and techniques appropriate for their age and cognitive abilities. To effectively teach English to children, language teachers need to understand the principles of language acquisition and apply them in ways that keep children engaged and motivated. They also need to have specific characteristics, such as patience, enthusiasm, creativity, and a love for working with children. Moreover, teaching English to children requires social and psychological preparation, as teachers need to create a supportive and safe learning environment that meets young learners' emotional and physical needs. In addition, teachers play various roles in the classroom, such as a facilitator, models, and organizers, to help children acquire English naturally and effectively.

One of the effective methods for teaching English to young learners is Total Physical Response (TPR) [1], which emphasizes the coordination of speech and action to teach language through activities that appeal to children's innate playfulness and imitation skills.

Total Physical Response (TPR) is one of the most playful and enjoyable methods for teaching a foreign language to young children. The aim of this study is to provide an overview of TPR and its benefits for young learners and to introduce some sample activities for teaching a foreign language to young children.

Introduction

What is TPR?

Developed by James Asher in the 1960s in US TPR is a language teaching method. The method is based on the idea that language learning is most effective when learners are engaged in physical activity and can respond to the language input in a natural way

[2]. The method is built around the coordination of speech and action, which enables learners to understand and use language in a meaningful and enjoyable way.

In TPR, the teacher provides input through commands accompanied by physical actions. For example, the teacher may say, "Stand up!" and then demonstrate standing up. The students then respond to the command by acting. Through this process, learners develop their listening comprehension skills and learn new vocabulary and grammar structures in a natural and fun way.

What is TPR in a kindergarten classroom?

Young learners have a vast amount of energy; they need to move, jump, and they can not sit still. They also have shorter attention spans than adults. Children love to play and are more interested in the physical and tangible [3]. Their understanding of the world comes through hands, eyes, and ears, and their physical world is always dominant.

TPR activities also cater to different learning styles. Kinesthetic learners, who learn best through physical movement and activity, benefit significantly from TPR activities. Visual learners, who take visual cues from seeing actions associated with instructions, can also benefit from TPR activities. Finally, auditory learners can benefit from TPR activities when followed by songs that incorporate words and rhythms associated with movement [4].

Why TPR for young learners?

TPR has many benefits for young learners.

First, it is a highly engaging and enjoyable method, which motivates children to participate actively in the learning process. The use of physical actions and movement helps children to learn naturally and intuitively and reduces the pressure and anxiety associated with traditional language learning methods.

Second, TPR allows children to develop their listening comprehension skills, which is essential for language learning. Through the use of commands and physical actions, children learn to listen and respond to language input in a natural and meaningful way [5].

Third, TPR enables children to develop their vocabulary and grammar skills in a fun and interactive way. Children can understand and remember new words and structures more easily by associating language input with physical actions.

Fourth, TPR promotes the development of cognitive, social, and motor skills. By engaging in physical activities and responding to language input, children develop their coordination, memory, and concentration skills, as well as their social skills, such as teamwork and cooperation.

Method

The current study aims to show that the TPR method is beneficial in teaching young learners the English language the way they learn their native language.

The study uses an observation-type research design to answer the following research questions:

1. What are the main advantages of the TPR method?

2. How do young learners react to new methods with multiple repetitions, and active games with a teacher?

Participants

The study was conducted in local private kindergarten involving 15 preschool students aged 5 to 7. Children had different backgrounds in the English language. The observation took three lessons during a week and lasted 50 minutes each.

Data Collection

The data for the study is collected via observation. A preschool group of children actively participated in a lesson where simple lessons and games based on the TPR method were taught.

Instruments:

Sample TPR activities for young learners

These TPR activities were used during observation lessons at kindergarten[6], and children loved them.

Simon Says

This classic game is a great way to introduce TPR to young learners. The commands were given, such as "Simon says touch your nose" or "Simon says jump up and down," and the students responded by performing the actions. The game can be adapted to different levels and languages and can be used to teach vocabulary and grammar structures.

Simple and repetitive nursery rhymes

Nursery rhymes such as the ***"Body parts"*** song were a fun and interactive way to teach children the names of body parts. The teacher sings the song, and the students follow along by pointing to the different body parts. The song can be adapted to different languages and can be used to teach other vocabulary.

The next popular song worldwide was ***"If you happy and you know it,"*** which can teach children about different emotions and be shown using mimics, gestures, and simple instructions.

Most of the children were familiar with the ***"Wheels on the Bus"*** song, and they repeated and followed it quickly, even though they could not pronounce some words.

Storytelling with Props

This activity involves telling a story using physical instruments (toy vegetables, different tangible objects and etc) and physical actions. The teacher tells a story, and the students respond to the language input by performing the actions and interacting with the props. This activity is a great way to teach vocabulary and grammar structures in a fun and memorable way.

Results

- They are highly motivated and energetic
- They can quickly get bored; each new lesson should be no more than 8-10 mins
- They love to sing a song, dance, and active games
- They are easily frustrated if corrected immediately
- They are ready to imitate and participate

- They love group work
- They need to be praised more
- They quickly learn from their environments
- They are great competitors

Conclusion

TPR is an effective and enjoyable method for teaching a foreign language to young children. By using physical actions and movement, TPR enables children to learn naturally and intuitively and develop their listening comprehension, vocabulary, and grammar skills. TPR also promotes the development of cognitive, social, and motor skills.

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FORMATION OF REFLEXIVE SKILLS IN THE PROCESS OF LEARNING FOREIGN LANGUAGES

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This work discusses the use of reflection (self-evaluation, self-analysis) as a tool in foreign language learning and the development of reflective skills in students. The following aspects are also considered in the paper:

- Advantages and disadvantages of reflection in language classes
- The role of teachers in this process
- Levels of student engagement

Reflection is the ability of a person to reflect on themselves, analyzing and evaluating their actions and behaviours, and looking at themselves from an outsider's perspective[1].

The term "reflexio" in Late Latin means turning back, that is, returning to recent events for the purpose of self-analysis.

During the learning process, students develop and realize themselves, analyze their academic successes and failures, understand themselves and their environment, and strive for self-improvement. Reflection is present in academic activities, as well as in any other activities. Reflection is reflected in the subject's ability to constantly improve themselves, relying on mechanisms of self-analysis and self-regulation.

It is known that a person receives two types of experience in their life: external and internal. Physical sensory organs are used to obtain external experience, while internal experience is a deep work based on human reflective activity. Reflection serves as the source of internal experience, which is necessary for self-knowledge. By reflecting on their activities, a person evaluates them, that is, produces self-evaluation. Only through self-evaluation can a student generalize the knowledge they have acquired, set goals for further work, and determine their educational path.

Reflection implies an examination of already completed activities for the purpose of recording their results and increasing their effectiveness in the future. Based on the results of reflection, one can not only contemplate future activities but also build its realistic structural basis, directly stemming from the peculiarities of the previous activity.

Thus, the relevance of the chosen topic lies in its importance and significance in light of new requirements of the federal educational standard, as well as in the need to increase the effectiveness of classes and form a reflective position in students.

The research objective is to identify the specifics of the reflective stage of an English language lesson, develop and test effective methods and types of reflection in foreign language lessons.

The object of the study is the process of learning a foreign language.

The subject of the study is the reflection of learners in foreign language lessons.

The research hypothesis is that the reflective stage of the structure of a foreign language lesson will be effective if effective methods and types of reflection are used.

To achieve the research objective, the following tasks were identified:

- To examine the concept of "reflection" and study its types.
- To identify the structure of a modern English language lesson.
- To determine the peculiarities of reflection in foreign language lessons.
- To provide a characterization of the methods of reflection.
- To conduct experimental work on the use of methods and types of reflection in foreign language lessons and analyze the results obtained.

The research is based on a systemic activity and personality-oriented approach. The theoretical framework of the research is based on the works of A. V. Karpov, I. N. Semenov, S. Yu. Stepanova, and N. I. Gutkina.

The following research methods were used:

- Analysis of literature on the topic of research.
- Generalisation.
- Random sampling method.
- Observation.
- Experimental method.
- Survey.
- Testing.
- Methods of mathematical data processing.

The practical significance of this work lies in the possibility of applying the research materials in the preparation for lessons both for students during their academic practice and for the professional activity of teachers.

The research work consists of an introduction, two chapters, a conclusion, a list of references, and appendices.

There are numerous modern methods and approaches aimed at the most effective learning of the English language in order to motivate and develop a child's ability to form skills and desires for learning. The use of this method will have a positive effect on building a trusting relationship between the student and the teacher. Skilful and rational application of reflective methods can become a tool for the teacher to actualize their personal development.

Through reflective actions, students consciously set goals for their activities and behaviour, build programs for their implementation, reflect on their needs in the system of accepted values, transform externally set tasks into personally significant ones, and predict the consequences of their actions and decisions. A high level of self-esteem development is related to the student's ability to justify it and actualize the means used to ensure it.

As proposed by Oscarson[3], another area that appears to require work in this direction is teacher preparation. The following statement aims to encourage teachers who want to integrate reflection into their practice to develop self-assessment forms, rubrics, and instructions in their native language to assist students with low levels of foreign language proficiency in their understanding. For more advanced students, it may not be necessary to translate the self-assessment instructions into their native language. However, students with low language proficiency require all the help they can get to ensure continuous reflection in learning a new language. According to Blanc and Merino[2], teachers need to try to rephrase, restructure, and add to self-assessment instructions to reflect all aspects of language learning. The authors strongly recommend that educators and researchers take into account the conditions under which reflection is most likely to be successful. Ross[4] recommended the following:

- Identify the criteria by which students evaluate their work,
- Teach students how to apply the criteria,
- Provide students with feedback on their self-assessment,
- Help students use reflection to improve their performance.

The authors also recommend two additional conditions:

- Provide sufficient time for checking after self-assessment,
- Do not turn reflection into a lesson evaluation, counting it as a final grade.

Practice shows that students who have mastered the reflection method tend to be more active in class than those who do not conduct self-analysis during/after the lesson. This work was aimed not at improving the academic performance of students but at the quality of the knowledge obtained. The main goal of the research was to determine effective methods and types of reflection application in foreign language lessons, as well as to consider the overall value of the concept of "reflection", build a structure of the modern English language using reflective skills, and analyze the results obtained. During the experiment, it was revealed that the hypothesis set at the very beginning of the research was confirmed.

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PROBLEMS OF THE MODERN TEENAGERS

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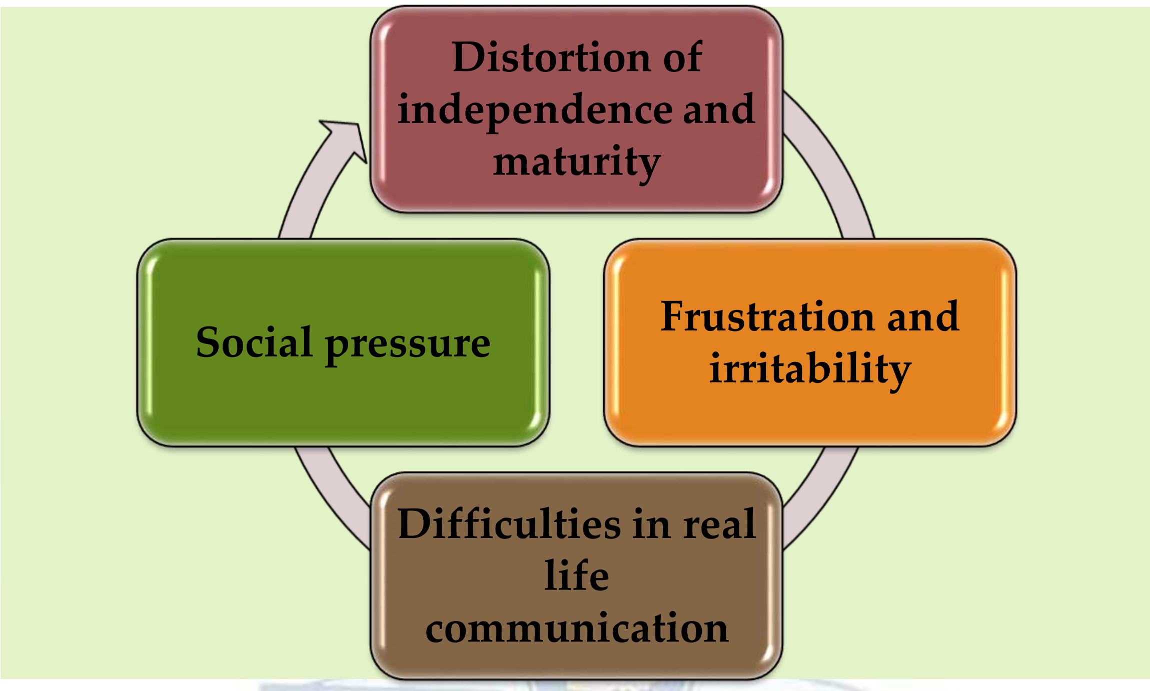
Adolescence is a time when young people go through many changes physically, emotionally and socially. The modern world, full of challenges and new technologies, can have a profound effect on adolescents, exacerbating existing problems such as mental health problems, violence, substance abuse and social isolation. In this article, we’ll take a look at some of the most common issues teenagers face in today’s society. Table 1.



Social pressure

Often parents experience it first hand through their own children and expect their children to achieve everything they wanted, but did not receive. The expectation that teenagers will get good grades, have good friends, excel in extracurricular activities, behave well and responsibly is a lot of pressure. Added to this is peer pressure. To be accepted and "popular" among peers, teenagers feel the need to conform to certain tastes, behavior and appearance. The pressure builds as everyone around the teenager tries to give him or her a different look. Parents, teachers, older siblings, friends, classmates, and social groups all play a role in pulling a teenager in different directions. Parents should remember not to raise their voice or push their teenager away. No need to respond with retaliatory attacks. This will only increase the level of confrontation. It is preferable to discuss the problem after the tension subsides and everyone calms down. Parents should explain to a teenager that disobedience can hurt, anger and even ruin relationships with loved ones. A teenager may briefly resolve negative feelings, but this will not improve the situation. It will only perpetuate the conflict. The reason for this behavior lies in the rapid physiological changes and hormonal impulses. The nervous system is not yet ready for such outbreaks and needs time to adapt to the new functions of the teenage body. Another reason for this behavior is insufficient preparation for independence. These duties make the teenager fearful, nervous and rude.[1,7]

Distortion of independence and maturity

Adolescence usually begins with the adolescent declaring that he is already an adult and can make his own decisions. This includes lessons that they may or may not be able to do, going out with friends late at night, shopping without parental consent, and so on. The insistence of an adult to provide all material resources, not to mention food in the refrigerator, and bear his expenses in the same way, does not work for the child. They grow up, realize this and naively believe that they are independent. The reason is that a teenager, having barely become an adult, has no life experience at all. The problem with today's youth is that they consume a huge amount of "adult-oriented" information in an unregulated manner. None of this information can be properly analyzed and evaluated without the help of experienced mentors. Today, no one asks a mother the question: "What is good for you." Today there is no need to address the father or mother. The answers to these questions can be found on the World Wide Web.

What to do: Parents should give their children absolute freedom and not let everything take its course. Children can learn from their mistakes, but it is better to warn them in time.[2,6]

Frustration and irritability

Excessive irritability is a common occurrence in adolescence. This causes many conflicts with parents, friends and family. Any prohibitions and omissions of parents are taken to heart. A teenager in an aggressive state behaves quite abruptly, speaks rudely and even throws things at the wall. Why is this happening. The cause is sudden physiological changes and hormonal impulses. The nervous system is not yet ready for such outbreaks and it needs time to adapt to the new functions of the teenage body. Insufficient preparation for independence is another reason for this behavior. Parents should remember not to raise their voice or push the child away. You should also not respond aggressively.

This will only increase the level of confrontation. It is preferable to discuss the problem after when the tension subsides and everyone calms down. Parents should explain to a teenager that disobedience can hurt and offend loved ones and ruin relationships. The teenager may resolve negative feelings for a short time, but this will not improve the situation. It only perpetuates the conflict. Weakness, withdrawal, depression. Adolescents with low self-esteem feelings of worthlessness and meaninglessness, weak nerves often face this problem of socialization. They do not have friends at school or outside of it, they do not keep in touch with parents and adults, they give up old hobbies and interests, they have problems with communication. They often stop taking care of themselves, such as hygiene, combing your hair, eating and sleeping on time, etc. In today's society, these teenagers are increasingly using the Internet. They anonymously communicate with their peers, play online games and disappear in front of the computer all day long.[3,5]

Difficulties in real life communication

Parents around the world are concerned about today's teenagers' addiction to social networks. Research shows that today's kids and teens are finding it increasingly difficult to meet and connect in real life. Virtual communication is completely addictive and seems more attractive than real life.

In itself, virtual communication is a wonderful thing. You can meet friends from all over the world, practice foreign languages and make friends in other cities. However, simple communication in the messenger is not enough for the successful socialization of a teenager. They need to be able to communicate in real life in order to integrate into society and build a successful career in the future.[5]

In general, adolescence this is a challenging time for young people and their families who face many challenges and challenges in today's society. However, it is important to remember that there are many resources and tools available to help teens overcome these difficulties, including counseling, educational programs, and social support. With the right approach and support, we can help young people overcome adolescence and become successful, healthy and happy adults.

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UDC: 801.73

MODERN TRANSLATIONS

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Translation has been a crucial aspect of human communication since the dawn of civilization. Today it has become even more important, when people and businesses from all over the world need to communicate with each other. Modern translation has evolved to become faster, more accurate and efficient, thanks to the latest technological advancements.

One of the biggest developments in modern translation is machine translation. Machine translation involves the use of computers to translate text from one language to another, using algorithms and statistical models. Machine translation has come a long way since the early days of translation software, which produced clumsy, inaccurate translations that were barely comprehensible. Today's machine translation software is much more sophisticated and can produce translations that are almost as good as those produced by human translators.

However, machine translation is not perfect. While modern machine translation tools are more accurate than ever before, they still struggle with nuances and context, particularly when it comes to idiomatic expressions, cultural references, and slang. As a result, machine translation is often used in conjunction with human translation to ensure accuracy and quality. And also in translation we can meet cultural differences, idiomatic expressions and language ambiguity. The main parts that are hard to interpretate in machine translation.

For instance, the study of authorial voice "Spanish–English corpus to explore linguistic transference" focusses on the exploration of the authorial voice (namely, the sequence 'exclusive we+verb') by Spanish Business Management scholars in English. The article analyses a part of the Spanish–English Research Article Corpus (SERAC) . It contains research articles in English by Anglophone writers, and in Spanish and English by Spanish writers, and was built specifically as a tool for cross-cultural research, with the aim of identifying areas of transference between the author's native cultural and linguistic background and the international one, which expresses itself in English. Results show divergences in the frequency and distribution of the sequence under investigation, both in terms of function and tense (including the association with modal verbs), which reveal the existence of pragmatic and cultural factors that may hinder the projection of a firm, confident authorial voice by Spanish academics in an increasingly competitive academic environment [3]

The purpose of the research is to explore the sequence 'exclusive we+verb', with the aim of identifying those linguistic areas which might reveal that a certain degree of transference has taken place between the author's native cultural and linguistic background, and the genre of writing for international journals, which uses English as its vehicle of communication. Spanish academics publishing in English seem to be facing the challenge of projecting a firm, confident self: this ensures their 'visibility' in an increasingly competitive academic world in which English is used as a lingua franca. Moreover, even if the linguistic and cultural context in which the scholar belongs seems to be influential in explaining differences between Spanish academics and their Anglophone peers, the discipline in which the scholar works may also cast some light at the time of gathering observations and drawing reliable conclusions which allow the identification of the most common and frequent challenges for Spanish scholars contributing to the construction of scientific knowledge.

The focus of the next study was to discuss translation ambiguity in Mandarin-English bilinguals, ambiguous words for translations that differ in orthography. In the first experiment Chinese English bilinguals translated concrete and abstract words that differed in the number of translations across languages. In experiment 2, emotion words were introduced into the context, in order to examine differences in emotion translation across languages. The results revealed that words with a single translation were produced faster and more accurately than words that had multiple translations. Finally, translation of emotional stimuli was faster when translating Chinese words as compared to English words [1]

Chinese was selected as much of the original research conducted on translation ambiguity focused on languages that share a script (e.g., Spanish, Dutch, German, etc.), yet an understanding of how ambiguity affects translation when orthography changes is essential for fully understanding cross-language processing. This cognitively demanding task has the ability to measure both comprehension and production processes as bilinguals are required to recognize a word in one language, activate the semantic concept from memory, and then generate the translation in their other language, processes which engage both word recognition and production components. Secondly, the Chinese language is known to have many words that do not translate directly across languages. Given this high level of ambiguity within the Chinese language, it is theoretically important to examine how words are activated during production and stored in memory when the mapping between words is more complex, as compared to that of Romance and Germanic languages.

The next study regards translation of idiomatic Expressions from English into Arabic. It was conducted in the Sultanate of Oman and intended to investigate the difficulties encountered by Omani undergraduate students majoring in English language and literature when translating idiomatic and culturally- bound expressions and the strategies that they employed to translate them and overcome such challenges. Idioms are viewed as one class of figurative expressions which occur in all expressions of "at least two words which cannot be understood literally and which functions as a unit semantically". They reflect cultural and linguistic boundaries and enable communication between different cultures. However, they constitute a great difficulty for translators. The meaning of an idiom is not the sum of the meaning of its parts or its constituents . A translator has to render the meaning of an idiom over and above the meaning of the words that constitute it [2]

The findings of this study suggest a number of pedagogical implications. First, culture translation should be taught to undergraduate students to expose them to the cultural differences between languages. Secondly, students should be trained on the effective strategies used for translating idiomatic expressions. Thirdly, students should avoid using literal translation when translating idiomatic expressions and should use specialized dictionaries. Finally, idioms and culturally-bound expressions should be considered as a part and parcel of foreign language and translation instruction in order to help students understand their exact and diverse meanings and connotations.

Cultural differences, idiomatic expressions, and language ambiguity have a significant impact on modern translation. They present significant challenges for translators and affect the accuracy and effectiveness of the translation. Therefore, various techniques such as cultural adaptation, localization, and transcreation should be used. Cultural adaptation involves modifying the original text to make it more culturally appropriate and relevant for the target audience. Localization involves adapting the translation to the target culture, taking into account local customs, values, and linguistic nuances. Transcreation involves recreating the message of the original text in a way that is culturally relevant and effective in the target language. Effective translation requires not only linguistic expertise but also cultural sensitivity and an understanding of the target audience.

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LANGUAGES, REQUESTED IN TRANSLATION

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The first translators appeared in ancient times. They were prisoners and traders, but it quickly turned out that people who study foreign languages were more useful. Every high-ranking statesman had a translator. Times change and the demand on translation is growing. There are 7152 languages in the world. Not all of them have a great demand. The list of the popular languages in the field of translation includes six languages - Arabic, Chinese, English, French, Russian and Spanish – the official languages of the United Nations.

The most popular language is English: 67% of vacancies for translators assume work with this language. Even looking for an interpreter from another language, one of the requirements of the employers is to know English. The remaining languages lag significantly behind English in terms of demand: 14 per cent of vacancies require translation into German, 5 per cent in French, 4 per cent in Chinese and 2 per cent in Spanish.[3]

According to the Ethnologue directory, the most spread language is Chinese. The economy of the modern China is developing fast, strengthening the role of this country in the world arena. Today China is a powerful economic and financial, business and technological center of the world with international and local giant players. Export schemes cover the United States, Europe, Australia, Japan. On the other hand it is known as a complex language, even Mandarin, the most common Chinese dialect. Only 50 thousand characters are worth and phonetics are difficult. Nevertheless, it is official in China, Singapore and Taiwan, the official and working language of the UN. Thus, the profession of a translator from Chinese is incredibly relevant.[4]

Spanish comes next. 548 million people speak Spanish. Of these, 470 million are fluent in Spanish, 58 million speak the language somewhat less and 20 million only get acquainted with the basics of Spanish. The popularity of Spanish is noticeable in some regions of the US, where the Spanish-speaking population is growing rapidly. 30 million people in Brazil speak Spanish as a second language after Portuguese. Experts estimate that proficiency in Spanish contributes to an increase in commercial relations of 290%, and English only 240%. According to some experts, 7.5% of the world's population will own Spanish in 2030, and in 2050 the Americas, which currently has 52 million Hispanics, will become the world's first Spanish-speaking country, and the number of people in the United States will increase to 133 million. In addition, Spanish has the third place in social networks. The economic growth of Latin American countries and the reluctance of Spanish speakers to use other languages in their communication are also catalysts for this process. The interest of young people in this language grows every day. The proof is that in the past few years in the media production in Spanish has an incredible relevance.

English is the next. According to the British Government estimates, the predominantly English-speaking countries include 75 countries where the language is either the official language or has a special status, among them Canada, Australia, Kenya, Pakistan, Nigeria. Of 7,8 billion of the world's population, 1.35 billion speak English. In international business, English is used as the official language. The North American continent and the Latin American continents are home to English speakers. In total, there are about 350 million English speakers. Most of them live in the United States. English is the main language in international politics, diplomacy, science and business. The overall language proficiency is one of the variables influencing a country's success in these areas. Knowledge of English is also seen as a significant competitive advantage in the labor market, determining individual success. Thus, the promotion of English as a fundamental part of people's skills assumes political and socio-economic importance.

The Arabic language is considered to be native to about 200 million people. Translation of texts from and into Arabic is a very popular service. But to find a smart translator of this specialization sometimes is not so easy. Although it's quite common, it's not very popular in the translation world. Arabic is quite conservative in terms of vocabulary. It became the language of science, medicine and commerce. This continued until colonization in the 16th century AD, when the Arabs lost control of maritime trade.[1] Over the years, Arabic has influenced other world languages. Many words were borrowed from English, French, Portuguese, Spanish, Sicilian, and Albanian. Some languages, such as Persian, Urdu, Pashto, Kashmiri, Tajik, Turkish, Kurdish, Hebrew, Somali, Swahili, Tigrini, Urumi, Fulani, Hausa, Maltese, Bhasa Malau and Dhivehi, for example, are 30 per cent Arabic. [2]

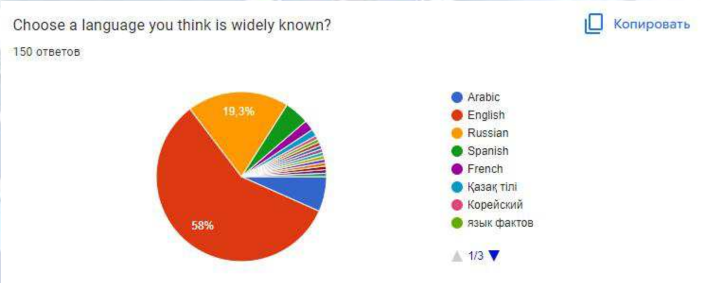
With the advent of the Internet and the transition to English, a number of world languages, including Arabic, have suffered from the growing influence of technological progress. However, the Arab authorities have made great efforts to ensure that the language is part of the global network.[5]

French is spoken in 112 countries and territories in Europe, Asia, Africa, the Americas and Oceania. More than 321 million people speak French. Recent projections show that by 2050 the number of French-speaking people can rise to 750 million. According to the research of the investment bank Natixis on the website Forbes.com

French may become the most common language in the world. The increased interest in the French language in our country is due both to the traditional interest in the history and culture of France and to the fact that the French language is still in demand as a language of diplomacy. The higher education in France is considered one of the best in the world.Besides, French is the official language of such international organizations , as the EU, the WTO, The UNO, NATO, the International Olympic Committee and many others.

Russian, the fifth most spoken language (after Chinese, English, Hindi and Spanish), is one of the world's largest languages and the most spoken language in Europe, both geographically and by number of speakers. To find out the level of demand for the Russian language in the post-Soviet countries, three parameters were analyzed: its use in the state-public sphere, in the field of education and scientific communication. Russian is quite popular in CIS countries.

In the course of my research I rule a poll with 150 people. The first place was taken by English, the second place by Russian, the third by Arabic, the fourth by Spanish,



the fifth by French, the sixth place by Chinese. My group mates' analysis shows Chinese as the second language.

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STATE AND PROSPECTS OF THE LABOR MARKET FOR YOUTH IN THE REPUBLIC OF KAZAKHSTAN

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For Kazakhstan, the problem of youth employment is particularly relevant in the context of the global economic crisis. In the labor market, young people are at risk because they face significant obstacles when looking for work.

According to the National Bureau of Statistics of the Ministry of National Economy of the Republic of Kazakhstan, 8.8 million people were employed in various sectors of the economy of Kazakhstan in 2022. The overall unemployment rate in the country was 4.9%. Youth (aged 15 to 28 years) accounted for about 21% of the economically active population of Kazakhstan or over 2.0 million people [1]. The unemployment rate among young people aged 15 to 28 was 3.8%. The share of category NEET (youth who do not work and are not engaged in education or vocational training) was 6.6% [2].

The sectoral specifics of the national labor market and regional peculiarities particularly affect the distribution of the young population by employment level. Thus, in the city of Almaty, the youth unemployment rate was 5.8% and is one of the highest compared to other regions (in the regions, on average, 3.8%).

Structural transformation has continued in the labor market over the past 10 years. The net increase in employed in 2012-2021 amounted to only 285 000 people (+3.3%). Industries that are steadily reducing and generating jobs have been identified. The first includes agriculture, which has shrunk by half in terms of labor (from 26 to 13%, or 1 million people), and two more modest employers – the energy sector and construction. And the main part of the net inflow (55% of the volume, or 764 000 people), trade, as well as public sectors – education, health care and public administration (including officials and security forces) [3].

The total number of self-employed youth (citizens aged 15 to 28 years) has been reduced twofold over the past decade (from 822 000 people to 420 000 people) mainly due to the rural segment of the self-employed. The share of unproductively employed among the self-employed decreased from 41% to 10%, also mainly due to rural residents. But the country's overall indicator of NEET youth (not working, not studying, not undergoing retraining) has decreased over 10 years from 7.8% to 6.9%.

There is a regional disparity in the number of young people across the country’s regions. About 48% of Kazakhstanis under the age of 15 live in five southern regions of the Republic of Kazakhstan - Almaty, Shymkent, Almaty, Zhambyl and Turkestan regions. However, the share of these regions in the gross domestic product of Kazakhstan does not exceed 33%, and in the distribution of employed – 42%.

According to the Ministry of Labor and Social Protection of the Population, the labor market is under pressure from the discrepancy between the expectations of young professionals in relation to the salary level and the willingness of employers to offer such money. For these reasons, there is a shortage of personnel in agriculture, education and healthcare [4].

The labor market is seriously changing. According to the World Bank, the proportion of people under the age of 15 did not decrease during 2010-2021, but grew both on average in the world and in the Central Asian region: in Tajikistan - from 36 to 37%, in Kyrgyzstan – from 30 to 33%, in Kazakhstan – from 24 to 29%.

According to the forecast of the National Bureau of Statistics of the Ministry of National Economy of the Republic of Kazakhstan in the coming years, the labor market will grow due to the generation born after 2000. More than 300 thousand young people enter the Kazakh labor market every year. 60% of the workforce is made up of young people and by 2030 this figure will reach 80%. All this implies a radical revision of the employment policy, and first of all, the problem of youth employment.

In this regard, the measures taken by the State within the framework of the National Project for the Development of Entrepreneurship for 2021-2025 in terms of youth employment occupy an important place in solving this problem.

State programs have been launched in Kazakhstan to help with job search for young people. The Ministry of Labor and Social Protection of the Population has developed “The development of the labor market until 2025” Comprehensive plan [5]. Within the framework of this project, programs for youth employment have been developed.

The implementation of the new policy will be ensured by the implementation of tasks and initiatives in the following areas:

- creating jobs and ensuring employment of the population;
- ensuring the improvement of skills, the connection of education and the labor market;
- labor market liberalization;
- increasing the mobility of labor resources;
- digitalization of employment services;
- development of labor market infrastructure.

During the entire implementation of the comprehensive labor market development plan, it is planned to create more than 2 million jobs.

It is also proposed to create conditions for increasing employment among young people through the implementation of projects:

“The first workplace” for NEET youth with an increase in the duration and size of the subsidy;

“Youth practice for graduates” with an increase in the duration and size of the subsidy;

“The contract of generations”.

It is planned to create career centers at universities to facilitate the employment of graduates.

In any developed country, the state pays special attention to the development of human capital, which favorably affects the growth of the quality of life and the efficiency of the national economy of the country. Kazakhstan is no exception. The current crisis conditions indicate the need to create a system of social protection for the unemployed, especially young people, since the future of independent and sovereign Kazakhstan depends on young people.

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UDC: 43+37

METHODEN ZUR ENTWICKLUNG DES HÖRVERSTEHENS BEI LERNENDEN

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Wie das Leseverstehen ist das Hörverstehen ein komplizierter mentaler Prozess, in dem Sprachsignalen mit Hilfe von sprachlichem Wissen und Weltwissen Sinn zugeordnet wird. Dabei wirken Bottom-Up-Prozesse (Analyseprozesse des Gehörten) und Top-Down-Prozesse (Einbringen von Wissen und Erwartungen) zusammen. Anders als das Lesen verläuft das Hören in Echtzeit, außerdem sind die gehörten Signale flüchtig. Das bedeutet, dass die Überprüfung von Hörverstehen immer auch durch die Fähigkeit des Individuums zur Speicherung von Sprachdaten bestimmt wird. Gespeichert wird normalerweise nicht der Wortlaut eines Textes, sondern die beim Hören entstehenden Sinneinheiten. Hörverstehen gilt als wichtigste Kompetenz, denn die Alltagskommunikation besteht zu 45% aus Hören. Sie ist ebenfalls unabdingbar für die Entwicklung anderer Kompetenzen, insbesondere des Sprechens. Während Hörverstehen in der Erstsprache wie selbstverständlich, ganz nebenbei erfolgt, haben

Fremdsprachenlerner vor allem mit authentischen Hörsituationen und -dokumenten nicht selten große Schwierigkeiten[1].

Die traditionelle Grammatik-Übersetzungs-Methode besitzt im fremdsprachlichen Unterricht bis heute immer noch einen dominierenden Platz. Das Hörverstehen wird dadurch stark vernachlässigt bzw. unberücksichtigt gelassen. Wissenschaftler weisen darauf hin, dass die Lernumgebungen und institutionellen Bedingungen den Lernenden nur geringe Möglichkeiten bieten, nach dem Unterricht Deutsch zu üben und kommunizierend anzuwenden. Gerade für den Erwerb einer Fremdsprache sollte jedoch dem Hörverstehen eine besonders große Bedeutung zugerechnet werden. Für Surkamp spielt es für alle Kommunikationsprozesse eine wichtige Rolle und stellt die Voraussetzung für sprachliche Interaktionen dar. Über das fremdsprachliche Hörverstehen wurden zwar in den letzten Jahren von vielen Linguisten und Sprachforschern, unter anderem von Surkamp, Storch, Ulrich und Rösler Beträge geschrieben, das Hörverstehen speziell für Fremdsprachenlernende hingegen wurde bis jetzt durchaus mangelhaft und nur von vereinzelten Linguisten, wie z.B. Zhao behandelt.

Betrachtet man das Wort Hörverstehen, so erschließt sich der Sinn recht schnell, das was ich höre, soll ich verstehen. Bei genauerer Betrachtung und wissenschaftlicher Präzisierung stellt man fest, dass der Begriff häufig zu voreilig ohne genau Vorstellung verwendet wird. Für die Bestimmung der Merkmale des fremdsprachlichen Hörverstehens sollte deshalb zunächst eine Definition vorgenommen werden. Dazu wurden u.a. die Ausführungen von Jenkins herangezogen, die unter dem Hörverstehen neben dem Leseverstehen, Sprechen und Schreiben, eine der vier grundlegenden Kommunikationstätigkeiten verstehen. Der Inhalt mündlicher Texte wird demnach durch einen auditiven Input ausgelösten Rezeptionsprozess erschlossen. Die Fremdsprachendidaktik hingegen sieht darin die Fähigkeit, gesprochene Texte in der Zielsprache zu verstehen und darin enthaltene Informationen zu dem weiteren sprachlichen und nichtsprachlichen Handeln zu verwenden. Es bildet damit die Ausgangsbasis für jede Art von eindeutiger verbaler Kommunikation.

Laut Surkamp wird das Hörverstehen im Fremdsprachenunterricht nach einem prozessorientierten Ansatz in die drei Hörphasen, vor dem Hören, während des Hörens und nach dem Hören, gegliedert. Das „vor dem Hören“ ist geprägt durch eine Klarstellung möglicher unbekannter Variablen. Umso angemessener dies geschieht, desto positiver übt sich das auf den gesamten Hörprozess aus. Der Hörende ist hier in einer besonders hohen frischen interessierten Bereitschaftshaltung. In der 2. Phase findet die eigentliche Aufnahme des gehörten statt. Dazu laufen komplexe psycholinguistische und kognitive Prozesse im Gehirn des Hörenden ab. Der Hörende muss sich nun einer der angeeigneten Hörstrategien bedienen. Ist dieser Akt nicht erfolgreich, kommt es zum nicht Verstehen bzw. das endgültige verloren gehen der Information. Der Hörende hat nun ein sehr hohes Maß an Belastung. Nach dem Hören, in der 3. Phase sollte der Hörende die Möglichkeit zur Evaluierung und Verifizierung des gehörten und verstandenen nutzen, was meist in Abhängigkeit der Lehr- und Lernmethoden geschieht. Der Hörende befindet sich nun in einer Ruhephase, die erst zur Erholung, dann aber auch wieder als Ausgangspunkt zur erneuten Hörerfahrung genutzt werden kann[2].

Das Hörverstehen wird prinzipiell durch viele Faktoren beeinflusst, dennoch lassen sich Einflussfaktoren den zwei Kategorien, nämlich den internen und den externen Faktoren zuordnen.

Interne Faktoren, die vom Hörenden selbst stammen, entstehen hauptsächlich durch Gedächtnisleistung, Hörverstehensstrategien, sprachliche und außersprachliche Vorkenntnisse bzw. Vorwissen über das zu hörende Thema bzw. dem Zielsprachland, Interesse, Vertrautheit mit dem Thema, die Beziehung zum Sprecher, Aufmerksamkeit, Ängstlichkeit usw.

Zu den externen Faktoren, die nicht vom Hörenden selbst stammen, gehören vor allem die Auswahl der Hörtexte, Textkomplexität, Flüchtigkeit des Hörereignisses, Aufbau und Abstraktionsgrad des Textes, Anzahl der Interaktionspartner, paralinguistische Merkmale oder visuelle Unterstützung (Gestik, Mimik der Sprecher usw.), das Tempo der Sprachaufnahme, Zeitdruck, Störgeräusche[3].

Verschiedene Arten von Texten haben generell einen unterschiedlichen Aufbau. Je vertrauter man mit dem speziellen Aufbau eines Textes und seiner Fachsprache ist, desto leichter wird es dem Rezipienten fallen, den Text zu verstehen.

Man hört, um den gesprochenen Inhalt zu verstehen, selten aber um auf alle Details zu achten. Mit der individuellen Verstehensabsicht beginnt der eigentliche Vorgang des Hörverstehens. Sie entscheidet darüber, ob und warum der Hörer überhaupt zuhört und darüber hinaus auch über die Art und Weise, wie man sich später mit dem Text auseinandersetzt. Im Folgenden werden die drei sich einander unterscheidenden Verstehensstrategien von Hörtexten anhand der Präzisierungen von Rösler zusammengefasst:

-globales Hören: Der Hörerende will erkennen, worum es im gehörten Text geht. Es soll ihm einen ersten Eindruck vom Inhalt eines Textes verschaffen.
-selektives Hören: Es werden diejenigen Informationen aus einem gehörten Text herausgefiltert, die für den Rezipienten relevant bzw. interessant sind. Dabei ignoriert der Hörende alles, was aus seiner Sicht nicht relevant oder generell nicht wichtig ist.
-detailliertes Hören: Man hört, um den Inhalt und meist auch die Form möglichst vollständig zu erfassen.

Um das Hören zu effektivieren und zu erleichtern, ist es nötig, während des Hörens geeignete Strategien anzuwenden und für unterschiedliche Hörabsichten die Strategien zu wechseln. Generell kommt das detaillierte Hören aus Gewohnheit weniger häufig als die anderen beiden vor. Zum Erlernen des Hörverstehens bedient sich jeder Lernende bewusst oder unbewusst erworbener Strategien zur Erfassung des Inhaltes. Für ein sehr gutes Hörverstehen benötigt der Lernende jedoch eine individualisierte Strategie zur sukzessiven Durchsetzung seiner Absichten[4].

Meine Tipps zum Hörverstehen:

Vor dem Hören: Ich lese die Überschrift und Aufgabe. Ich überlege,
- was für ein Text angekündigt wird,
- was ich von so einem Text erwarte,
- worum es gehen könnte,
- was ich darüber schon weiß,

- auf was ich beim Hören achten muss.

Ich entscheide, ob ich mich nur auf einzelne Informationen konzentrieren oder den Text vollständig verstehen muss. Ich markiere wichtige Wörter in der Aufgabe, die mir beim Auffinden der Information im Text helfen können. Ich überprüfe, ob mir durch Bilder o. ä. zusätzliche Informationen gegeben werden.

Beim Hören: Ich versuche zu verstehen, worum es geht. Ich konzentriere mich auf die gesuchte Information. Ich konzentriere mich auf Wörter der Aufgabe und Sätze mit Wörtern des gleichen Wortfeldes, Ober- /Unterbegriffen oder Synonymen.

Wenn ich etwas nicht verstehe: Ich überlege,

- was ein mir unbekanntes Wort in dem Zusammenhang bedeuten könnte,
- welches Wort meiner Muttersprache dem Wort ähnelt,
- wovon es abgeleitet sein könnte.
- Ich versuche weiter zu folgen, bis wieder eine Stelle kommt, die ich verstehe.

Nach dem Hören: Ich kombiniere einzelne Informationen, um die richtige Lösung zu finden. Das zweite Hören nutze ich ggf., um meine Antwort zu ergänzen und zu überprüfen.

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BILDUNGSMETHODEN DER BEGRIFFE DER SELEKTION UND SAMENZUCHT IN DER DEUTSCHEN SPRACHE

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Das Erstellen eines neuen Wortes mit bestimmten Methoden und Mitteln in der Sprache wird als Wortbildung bezeichnet. In der Linguistik wird der Begriff „Wortbildung“ in zwei Bedeutungen verwendet: Einerseits bezeichnet er den Vorgang der Bildung eines neuen Wortes in der Sprache, andererseits bezieht es sich auf den

Zweig der Linguistik, der das System der Wortbildung untersucht. Die Wortbildung untersucht die in der Sprache vorhandene Wortbildungsstruktur und Wortbildungsmethoden [2.75].

Der Wortschatz jeder Sprache wird durch die Bildung neuer Wörter bereichert. Die Wortbildung ist ein einzigartiges Mikrosystem im Makrosystem der Sprache, daher sollten sie im Hinblick auf die strukturelle Zusammensetzung und Architektur des Wortes sowohl aus grammatikalischer als auch aus lexikalischer Sicht untersucht werden [5,20].

Im Deutschen gibt es folgende Möglichkeiten, Wörter zu bilden:

1) Wurzelwörter; 2) Ableitung; 3) Konversion; 4) Zusammensetzung; 5) Abkürzung, Abbreviatur.

Wurzelwörter haben unabhängig von ihrer Herkunft zwei Merkmale in der modernen Sprache. Ihre Basis besteht nur aus einem Wurzelmorphem und es werden keine Wurzelwörter gebildet. Deutsche Wortstämme sind meist einsilbig oder zweisilbig. Neue Stammwörter können nur durch Erwerb aus anderen Sprachen entstehen [6,108-109].

Neue Wörter werden auf der Grundlage des Wortstamms und der Basis des Wortes gebildet. Die Wurzel ist der kleinste semantisch und morphologisch unteilbare Teil des Wortes, der die Hauptbedeutung hat. Eine Wurzel kann auch als ganzes Wort mit voller Bedeutung existieren. Im Deutschen gibt es mehr Stammwörter mit einer drei- oder viersilbigen Struktur, die 82% aller Stammstrukturen in der deutschen Sprache ausmachen [6,20-21].

Die oben genannten Regeln gelten auch für die Stammbegriffe der Selektion und Samenzucht im Deutschen: *Art, Ast, Bast, Blatt, Frucht, Gen, Gras*.

Affixationsmethode. Bei der Anreicherung des deutschen Wortschatzes gibt es eine andere Art der Wortkombination, dieses Modell ist typisch für alle indogermanischen Sprachen und heißt Wortbildung durch Ableitung. Durch Hinzufügen von Affixen zum Stamm und zu Morphemen werden neue Wörter gebildet, und durch Hinzufügen von Affixen erfolgt die Motivation der Bedeutung der Basismorpheme [1,25].

Deutsche Selektions- und Samenzuchtbegriffe durch Anfügung lassen sich in zwei Gruppen einteilen: a) Begriffe durch Anfügung; b) Begriffe, die durch Präfixmethode erstellt wurden.

Methode der Suffixierung. Suffixe dienen dazu, ein neues Wort aus bereits in der Sprache existierenden Wörtern zu bilden. Im Deutschen umfasst diese Sprache Substantive mit der männlichen Wurzel *-er, -ler, -ner, -ling, -e, -el, -en, -rich* und den abgeleiteten Suffixen *-or, -ent, -ant, -at, - ist, -nom, -är, -ismus, -eur, -ier, -bold, -ian,* die Substantive im Femininum mit reindeutscher Wurzel *-in, -ung, -heit, - keit, -schaft, -e, -ei* und den abgeleiteten Suffixen -tion, -ik, -tät, -ade, -enz, -(t)ur, -ie, -age, -anz, die Substantive im Neutrum mit deutscher Wurzel *-chen, - lein, -al, -tum, -nis, -sal, -gut, -werk, -zeug, -wesen und* den abgeleiteten Suffixen *-um, -at, -ent, -al, -ett* werden gebildet [4,241].

Bei der Analyse des gesammelten Materials lassen sich deutsche Selektions- und Samenzuchtbegriffe durch Suffixierung wie folgt gruppieren: 1. Begriffe zur Bezeichnung von Inhabern landwirtschaftlicher Berufe. Solche Begriffe werden mit Hilfe der Suffixe *-er, -nom, -eur* gebildet: *Analytiker, Agronom, Botaniker, Genetiker, Bodenkundler, Sortenautor, Sortenautor, Samenzüchter (Saatgutforscher), Züchter*.

2. Begriffe, die zur Benennung der Prozesse der Selektion und Saatgutproduktion dienen. Solche Begriffe werden hauptsächlich mit den Suffixen *-ung, -schaft* gebildet. Diese Suffixe sind aktive Suffixe in züchterischer Hinsicht. Sie stellen das Ergebnis einer Handlung dar: *Impfung, Trocknung, Sättigung, Quellung, Paarung, Züchtung, Hybridisierung*.

3. Diminutivbegriffe, die einige Pflanzenteile benennen. Diese Begriffe werden aus den Suffixen *-chen, -lein* gebildet: *Ährchen, Blättchen*.

4. Begriffe, die die Eigenschaften von Pflanzen bezeichnen. Sie werden mit den Suffixen *-keit, -igkeit* gebildet: *Vielfältigkeit, Giftigkeit.*

Präfixmethode. Charakteristisch für die indogermanische Sprachfamilie ist die Wortneubildung nach der Präfixmethode, und auch im Deutschen ist die Wortneubildung mit Hilfe von Präfixen zahlreich. Bei der Präfixierung wird dem Grundwort ein wortbildendes Morphem (Präfix) als Frontelement hinzugefügt. Die Herkunft substantivbildender Präfixe ist charakteristisch für die deutsche Sprache *(erz-, ge-, miß-, un-, ur-)*, sowie für das Lateinische *(ex-, extra-, in-, inter-, re-, super-)* und griechische *(Anti-, Auto-, Hyper-, Mikro-, Makro-, Mono-, Poly-)* [6,113].

Anstelle von Selektions- und Samenzuchtbegriffen *(Unkraut, Missernte)*, die mit deutschsprachigen Präfixen erstellt wurden, gibt es mehr aus anderen Sprachen entlehnte Präfixe *(Monohybride, Mikroklima, Macrogamet, Polymorphismus)* die produktiv sind.

Konversionsmethode. Das Konzept der Umwandlung bedeutet, dass ein Wort aus einer Wortgruppe in eine andere Wortgruppe übergeht und ein neues Wort bildet. In diesem Fall ändern sich die grammatikalische Essenz und Teilbedeutung des neu gebildeten Wortes [5, 29-30]. Die Wortbildung in der Konversionsmethode ist im Deutschen sehr aktiv. Der von I.A. Solodilova erstellte Studienführer spricht über die Gesetze der Bildung von Substantiven durch Umwandlung aus der Infinitivform des Verbs (*das Lesen*), aus der Partizip-II-Form des Verbs (*der Deputierte*), aus dem Adjektiv (*das Grün*), von der Zahl (*die Fünf*) [3.53]. Die Begriffe zur Selektion und Samenzucht nach der Konversionsmethode werden in folgende Gruppen eingeteilt:

1. Selektions- und Samenzuchtbegriffe aus der Infinitivform des Verbs: *Dominieren, Hacken, Keimen, Klonen, Pflügen, Sortieren*.

2. Selektions- und Samenzuchtbegriffe aus dem Adjektiv: *Reife, Kälte, Dichte*.

Zusammengesetzte Wörter. Die zusammengesetzte Wortbildung ist eine sehr produktive Technik im Deutschen. Ein zusammengesetztes Wort wird gebildet, indem zwei oder mehr Wörter mit einer lexikalischen Bedeutung und einer Basis kombiniert werden. Zusammengesetzte Wortbestandteile werden so miteinander vermischt, dass sie als eigenständige Einheit wahrgenommen werden. Der Bedarf an zusammengesetzten Wörtern ergibt sich aus der Tatsache, dass einige Sachbezeichnungen nicht eindeutig unterschieden werden können, und der Zweck, sie genauer zu benennen, ergibt sich. Das ist wahrscheinlich der Grund, warum das Wort, das vor den zusammengesetzten Wörtern steht, als Bestimmungsfaktor für das nächste Wort fungiert. Zusammengesetzte Wörter entstehen auf der Grundlage von Syntagmen, syntaktischen Verbindungen mehrerer Wörter. Manchmal werden zusammengesetzte Wörter als Ergebnis von Syntagma gebildet, das sinnvoll und grammatikalisch integriert wird [5, 21]. M.: *der Boden + die Bakterie = die Bodenbakterie, die Gemüse + der Samen = der Gemüsesamen*.

In der deutschen Sprache werden die Sammelbegriffe der Selektion und Saatguterzeugung nach den Entstehungsgesetzen in folgende Gruppen eingeteilt:

1. Modell. Nomen + Nomen: *die Hybride + die Pflanze = die Hybridpflanze, das Geschlecht + die Zelle = die Geschlechtszelle*.

2. Modell. Verbstamm + Substantiv: *pikieren (pflanzen) + die Maschine = die Pikiermaschine, blühen + die Dauer = die Blühdauer (Dauer der Blüte)*.

3. Modell. Adjektiv + Substantiv: *fremd + die Zucht = die Fremdzucht*.

4. Modell. Zahl + zusammengesetztes Hauptwort: *drei + das Feld + die Wirtschaft = die Dreifelderwirtschaft*.

5. Modell. Präposition + Nomen: *unter + die Art = die Unterart, aus + das Blühen = das Ausblühen (knospen)*.

6. Modell. Pronomen + Nomen: *selbst + der Bestäuber = der Selbstbestäuber*.

7. Modell. Verb + Substantiv: *innen + die Sorte + die Kreuzung = die Innensortenkreuzung*.

Neben den oben genannten Methoden ist zu beachten, dass der Bildung von Abkürzungen im Deutschen, wie auch in anderen Sprachen, eine besondere Bedeutung zukommt. I.A. Solodilova studierte Abkürzungen in deutscher Sprache, die nach der Formationsmethode [3.54] in drei Gruppen eingeteilt wurden, A. Ikos, A. Lenkova ging auf fünf Arten von Abkürzungen ein [1.86-88]. Abgekürzte Begriffe im Zusammenhang mit Züchtung und Saatgutzüchtung im Deutschen, die als Gegenstand der Forschung gelten, werden in folgende Gruppen eingeteilt:

1. Abkürzungen bestehend aus dem Anfangsbuchstaben des kennzeichnenden Wortes und der Kennung: *Zertifiziertes Saatgut - Z-Saatgut (zertifiziertes Saatgut)*.

2. Abkürzungen mit groß geschriebenen Anfangsbuchstaben der Wörter: *Künstliche Befruchtung – KB (künstliche Besamung), Autovermietung – MAS (Maschinen-Ausleih-Station)*.

3. Abkürzungen mit den Anfangsbuchstaben aller Wörter im zusammengesetzten Wort: *Tausendkorngewicht - TKG (Tausendkorngewicht), Trockenmasse - TM (Trockenmasse)*.

Bei der Benennung landwirtschaftlicher Organisationen werden häufiger Abkürzungen verwendet: *International Labour Office - IAA (Internationales Arbeitsamt), International Labour Organization - IAO (Internationale Arbeitsorganisation)*.

Zu den zu recherchierenden Begriffen der deutschen Selektions- und Saatzüchtungsterminologie können auch zusammengesetzte Begriffe gehören. Zusammengesetzte Terme werden nach ihrer Struktur in zweikomponentige Terme bestehend aus zwei Lexemen und mehrkomponentige zusammengesetzte Terme bestehend aus drei oder mehr Lexemen unterteilt. Fast alle zusammengesetzten Begriffe sind in bestimmte und unbestimmte Teile unterteilt. In zusammengesetzten Begriffen, die sich auf Selektion und Saatzucht beziehen, können Adjektive, Adjektive und Adverbialwörter an der Bestimmungsfunktion teilnehmen, und Substantive erscheinen immer in der Bestimmungsfunktion.

Zusammengesetzte Begriffe in der Form Adjektiv + Nomen (P + N): *abtragende Frucht*, *approbiertes Muster*, *angewandte Botanik*, *ausdauernde Pflanze*.

Zusammengesetzte Begriffe in der Form Adjektiv + Nomen (A+N): *absolutes Samengewicht*, *konstante Sorte (stabile Sorte)*, *künstliche Selektion*.

Zusammengesetzte Begriffe in der Form Zahl + Substantiv (Z + N): *erste Auswahl*, *erste Filialgeneration*.

Bei unserer Recherche zu zusammengesetzten Begriffen im Zusammenhang mit Selektion und Samenzucht in der deutschen Sprache wurde festgestellt, dass Feldbegriffe neben zweikomponentigen zusammengesetzten Begriffen drei-, vier- und sogar achtkomponentige zusammengesetzte Begriffe umfassen.

Zusammenfassend lässt sich sagen, dass unter den begrifflichen Bildungsmethoden der Selektion und Samenzucht in der deutschen Sprache die Methode der zusammengesetzten Bildung der zusammengesetzten Begriffe am ergiebigsten ist, gefolgt von den Verbindungs- und Affixationsmethoden der Bildung der Begriffe.

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DIE ENTWICKLUNG DER KULTURELLEN VIELFALT ALS GRUNDLAGE DES KASACHISCHEN PATRIOTISMUS

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Wir leben in einem der einzigartigen und großen Länder der Welt, der Republik Kasachstan. Und wahrscheinlich sind wir deshalb alle verschieden. Jemand ist immer bestrebt, nach oben zu kommen und allen voraus zu sein, andere ziehen es vor, ruhig den gewohnten Weg zu gehen. Jemand liebt die ruhigen und grundlegenden Straßen der Altstadt und jemand ist High-Tech und modern. Jemand mag es, die abwechslungsreiche Küche unserer vielen Nationen lecker zu essen, andere folgen der Figur. Viele lieben Hunde, ihre Nachbarn Katzen. Manche bevorzugen einen ruhigen Lebensstil, andere brauchen Prüfung. Jemand trainiert Muskeln, und jemand entwickelt sein intellektuelles Potenzial. Viele hören moderne Tracks an, während andere Klassiker und Traditionen lieben. Manchmal scheint es, als wären wir ganz anders. Aber das bringt uns zu einer großen, freundlichen Familie zusammen, einer Familie namens Kasachstan, einem jungen, modernen Staat, der vor mehr als 30 Jahren seine lang ersehnte Unabhängigkeit erlangte.

Das Territorium Kasachstans wurde zur Heimat von 125 Nationen der Welt [1]. Sie alle versammelten sich in Folge schwerer historischer Ereignisse. Jemand wurde enteignet, jemand wurde abgeschoben, und jemand verbüßte die Verbannung. Aber die Völker haben es nie bereut, weil sie verschiedene Kulturen, Traditionen, Bräuche und Sprachen verschiedener Völker kennenlernen konnten. Zu dieser Zeit war es nicht überraschend zu sehen, wie eine Deutsche Baursaki backt und eine Kasache Lagman kocht. Wie ein Pole einen Wanderfalken freigibt und ein Usbeke eine Ziege rausschmeißt. Wie ein Tatar stickt Gzhel und eine Koreanerin malt eine Tulpe. Wie Kinder Pilze sammeln und Erwachsene Asyki spielen. Schon jetzt ist es die Norm für uns, und andere bringen ein Lächeln hervor. Ist es jetzt so schwer, freundlich zu sein? Und die Kasachen haben es im Blut!

Seit dem 18. Jahrhundert gibt es in Kasachstan neue Völker, die etwas Interessantes mitbringen. So begannen die Völker durch das Leben, die Feiertage, Traditionen, Bräuche, die Küche Erfahrungen auszutauschen und die Geschichten ihrer Familien auszutauschen. Diese Periode ist sehr wichtig in der Geschichte der Entstehung der ethnischen Zusammensetzung Kasachstans. Durch das Zusammenspiel von Kulturen fanden die Ethnos gemeinsame Interessen und begannen mit Familien befreundet zu sein. Aber in der Geschichte Kasachstans kam eine schwere Zeit. Hier wurden Völker deportiert, die Hilfe brauchten, Unterstützung, ohne die es unmöglich wäre zu überleben. Und die lokalen Völker haben Hilfe geleistet. Wenn eine schwierige Zeit einsetzt, sammeln sich die Menschen mehr denn je. Das ist auch bei uns passiert. Die Menschen versuchten, gemeinsam Nahrung zu sammeln und arbeiteten in Fabriken. Und die Geschichte von Kurt lässt niemanden gleichgültig. Alle befanden sich unter den gleichen Bedingungen, bewahrten aber Menschlichkeit und Freundlichkeit. In all dieser schwierigen Zeit hat das kasachische Volk die Einwanderer unterstützt, und dafür sind alle Völker den Kasachen dankbar [2].

Am 1. März wird das Fest des Dankbarkeitstages gefeiert, in Dankbarkeit für das gute Herz der Kasachen. Genau darin liegt unser wahrer kasachischer Patriotismus – in Güte. Als diese schreckliche Zeit endete, folgte eine neue. Alle Völker der Steppe begannen gemeinsam ein neues Land zu bauen. Aus dem Feuchtgebiet konnten wir eine blühende Hauptstadt – Astana - bauen. In dem es jetzt Platz für Innovation und Tradition gibt. Gemeinsam haben sie die Wirtschaft angehoben, indem sie neue Fabriken und

Unternehmen errichteten. Der 2006 erbaute Palast des Friedens und der Zustimmung ist auch das Ergebnis gemeinsamer Bemühungen. Und der 2008 gegründete Unabhängigkeitspalast ist ein sogenanntes Denkmal für die Arbeit, die von allen ethnischen Gruppen Kasachstans investiert wurde. Jedes Jahr findet in Kasachstan eine große Anzahl von Foren und Veranstaltungen statt, die auf die Vereinigung von Nationen abzielen, in denen der Patriotismus das wichtigste Instrument ist. Die durchgeführten Wettbewerbe in sportlichen, kreativen und wissenschaftlichen Richtungen werden durchgeführt, um den Geist der Kasachstaner zu heben und ihren Patriotismus zu entwickeln. Jedes Jahr gibt es in Kasachstan immer mehr Zentren verschiedener Ethnien. Wo jeder hinkommen kann und etwas über die Geschichte, Traditionen, Bräuche und Feiertage jedes Volkes erfahren kann. Dank dieser Aktivitäten lernen wir die Geschichte unserer Region nicht nur aus Lehrbüchern, sondern auch aus dem Mund der ethnischen Vertreter selbst kennen. Das Zeitalter der Informationstechnologie eröffnet neue Möglichkeiten. Jetzt können Sie einen Vortrag über eine bestimmte Ethnie besuchen, wenn Sie zu Hause sitzen und Ihr Mobiltelefon einschalten. Aber es ist immer interessanter, alles mit eigenen Augen zu sehen. Wenn du das Leben eines jeden Ethnos berühren kannst, ist es erstaunlich. Schließlich wird sich ein wahrer Patriot immer vorwärts bewegen, entwickeln und verbessern. Unsere Handwerkerinnen führen Handworkshops durch und jeder von uns kann einen Blumenkranz weben oder Muster auf eine Tubeteyka sticken. Jedes Kind kann sich für einen Musikkreis anmelden und ein beliebiges Musikinstrument spielen. Er kann sogar Kyu-Geige spielen. Und Tanzliebhaber können sowohl zu Volkstänzen als auch zu modernen Tänzen gehen. Bei einigen Veranstaltungen tanzen sie Lezginka, und auf anderen Kara Georg. Die Hauptsache ist, dass die Jugendlichen einen Wunsch haben. Die Feiertage, die in Kasachstan durchgeführt werden, ermöglichen es, die Kultur bereits durch Interaktion mit Menschen zu kennen. Das helle Sabantui-Fest wird in ganz Kasachstan gefeiert. Die bunte nationale Kleidung der Tataren überrascht, und Chuck-Chuck fällt besonders in die Seele. Das traditionelle Weihnachtskonzert findet jährlich in Astana statt. Danach wird lange Weihnachtsmusik durch die Straßen gespielt. Maslenitsa wird in jeder Stadt Kasachstans gefeiert. Dies ist ein lautes Fest, das von Pfannkuchen und der traditionellen Verbrennung des Faschingssymbols begleitet wird. Dieser Anblick nimmt jeder auf seinem Handy ab. Am 19. Januar, wenn Sie die Promenade entlang gehen, treffen Sie unbedingt das Loch, in dem die Taufe gefeiert wird. Viele gehen zu diesem Feiertag. Schließlich feierst du nicht nur den Urlaub, sondern stärkt auch deine Gesundheit. Und der gemeinsame Feiertag des neuen Jahres bringt die Menschen zusammen, mehr denn je. Das unvergessliche Fest Nauryz und Kurban-ait findet in Kasachstan sehr laut statt. Mädchen in schönen nationalen Kleidern können auf jeder Straße gefunden werden. Und natürlich feiern wir am 1. Mai den Tag der Einheit der Völker, an dem sich jeder Kasachstaner als wahrer Patriot seines Landes fühlt. Und wer wird dann sagen, dass wir kein einziges Volk sind?

Kasachstan ist eines der jungen Länder der Welt, das gerade erst zu blühen beginnt. In unserem Land gibt es alle Möglichkeiten, um in die dreißigsten Länder der Welt einzutreten. Dieses Ziel hat sich Kasachstan in der Strategie 2050 gesetzt. Wir haben eine große Rohstoffbasis, dank der sich Kasachstan wie ein freier Steinadler über den Steppen anfühlt. Die Vielfalt der Naturgebiete vereinfacht uns die Landwirtschaft. Und vor allem haben wir drei Ländergüter: Einheit, Brot und Jugend. Die Jugend ist immer die treibende Kraft hinter jedem Land. Das sind unsere jungen Patrioten, die das Land vorwärts bewegen. Junge Menschen sind voller Kraft und bereit, zum Wohle ihres Landes zu arbeiten und zu arbeiten. Ihre Augen brennen mit neuen Ideen. Sie sind so selbstbewusst, dass selbst ein verspieltes Pferd mit ihnen nicht vergleichbar ist. Das ist unsere Jugend - das ist unser Stolz [3]. Es ist die jüngere Generation, die unsere Jugend ansieht und ihnen ein Beispiel nimmt. Aber welches Beispiel zeigt die Jugend bereits eine andere Frage... Die kasachische Jugend wird in der Lage sein, die neuesten Industrien des Landes als wahre Patrioten zu entwickeln. Junge Menschen werden neue medizinische Technologien fördern. Zu den modernen zählen Operationen an Robotern. Wir haben nur wenige Experten, die mit solchen Robotern umgehen können. Und die Jugendlichen können sie schneller beherrschen. Die Medizin ist einer der führenden Industrien der Welt und es ist notwendig, Innovationen einzuführen. Und wer als Nichtjugend keine Angst vor dem Neuen und Ungewöhnlichen hat. Schließlich wird die Jugend in der Lage sein, echten Patriotismus zu zeigen. Bildung wird jedes Jahr zu einem immer größeren Problem in der Gesellschaft. Erfahrene Lehrer an Schulen können das mittlere Glied nicht mehr bewältigen, und Pädagogen an Universitäten greifen beim Anblick neuer Studenten an den Kopf. Die Jugendlichen würden das Bildungssystem ändern und den Schülern eine zugänglichere Sprache vermitteln. Die Verwendung derselben neuen Technologien würde das Unterrichten vereinfachen. Weil es Kindern mehr Spaß macht, über das Internet zu lernen. Die Jugendlichen würden der jüngeren Generation zeigen, dass das Erlangen von Wissen in der heutigen Welt ein Vorteil ist. Und auch die Einführung neuer Fächer in Schulen wie Arbeit und Ökologie. Die Arbeit wird helfen, eine neue Generation aufzuwachsen und ihnen die Liebe zur Handarbeit zu geben. Der ökologische Zweig ist eine neue Richtung auf der ganzen Welt, die jeden Monat an Popularität und Relevanz gewinnt. Die Jugend ist die Bewegung jedes Landes. Die Jugend ist ein echter Wind, der die Flamme des Patriotismus entzünden kann. Sie sind es, die den Menschen das Problem des Aralsees und das Verschwinden der Rotbuch-Vertreter von Flora und Fauna vermitteln können [4]. Schließlich war es die Jugend, die die ideologische Inspiration für die Entstehung eines neuen Berufs war – eine ökologische Polizei, die darum kämpft, die Sauberkeit innerhalb der Gesellschaft zu kontrollieren. Junge Menschen können einen vielversprechenden Energiesektor entwickeln, der bald zu einem Mainstream-Zweig werden wird. Und unsere Jugend kann Kasachstan zu einem der wichtigsten Energieproduzenten machen. Schließlich können unsere Sonnenfelder, Bergflüsse und die stärksten Steppenwinde so viel Energie bereitstellen, wie kein einziges Atomkraftwerk der Welt in seiner ganzen Existenz produziert hat. Alles liegt in den Händen unserer Jugend. Es sind solche Patrioten, die in der Lage sein werden, unser Land auf eine neue Ebene zu heben. Selbst der jüngste Gipfel, der in Astana stattfand, ebnet diesen Berufen den Weg. Und wenn die Jugend vorne ist, werden wir das ganz gut hinbekommen.

Die junge und patriotische Generation Kasachstans ist bereit, ihr Land nur vorwärts zu entwickeln und zu verbessern. Die Einheit unseres Volkes wird ein wichtiger Weg sein, um alle Ziele zu erreichen. Schließlich liegt unser Reichtum in der Einheit des Volkes und in seinem Gefühl des Patriotismus. Wir haben nie jemanden angeschaut, Entscheidungen getroffen, Hilfe von niemandem angefordert. Wir waren eins, wir eins und blieben. Wir können das Leben nur durch gemeinsame Anstrengungen verbessern. Und wenn eine Gesellschaft ein Gleichgewicht findet, ist es vergleichbar mit einem Wunder.

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L'IMPORTANCE DE LA COMPÉTENCE COMMUNICATIVE PROFESSIONNELLE DANS L'ENSEIGNEMENT DES LANGUES ÉTRANGÈRES

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Dans le contexte de larges relations internationales avec d'autres pays, il est important de communiquer avec des spécialistes étrangers, de développer des contacts professionnels et commerciaux avec des partenaires et collègues étrangers et de lire diverses publications dans une langue étrangère. Récemment, il y a eu une demande croissante pour l'étude d'une langue étrangère, non seulement dans les établissements d'enseignement supérieur, mais aussi dans les écoles, en particulier dans les classes à vocation professionnelle.

Dans la stratégie générale d'enseignement des langues étrangères dans les facultés non linguistiques de l'université, il est nécessaire de développer une compétence de communication étrangère dans le domaine professionnel de la communication. Les Recommandations européennes communes sur l'enseignement des langues déterminent les principales orientations de la formation professionnelle des spécialistes, présuppose la réalisation par les étudiants d'une faculté non linguistique d'un niveau suffisant de compétence communicative en langue étrangère dans le domaine professionnel de la communication. La compétence de la parole communicative de la personnalité se réalise dans l'exécution de divers types d'activité de la parole, à savoir: perception, conscience, reproduction (orale ou écrite).

La compétence dans l'étude des langues étrangères est souvent associée à la notion de «compétence communicative». A. Khutorskiy distingue les termes «compétence", expliquant que la compétence est un ensemble de qualités interdépendantes d'une personne (connaissances, compétences, compétences, façons de faire les choses). La compétence dans un certain domaine est la possession de la compétence, contenant sa relation personnelle avec le sujet de l'activité. Conformément aux définitions de ces termes, la compétence doit être comprise comme une exigence donnée, la norme de la formation pédagogique pour les étudiants de spécialités non linguistiques, et la compétence-comme ses véritables qualités personnelles et son expérience.

La plupart des chercheurs considèrent la compétence à la fois comme une caractéristique de la personnalité et comme un ensemble de compétences communicatives, constructives et organisationnelles de l'individu, c'est-à-dire qu'ils comprennent par compétence la capacité non seulement d'avoir des connaissances, mais aussi d'être potentiellement prêt à les appliquer dans de nouvelles situations. Selon N. Izoria, la compétence communicative est une qualité personnelle et professionnelle intégrale d'une personne ayant un certain niveau d'éducation linguistique, qui se réalise en préparation sur une certaine base à une activité réussie, productive et efficace en utilisant les capacités de communication et d'information d'une langue étrangère, offre une opportunité interaction efficace avec l'environnement grâce à des compétences linguistiques appropriées. Dans la littérature psychologique, le concept de "compétence communicative" est une définition de l'expérience sensorielle et basée sur la connaissance de la capacité d'un individu à naviguer dans des situations de communication.

Le rôle de la communication personnelle, professionnelle et professionnelle, qui se développe dans le monde moderne, se manifeste à la fois dans la communication réelle en direct et dans une forme de communication électronique via e-mail, réseaux sociaux, messageries instantanées ou graphiques et leurs options, messages imprimés, audio et même vidéo, ainsi que des options internes appels téléphoniques. Les possibilités indiquées de ressources communicatives impliquent l'expansion des limites externes de la communication jusqu'à des limites presque globales. Le fonctionnement d'une langue étrangère permet d'élargir le champ d'activité de l'employé. Les exigences modernes présentées aux spécialistes suggèrent des approches modernes et innovantes de l'enseignement, en particulier de l'anglais.

Ainsi, la compétence communicative étrangère fait partie intégrante de l'activité professionnelle d'un spécialiste qui couvre de telles sous-structures: activité (compétence, connaissances, compétences et méthodes d'exercice des activités professionnelles); communicatif (capacité, connaissances, compétences et méthodes de communication professionnelle).

L'analyse de la littérature scientifique a permis de définir la compétence professionnelle étrangère comme une éducation personnelle et professionnelle intégrative, qui se réalise dans la préparation opérationnelle psychologique et technique d'un individu à exercer une activité professionnelle réussie, productive et efficace en utilisant des moyens d'une langue étrangère ou dans des conditions d'une culture parlant une autre langue et offre une opportunité d'interaction efficace avec l'environnement.

“L'anglais joue un rôle important dans la vie des étudiants modernes, car c'est la langue dominante de la communication internationale, du commerce, de la coopération et des affaires. Le développement des technologies informatiques modernes contribue non seulement au développement d'une langue étrangère, mais souligne également sa pertinence. L'augmentation des ressources d'information et de communication dans la formation professionnelle linguistique contribue à la formation d'une langue étrangère pour qu'elle devienne un véritable moyen de communication entre les futurs spécialistes et les collègues de langue étrangère. Lors de la mise en œuvre d'une approche fonctionnelle-communicative, des types d'activité de la parole spécialement orientés sont développés dans le but de maîtriser une langue étrangère en fonction des spécificités d'un futur métier dans le cadre du développement des compétences professionnelles des étudiants. Une formation linguistique spécialement orientée dans le cadre de spécialités techniques, économiques et autres non linguistiques donne aux étudiants la possibilité d'agir à l'avenir en tant que médiateur entre différentes langues et cultures dans les domaines commercial et socioculturel, c'est-à-dire qu'elle devient une sorte d'outil pour la formation de la mobilité sociale, de l'activité et de l'adaptabilité de la conscience d'un jeune spécialiste.

Ainsi, nous pouvons conclure que la compétence communicative est considérée par les scientifiques à la fois dans un sens large et étroit: au sens large — elle se compose de compétences linguistiques, orales, socioculturelles, sociolinguistiques, discursives et stratégiques; dans l'étroit — comme la maîtrise pratique des compétences orales des élèves à un niveau suffisant pour la mise en œuvre de la communication en langue étrangère dans quatre types d'activité de la parole: écouter, parler, lire, écrire. L'efficacité de la formation de la compétence communicative est due à un certain nombre de facteurs psychologiques et pédagogiques qui peuvent être déterminés comme des circonstances importantes affectant le succès du développement de la communication avec les futurs spécialistes. Les facteurs de réussite sont basés sur la structure de l'activité éducative, ce qui permet de les identifier avec ses composantes structurelles, de créer les conditions pour le développement de la motivation interne à la communication, d'améliorer le processus éducatif grâce à l'inclusion des étudiants dans le processus de discussion de situations spécifiques dans leurs activités professionnelles. L'analyse théorique du problème de recherche permet d'affirmer que la communication étrangère est possible à condition que les sujets de communication en langue étrangère parlent la langue comme moyen de communication. Le niveau d'efficacité du processus de communication est déterminé par le niveau de formation de la compétence communicative des sujets de langue étrangère. La compétence est la volonté constante d'une personne et sa capacité à faire quelque chose «avec la connaissance». Dans notre cas, cette activité est la communication en langue étrangère des étudiants en cours d'apprentissage d'une langue étrangère. Par conséquent, la définition de la compétence communicative étrangère en tant que formation de la personnalité intégrative, qui a une structure complexe et agit comme une interaction et une interpénétration des compétences linguistiques, socioculturelles et communicatives, le niveau de leur formation permet au futur spécialiste de mettre en œuvre efficacement la langue étrangère, et donc la communication interlingua, interculturelle et interpersonnelle. Résumant ce qui précède, nous pouvons conclure que le but de l'étude d'une langue étrangère professionnellement la communication dans la plus haute institution non linguistique est la préparation des étudiants à une communication efficace dans leur environnement professionnel. Un domaine prometteur de recherche scientifique d'une compétence professionnelle étrangère peut être le développement d'un modèle didactique de sa formation chez les étudiants des établissements d'enseignement technique supérieur, en tenant compte des possibilités des technologies de l'information et de l'éducation.

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SOFT POWER A LA FRANCAISE : « LE CAS DES ALLIANCES FRANÇAISES ET DE CAMPUS FRANCE »

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La diplomatie française a adopté dès le départ une politique de soft power pour lutter contre les violations des droits de l'homme, qu'elle poursuit dans les enceintes multilatérales et met en œuvre dans les relations bilatérales. L'image internationale de la France est renforcée par la résolution des conflits, l'accueil des immigrants et des réfugiés [Cogan, 2006]. Le système d'État du soft power de la France a subi des changements importants depuis lors. Les domaines dans lesquels il est utilisé se sont étendus, nécessitant davantage de ressources, tant intellectuelles que financières. Les formes de soft power se sont multipliées, ont pris beaucoup de poids et se sont répandues dans le monde entier [Vaïsse, 2009]. L'un des instruments les plus puissants de la politique douce de la France est la diffusion de sa langue, de sa culture et de son éducation. Ainsi, on peut souligner ici les réseaux des Alliances françaises et des Campus France dans le monde.

L'Alliance française est une organisation qui existe depuis la fin du XIXe siècle, dont le but officiel est de promouvoir la langue et la culture françaises à l'étranger grâce à un réseau d'associations publiques apolitiques et non religieuses appropriées. Le gouvernement français a modifié le nom et les statuts de cette organisation par un décret du 19 février 2010. Elle est désormais considérée comme un "établissement à caractère public" et son bureau central s'appelle la Fondation des Alliances françaises.

L'apprentissage d'une culture passe par l'apprentissage de sa langue. Faire du français une langue-monde a toujours été l'une des ambitions des chefs d'État, et à cette fin, la France dispose d'un réseau extrêmement étendu à l'étranger, composé d'opérateurs destinés à diffuser la langue et la culture française, comme l'Institut français (IF) ou l'Alliance française (AF) : le monde compte aujourd'hui [98 Instituts français et plus de 800 Alliances françaises], ces dernières étant présentes dans plus de 130 pays. Ces initiatives portent leurs fruits : en 2018, on comptait 51 millions de personnes dans le monde apprenant le français comme langue étrangère (FLE). Plus généralement, les échanges éducatifs sont un moyen pour la France (ou pour l'État dans son ensemble) de diffuser ses coutumes, principes et valeurs et d'accroître son rayonnement international. D'une part, en retournant dans leur pays, les étudiants formés en France peuvent devenir des acteurs économiques de leur État. D'autre part, les entreprises françaises internationales ont de plus en plus besoin de cadres bilingues ayant un bagage culturel différent pour leur développement.

Le français est la cinquième langue plus parlée au monde après l'anglais, le chinois mandarin, l'hindi et l'espagnol, avec quelque 300 millions de locuteurs. On le retrouve sur presque tous les continents et sous-continents du globe - en Europe, en Amérique du Nord, en Afrique, en Asie et en Amérique latine. En même temps, la plupart des francophones vivent en Afrique, où elle joue souvent le rôle de "lingua franca" dans les relations interethniques et interétatiques. Les populations de pays tels que la Belgique, la Suisse, le Luxembourg et le Canada (Québec) considèrent le français comme leur langue maternelle.

Une autre institution qui travaille en étroite collaboration avec les établissements français est Campus France, dont le nom officiel complet est l'Agence française pour la promotion de l'enseignement supérieur, l'accueil et la mobilité internationale (ci-après l'Agence ou Campus France). Il a été créé en 2007 et réformée par le décret gouvernemental n° 2010-1695 du 30 décembre 2010. "Sur les activités de l'Institut français". Les bureaux de Campus France, souvent géographiquement situés dans les locaux des Instituts français ou des universités locales, apportent une aide aux étudiants qui souhaitent étudier en France. Il fait également partie intégrante de la promotion de l'éducation, de la langue et de la culture françaises, et travaille souvent en collaboration avec l'Alliance française ou auprès des Ambassades de France. D'après le site officiel de Campus France : Campus France est un établissement public placé sous la double tutelle du ministère de l'Europe et des Affaires étrangères et du ministère de l'Enseignement supérieur et de la Recherche. Son action est menée en concertation avec les établissements d'enseignement supérieur et leurs conférences représentatives : France Universités, la conférence des grandes écoles (CGE) et la conférence des directeurs des écoles françaises d'ingénieurs (CDEFI). Au Kazakhstan, par exemple, Campus France est présent dans 2 villes principales - Astana et Almaty. Jusqu'à 100 étudiants kazakhs de niveau licence, master et doctorat viennent en France chaque année aux frais de cette agence.

Le Kazakhstan, qui a l'économie la plus dynamique d'Asie centrale, est aujourd'hui considéré comme un partenaire par la France. Les bases de la coopération scientifique, éducative et culturelle sont inscrites dans le traité d'amitié, de compréhension mutuelle et de coopération signé en septembre 1992. L'accord de coopération dans le domaine des arts et de la culture, signé en novembre 1993, caractérise l'interaction interculturelle entre les deux pays. Il existe un site web dédié à la culture et à l'éducation françaises au Kazakhstan, avec des informations détaillées sur les alliances françaises et les programmes d'échange (Nagornov).

Dans le domaine éducatif, la priorité est donnée à la formation des cadres élites grâce au partenariat du programme de bourses présidentielles Bolashak de l'Académie du service public du Kazakhstan et du programme de mobilité académique pour la formation des fonctionnaires de l'École nationale d'administration. Un programme de master commun a été mis en place en 2011. Le Centre franco-kazakh de formation et de recherche en géo-énergie pour les hydrocarbures et les combustibles fossiles joue un rôle essentiel dans la formation des futurs professionnels kazakhs de l'énergie. Les liens commerciaux sont efficacement établis par les visites des dirigeants du pays. Par exemple, en novembre 2012, le président Nazarbayev a visité l'exposition internationale 2017, où il a présenté le forum "Astana-2017 dans l'avenir énergétique". Le ministre français du commerce extérieur a visité un forum d'investissement à Astana en 2013 pour promouvoir les projets d'investissement français. Ces visites ont permis de renforcer les projets et les coopérations en cours dans le secteur de l'énergie et de diversifier les partenariats dans le transport ferroviaire (Alstom), l'espace (EADS Astrium), les communications sécurisées (Thales), l'aéronautique (EADS), La coopération commerciale décentralisée est soutenue par le Comité des villes jumelles d'Almaty et de Rennes et l'accord d'amitié avec Nice". Le ministère du commerce extérieur s'est fixé pour objectif de doubler les exportations françaises d'ici cinq ans ; pour diversifier les échanges commerciaux et industriels, il s'agit d'encourager les partenariats industriels et les investissements croisés dans le développement énergétique, ainsi que les programmes d'échanges scientifiques et éducatifs".

La diffusion de l'enseignement français joue également sur un autre levier du " soft power " de la France : le monde francophone. Dans cette guerre des talents, selon l'UNESCO, les États-Unis sont en tête avec 971 000 étudiants étrangers par an, suivis par le Royaume-Uni (432 000), l'Australie (335 000) et la France (245 000), devant l'Allemagne et la Russie. Étudier à l'étranger est également un véritable passeport pour l'emploi. Ceux qui ont étudié à l'étranger trouvent plus rapidement un emploi et gagnent un salaire 25% plus élevé que les autres. "33% des étudiants Erasmus ont reçu une offre d'emploi de l'entreprise où ils ont travaillé ou fait un stage", indique Béatrice Hayat, directrice de Campus France.

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LA COOPERATION ENTRE LE KAZAKHSTAN ET LA FRANCE

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La France et le Kazakhstan ont établi des relations diplomatiques le 25 janvier 1992. Les accords qui sous-tendent les relations bilatérales ont été signés lors de la visite du président François Mitterrand au Kazakhstan en septembre 1993.

En cette année du 30e anniversaire de l'établissement des relations diplomatiques entre le Kazakhstan et la France, le président de la République du Kazakhstan Kassym-Jomart Tokayev a effectué une visite officielle en France les 29 et 30 novembre 2022 à l'invitation du président de la République française Emmanuel Macron[1].

Constatant la validité du Traité de partenariat stratégique entre la République du Kazakhstan et la République française du 11 juin 2008, les chefs d'État se sont félicités du dialogue confiant et régulier entre les deux pays à tous les niveaux.

Les présidents ont souligné le caractère prioritaire de la coopération dans le domaine de l'éducation. Ils ont exprimé leur soutien à l'ouverture et au développement de deux écoles françaises à Astana et Almaty. Ils ont soutenu une mobilité accrue des étudiants, notamment en augmentant le nombre de bourses dans le cadre du programme Abay-Vern et en élargissant la liste des EES français dans le cadre du programme «Bolashak».

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[1] https://www.akorda.kz/ru

Le ministère des Sciences et de l'Enseignement supérieur de la République du Kazakhstan, soutenu par l'ambassade du Kazakhstan en France, a organisé le 30 novembre 2022 à Paris le VIIe Forum interuniversitaire kazakh-français dans le cadre de la visite du chef de l'État en France. Le Kazakhstan et la France ont convenu de promouvoir la coopération entre les universités et les instituts de recherche kazakhs et français. Les pays soutiendront la mise en œuvre de programmes éducatifs conjoints et de programmes de double diplôme. D'autres travaux sont également prévus pour transformer l'Institut Sorbonne-Kazakhstan (ISK), qui a ouvert ses portes le 6 décembre 2014.

Dans le cadre de la mobilité universitaire et de la coopération en matière de recherche, les pays continueront à faciliter les échanges d'étudiants, d'enseignants, de chercheurs et de spécialistes.

"Nous avons signé une déclaration avec la France. Le ministère des sciences et de l'enseignement supérieur est disposé à envisager l'ajout de nouveaux établissements d'enseignement supérieur français à la liste «Bolashak». Pour les stages en France, nous avons l'intention de promouvoir conjointement le programme "500 stages de recherche" auprès des institutions kazakhes et françaises. Le programme de bourses Abay-Vern pour les étudiants en master et en doctorat sera poursuivi. En outre, l'Institut français d'études sur l'Asie centrale facilitera l'accès des candidats kazakhs et français aux programmes de mobilité de recherche dans le domaine des sciences humaines et sociales", a déclaré le ministre Sayasat Nourbek[2].

Le réseau d'institutions culturelles au Kazakhstan est représenté par quatre Alliances françaises, avec un total de 2 000 étudiants. Après les Alliances françaises d'Almaty (créée en 2004, 950 étudiants en 2019) et d'Astana (créée en 2005, 612 étudiants), deux autres centres, à Shymkent et Karaganda, ont reçu ces dernières années le label de la Fondation Alliance française.

Il convient de noter que les étudiants des spécialités "Études de traduction" et "Langue étrangère : deux langues étrangères" de l'Institut Eurasien des Sciences Humaines A.K. Kussainov participent également activement à l'étude du français. Si l'on compare les données sur le nombre d'étudiants choisissant le français comme deuxième langue étrangère, on constate une augmentation de 30% des étudiants au cours des 5 dernières années. Ce fait peut être attribué à l'intérêt accru des étudiants pour la langue française et la France ; en particulier, nos étudiants participent à de nombreux événements organisés par l'Alliance française d'Astana et les établissements d'enseignement supérieur de notre ville et de notre république. Il s'agit d'événements tels que "La Nuit de Lecture", les dictées d'écriture en français, les conférences et séminaires internationaux et républicains, le "concours de dissertation républicaine", les Olympiades internationales et républicaines en français. Nos étudiants ont reçu de nombreux diplômes et certificats pour leur travail et leur participation à ces événements. Notre département des langues étrangères dispose d'un club de français, fréquenté par les étudiants de 2ème et 3ème années. Je tiens à souligner qu'aujourd'hui, les étudiants qui étudient par la

[2] ttps://www.culturefrance.kz/-Francuzskij-Al-yans-g-Astany-Af-Astana-?lang=ru

technologie de l'enseignement à distance choisissent également le français comme deuxième langue étrangère.

En ce qui concerne la coopération scientifique et technique entre nos pays, elle s'effectue par le biais de deux instituts franco-kazakhstanais de formation et de recherche:

1. L'Institut Sorbonne-Kazakhstan propose des diplômes en économie, droit et relations internationales et s'appuie sur des partenariats avec trois institutions : L'Université de Poitiers, l'Université de Lorraine et l'Institut National des Langues et Cultures Orientales (INALCO). Il existe actuellement deux types de doubles diplômes et deux types de diplômes universitaires. L'Institut Sorbonne-Kazakhstan, basé à l'Université pédagogique nationale kazakhe portant le nom d'Abay, a accueilli 864 étudiants au cours de l'année universitaire 2020/2021 sous la supervision conjointe d'une vingtaine de professeurs français.

2. Le GeoEnergy Centre, créé en 2010. Le GeoEnergy Centre, créé en 2010 par l'Université de Lorraine et l'Université nationale kazakhe Al-Farabi, est l'un des principaux établissements d'enseignement du Kazakhstan (24 000 étudiants). Le centre GeoEnergy a déjà formé une centaine de diplômés de maîtrise en énergie et soutenu une dizaine de thèses de doctorat. Au cours de l'année universitaire 2020/2021, une quarantaine d'étudiants étaient inscrits dans les quatre doubles masters proposés par l'Université de Lorraine et l'Université de Reims Champagne-Ardenne[3].

En outre, il existe un certain nombre de programmes de bourses cofinancées : "Abay-Vern", "Make Our Planet Great Again", "Aralia" (Fondation de France), "Bridge of Arts" (Association internationale pour la promotion des arts).

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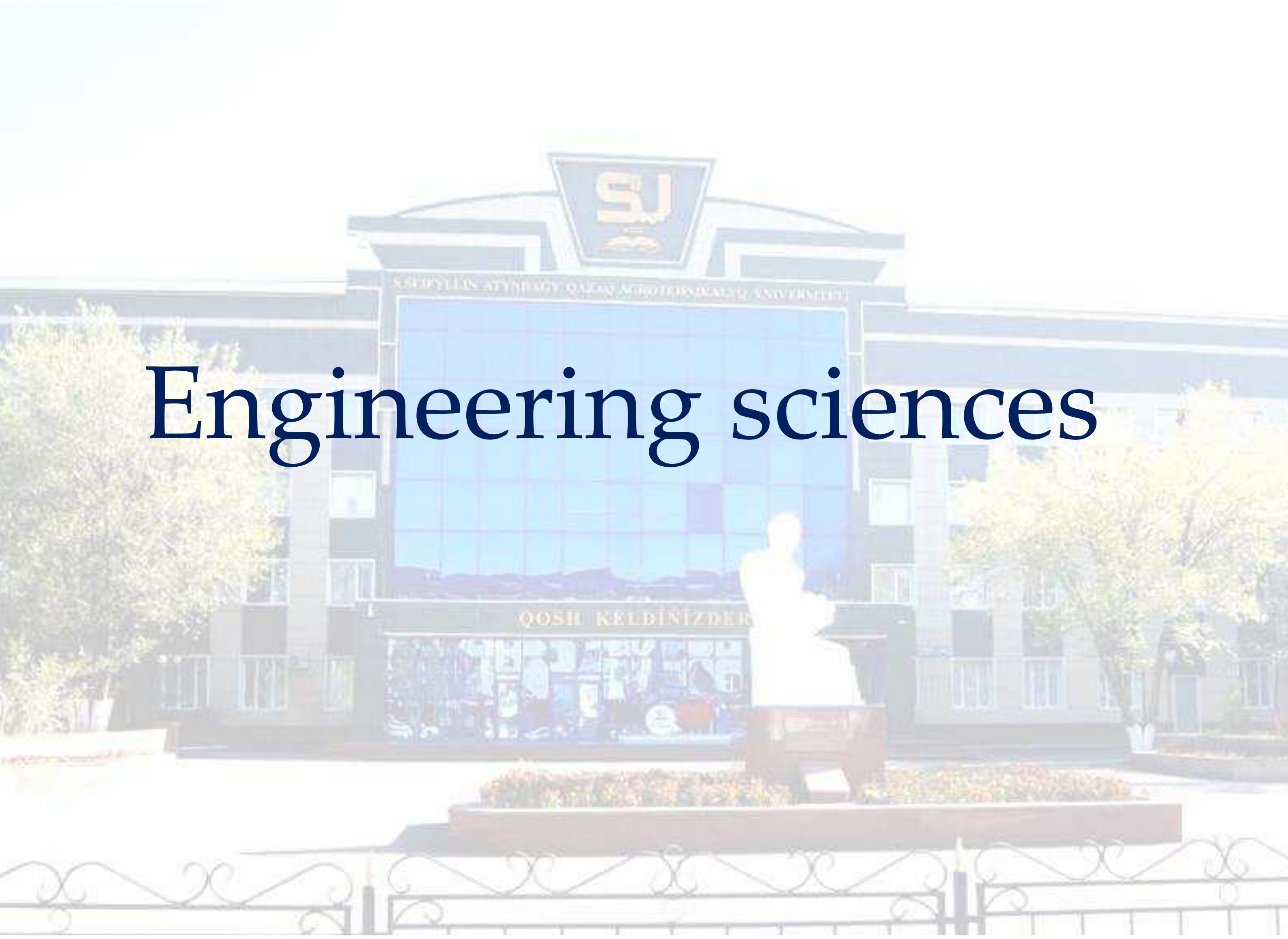
Engineering sciences



UDC: 625.7/.8

ROAD BITUMEN MODIFYING WITH KRATON POLYMER

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Increase of heavy-weight vehicles number in the traffic flow leads to the rapid growth of demand for bitumen materials resistant to deformation. Polymeric substances, which are dense and elastic, impede development of irreversible deformations in the bitumen matrix and increase its mechanical strength.

Compared to the oil products, polymers have quite large molecular mass and that is why they are more effective thickeners. Addition of even a small quantity of polymers in bitumen changes its qualitative characteristics – increases softening temperature and reduces permeability. At the same time, their basic properties, especially their adhesion to stone materials, are getting better.

Due to the improvement of binding materials characteristics, especially adhesion the durability of asphalt concrete prepared with a bitumen binder modified with three-component modifier increases almost three times than that of the asphalt concrete manufactured with ordinary bitumen. Based on the main operational characteristics the physical and chemical properties of orimulsion (emulsion of bitumen and water), namely adhesion and melting temperature were determined. From the experimental data we obtained that polymer content equal to 1.5% of weight is optimal by any measure. Laboratory study results just confirm our idea[1;2].

Bitumen modifying with Kraton polymer is an effective and widely used method, which increases road pavement quality and stability.

Kraton polymer application for bitumen modifying improves road pavement quality, stability and safety.

Polymers addition to the bitumen binder reduces road pavement damage that is manifested in the durability and better properties of its surface. Hot climate frequently causes plastic deformation, crackening and fracturing at the same time. High temperature causes demand for use of solid bitumen. Day and night temperature difference frequently causes surface contractibility aggravated by the load increase that is resulted in heat cracks. Asphalt concrete, which contains a modified bitumen is effectively protected from such type of damages [3].

Low temperature impact leads to heat cracks, as well. So, the use of Kraton binding polymers is necessary at the high throughput roads.

Addition of Kraton polymers to bitumen changes its state from viscous liquid to economical elastic one. Polymeric-bitumen binders guarantee flexibility, elasticity and strength in the wide temperature range (from -30°C to +80°C).

Polymeric-bitumen binders are widely used not only in the conventional hit mix (hot asphalt concrete mixture), but also for surface treatment. Generally, the modified binder is used for treatment of worn layer and intermediate course and in bridge structures and constructions. According to the relatively up-to-date technologies polymers can be also used for base courses of the road pavement that significantly increases its stability (firmness), promotes course thickness reduction and indicates its economic feasibility[4;5].

Application of the bitumen binder modified with Kraton D polymers for preparation of asphalt mix (mixture of bitumen and concrete) provides:

1. Reduction of residual deformation;
2. Crack resistance increase;
3. Reduction of binder ageing effect;
4. Mineral loss reduction.

Table 1 provides the test results of bitumen modified with Kraton polymer (depth of needle penetration, softening temperature, stretchability, penetration index, elasticity, adhesion ability to rock materials, uniformity).

Table 1

Test results of bitumen modified with Kraton

Parameter name	Baku oil bitumen БН50/70 properties		
	without additive	with 2% Kraton	with 3% Kraton
Depth of needle penetration at 25°C	55	45	35
Softening temperature, °C	50	62	67
Stretchability, cm	84	13	9
Softening temperature variation after heating, °C	3	3,6	3,4
Brittleness temperature, °C		- 25	- 35
Penetration index	-1,0	-	-
Elasticity, % 25°C		22	10
Adhesion ability to stone materials	Stable		
Uniformity	Uniform		

Kraton polymer after the load increases bitumen elasticity and its restoration and reduces crack formation opportunity.

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SECURITY MANAGEMENT & ITS IMPORTANCE IN YOUR DAILY LIFE

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Security management refers to the process of identifying, analyzing, and mitigating security risks to ensure the safety of individuals and assets. It plays a crucial role in our daily lives as it helps to prevent a wide range of threats that can compromise our safety, well-being, and property. In this report, I will discuss the importance of security management and its role in our daily lives.

Importance of Security Management:

1. Personal Safety: Security management provides variety ways to enhance your personal protection. It helps to prevent criminal activities such as theft, burglary, assault, and kidnapping. By implementing security measures such as surveillance cameras, security guards, and alarm systems, we can reduce the risk of these crimes and enhance our personal safety. As the article says, every 32nd registered crime in Russia is apartment theft. Meanwhile, 80% of all thefts are committed when hosts are gone, for example during their vacations. [3]The cases above could have been prevented by timely implementation of personal security of their houses. In order to avoid such negative consequences, people should think about the protection of the places where they live. Simply alarm system can make a huge difference in terms of breaking into your house.

The noise provided by it can easily draw neighbor's attention to the crime scene and that is very helpful. [1]

2. Transportation Safety: Security management is essential for ensuring transportation safety. It helps to prevent accidents and terrorist attacks on transportation systems such as airports, trains, and buses. By implementing security measures such as screening, metal detectors, and security checks, we can ensure the safety of travelers and transportation staff. Many students tend to use buses as a cheap and relatively fast mean of transport. Indeed, it is, but every ride can be accompanied by risks described above. To reduce the risk, we need to think about our safety in public places. The government plays a major role here due to the fact that it fights terrorism in the country. However, citizens must have a common sense and below I will give some advices:

- A person should not be near the road when the bus approaches.
- If you are alone in the bus, then try to take a sit near the driver.
- When the bus is crowded, watch out for your pockets and if it is possible, you should zip them.
- It is very dangerous to fall asleep during your ride, if you are on your own. Remember, you become exposed in this situation.
- Be careful when the doors close. You should keep the distance between you and them
- Never distract the driver from their job, otherwise it could lead to an accident [2]

3. Online Safety: Online safety is the practice of protecting oneself, one's personal information, and devices from threats and risks that arise in the digital space. The internet has become an integral part of our daily lives, and while it offers numerous benefits, it also comes with various risks. For example, it is a common situation to face a suspicious link and even click on it, but you should notice them immediately and act carefully when surfing the global web. [4] For this task, I strongly recommend you to start using antiviruses. They are built to be our friends and help us to fight threats in the digital world. There are a lot of them, but it will be enough to have standard Windows Defender as it does what it is supposed to do. However, it is important to keep updates up-to date; otherwise, you are going to have a weak spot in your device. Another great tool is a website called "VirusTotal" which designed to help us determine which link is safe and which is not. To put it briefly, it uses powers of many antiviruses to check your URL and give you the result where you can see how many antiviruses consider the URL as an unsafe link.[5]

In conclusion, security management plays a crucial role in our daily lives as it helps to prevent a wide range of threats that can compromise our safety, well-being, and property. Nowadays, this topic is relevant as never before, because the population of humans is rising every year and it is our duty to protect ourselves from the various kinds of threats. By implementing effective security measures, we can protect ourselves, our businesses, and our communities from security threats and maintain a safe and secure environment.

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UDC: 621.5

APPLICATION OF THE ORGANIC RANKINE CYCLE IN ENERGY SYSTEMS

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The issue of energy use and conservation is becoming increasingly important as fossil fuels are now being depleted and the cost of extracting them is rising. The growing cost of energy makes it more profitable to search for opportunities to utilize waste heat generated as a result of many technological processes [1-4].

A large amount of energy from burning fossil fuels is often used inefficiently and is simply released into the environment. This includes emissions from petrochemical plants, cement plants, etc.

The difficulty of using this waste heat lies in the low source temperature of 100 – 350°C. At such source temperatures, the use of water as a working medium in the Rankine cycle is inefficient.

One method for efficient use of this waste heat is the organic Rankine cycle. It is known that the organic Rankine cycle, depending on the method of heat supply, is divided into:

- direct, when heat is transferred directly from the heat source to the working fluid (Figure 1);

– indirect, where an intermediate coolant is used to transfer heat to the working fluid [3].

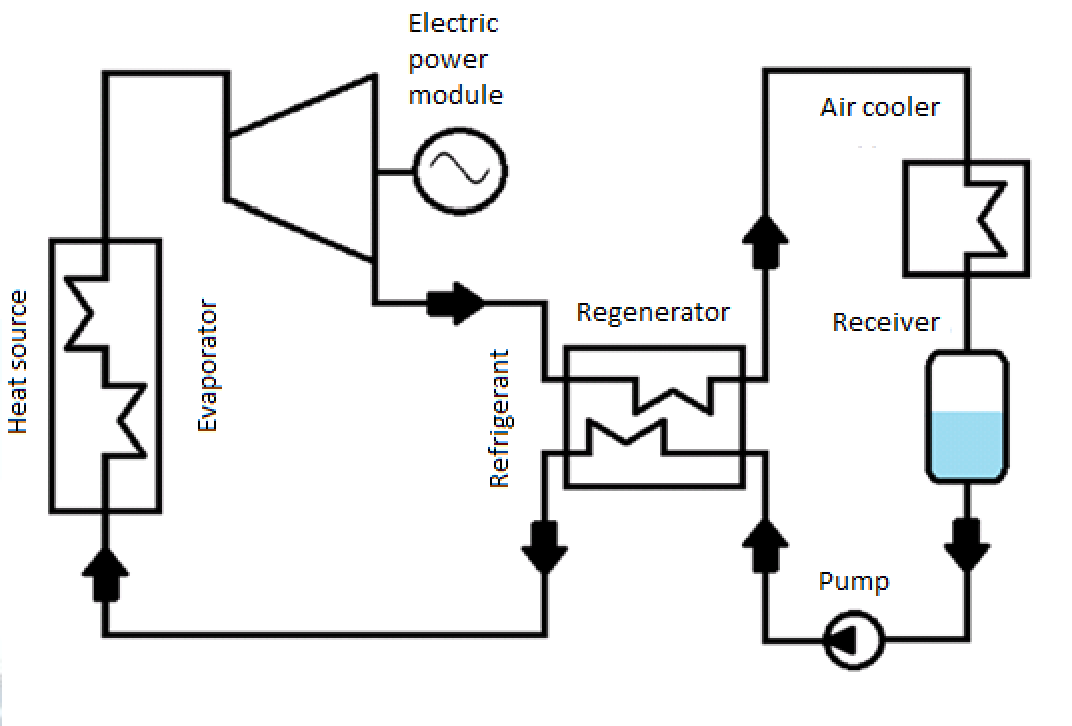

Figure 1 - Organic Rankine cycle with direct heat supply

Direct cycle type requires clean exhaust air and relatively low flue gas temperature, while the indirect cycle type requires additional equipment, resulting in higher installation costs.

As a result of the study, a SWOT analysis was made, which is presented in Table 1.

Table 1- SWOT analysis

Strengths	**Weaknesses**
- The working fluid is a substance that has a lower boiling point than water; – adaptation to various sources of thermal energy; – low noise level; – low costs; – use of inexpensive non-freezing heat carriers instead of water; – compactness; – ease of maintenance of equipment.	– relatively low efficiency of the device; – the maximum temperature of the heat source is limited by the chemical stability of the working fluid.
Opportunities	**Threats**

– residual heat can be used; – the installation based on the organic Rankine cycle can also operate on renewable energy sources; – use of low-potential energy for utilization; – can be used in a binary cycle; - can also be used for desalination of sea water.	– additional power losses when using an air condenser; – power reduction when the cooling temperature rises above 12 °C.

Thus, the use of the Rankine cycle for organic working fluids makes it possible to utilize various thermal wastes. This installation also contributes to the development of alternative energy due to its low power[1].

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UDC: 1082

PROBLEMS OF THE DEVELOPMENT OF ENGINEERING SCIENCES IN KAZAKHSTAN

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Kazakhstan, as a young and rapidly developing country, has been striving to strengthen its position in the world market and create favorable conditions for its economic growth. One of the critical areas of development is the development of engineering sciences, which plays an essential role in the creation of new technologies, products, and industries. However, despite the efforts made by the Kazakhstani government to promote engineering sciences, there are still several problems and challenges that need to be addressed.

In this paper, we will discuss some of the significant issues in the development of engineering sciences in Kazakhstan and suggest possible solutions:

One of the major problems in the development of engineering sciences in Kazakhstan is *the lack of qualified teachers and professors* [2]. According to Akhmetov and Tussupova (2019), the quality of STEM education is influenced by the qualifications and competencies of teachers [1]. This problem is further highlighted in the National Report of the Republic of Kazakhstan (2019), which stated that the lack of qualified personnel is a serious obstacle to the development of science and technology in the country. According to the World Economic Forum's Global Competitiveness Report, Kazakhstan ranks 76th in the world for the availability of scientists and engineers. This shortage is a result of the lack of investment in education and training in the engineering sector

Another problem is *the lack of modern equipment and technology in universities and research institutions* [3]. Kozhabekova and Yessimbekova (2020) noted that outdated equipment and insufficient funding for research projects hinder the development of engineering education in the country [1]. The need for modernizing laboratories and providing students with access to modern equipment is also emphasized in the study by Samarkhanova, Kozhakhmetova, and Karshigina (2018) [5].

Additionally, *the lack of coordination and cooperation between universities, research institutions, and industry* is another problem in the development of engineering sciences in Kazakhstan [2]. Zhakupova (2018) stated that the integration of education and industry is crucial for the development of engineering education in the country [1]. The National Report of the Republic of Kazakhstan (2019) also highlighted the need for closer collaboration between universities and industry in order to improve the quality of research and development [4].

Another issue is *the lack of research and development (R&D) funding* [7]. Most of the funding for R&D in Kazakhstan comes from the government, and the funding level is low compared to other countries in the region. According to the World Bank, Kazakhstan spends only 0.11% of its GDP on R&D, while the average for upper-middle-income countries is 0.73%. *This lack of funding limits* the ability of researchers and engineers to undertake large-scale projects and limits innovation. To address this issue, the government needs to increase funding for R&D and create programs that encourage private investment in research.

Kazakhstan is a member of the World Trade Organization and has signed a number of free trade agreements with other countries. However, the country's engineering and technical industries still face significant barriers to entry in many international markets. This is due in part to the lack of international recognition of Kazakhstan's engineering and technical qualifications, as well as the country's relatively underdeveloped infrastructure and regulatory framework

In conclusion, the development of engineering sciences in Kazakhstan faces several challenges, including the lack of qualified personnel, outdated equipment, and insufficient collaboration between universities and industry. To address these problems, it is necessary to invest in modernizing laboratories, providing training for teachers and professors, and promoting closer collaboration between universities and industry.

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UDC: 1082

HOW NEURAL NETWORKS ARE CHANGING EDUCATION

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Neural networks are computer programs designed to simulate the neural pathways of the human brain, and are used to perform complex tasks such as facial recognition and natural language processing. One of the main capabilities of neural networks is the ability to detect patterns in large amounts of data. Based on this, they can draw certain conclusions on the tasks provided. As these technologies become more capable and widely used, they are beginning to make an impact on the way education is approached and implemented. [1]

1. How can neural networks help in education?

Neural networks are changing the way we think about education. By using artificial intelligence, neural networks are able to learn from data and make decisions based on that data. This technology is being used to create more personalized learning experiences for students, as well as to improve the accuracy of assessments. [2]

Neural networks can help teachers in many ways. For example, they can be used to create a personalized learning experience for students, allowing teachers to tailor learning to the individual needs of each student. Neural networks can also be used to analyze student data and provide teachers with information about student performance, helping them identify areas for improvement and adjust their learning strategies accordingly. Finally, neural networks can be used to automate grading and other administrative tasks, freeing up teachers' time to focus on teaching. [3]

2. What will happen if we integrate neural networks into the education system?

Neural networks could help in education in the future by providing personalized learning systems that can assess individual students' performance, detect patterns of behaviour and recommend the best learning strategies. For example, neural networks could track students' progress, progress and assess their understanding of the topics, and offer real-time feedback and advice for teachers. By supplementing traditional instructional approaches with the use of neural networks and automated processes, both teachers and students can have a more efficient learning experience. [4]

3. What will happen if we integrate neural networks into the education system?

If the level of education of students increases, this can lead to an overall improvement in academic performance. Higher levels of education can lead to greater knowledge and understanding, improved critical thinking skills, greater creativity and better decision making, and broader job prospects. In addition, a society with a highly educated population may have an overall higher quality of life, higher incomes, and increased economic stability. [5]

In conclusion, the use of neural networks is becoming increasingly prevalent in various fields, including education. By providing personalized learning experiences, analyzing student data, and automating administrative tasks, neural networks can help to improve the efficiency and effectiveness of the education system. With the integration of neural networks, it is possible to enhance the academic performance of students, improve critical thinking skills, foster creativity, and broaden job prospects, leading to a higher quality of life and economic stability for society as a whole.

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MODERN PROBLEMS OF TECHNICAL SCIENCES

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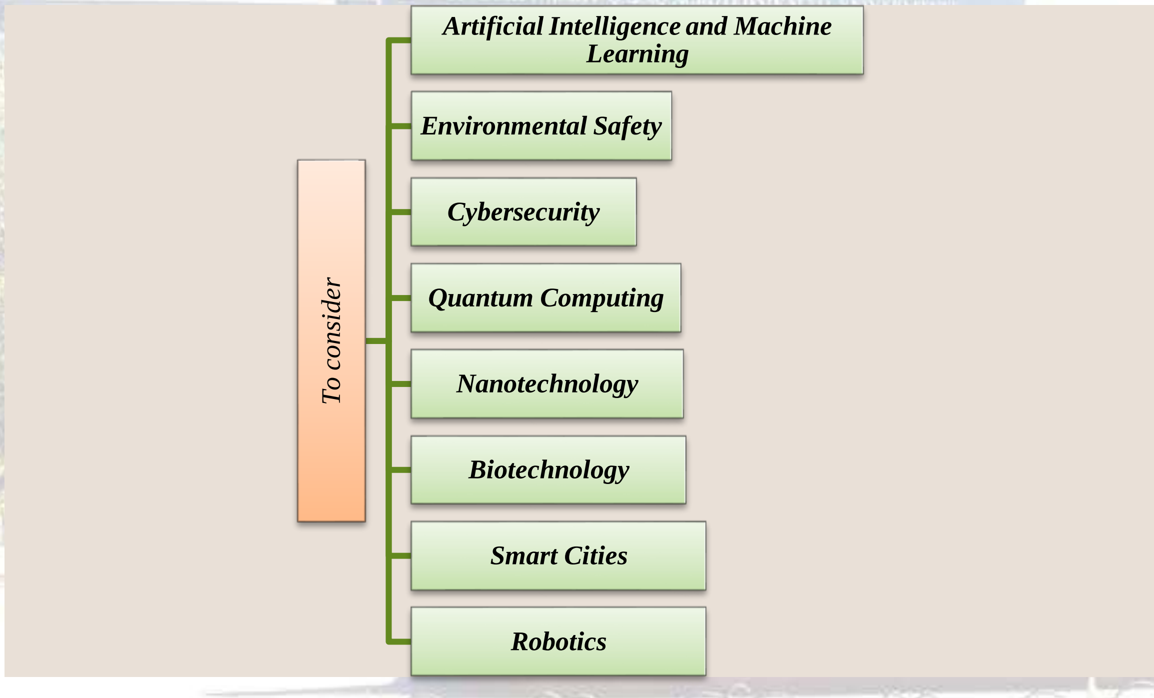
Technical sciences encompass a wide range of disciplines that deal with the design, creation, and operation of technical systems and devices. Currently, technical sciences are in an active phase of development, driven by the rapid pace of technological progress, new challenges, and the needs of society. Let's consider some of the current problems that technical sciences face in Table 1.[1]

Table 1.



Artificial Intelligence and Machine Learning

The development of Artificial Intelligence and Machine Learning is one of the most important and pressing issues in modern technical sciences. The development of machine learning algorithms that can analyze and process large amounts of data enables the solution of many tasks in medicine, finance, production, and other industries. However, with the development and use of AI, there are problems related to data security and privacy. The risk of confidential information leakage, theft of personal data, and other forms of cyber-attacks is increasing. The development of reliable security systems and data protection tools becomes a necessity.[2]

Environmental Safety

The growing environmental problem in the world is becoming more relevant for technical sciences. The development of technologies capable of reducing negative environmental impact becomes essential. The use of renewable energy sources, such as wind, solar, and hydroelectric power, is becoming increasingly important. The development of efficient energy storage systems and the use of energy-saving technologies also require urgent attention.[3]

Cybersecurity

The increasing use of the internet and digital technologies has led to an increase in cyber threats. The development of technologies for preventing and detecting cyber-attacks is essential for maintaining the safety and integrity of data and digital systems. The development of new methods for protecting personal data, intellectual property, and critical infrastructure is an urgent task.[4]

Quantum Computing

Quantum computing is an emerging field that has the potential to revolutionize computing and data processing. The development of quantum computing technologies could enable the solution of problems that are currently impossible to solve using classical computers. However, the development of quantum computing technologies also requires the development of new algorithms and the creation of new hardware. The current challenges in quantum computing include the development of reliable and scalable quantum systems and the reduction of error rates.[5]

Nanotechnology

Nanotechnology is another emerging field that has the potential to revolutionize various industries, including medicine, electronics, and energy. However, the development of nanotechnology also raises concerns about the potential risks associated with the use of nanoparticles. The development of safe and effective nanotechnologies requires the identification and management of potential risks and the establishment of appropriate regulations.[6]

Biotechnology

Biotechnology is a field that combines biology and technology and has the potential to transform various industries, including medicine, agriculture, and energy. The development of biotechnology requires the discovery of new biological systems and the optimization of existing ones. The use of biotechnology can enable the creation of new medicines, the development of environmentally sustainable agricultural practices, and the production of renewable energy.

However, the development of biotechnology also raises concerns about potential risks associated with the use of genetically modified organisms and the safety of biological systems. The development of safe and effective biotechnologies requires the identification and management of potential risks and the establishment of appropriate regulations.[7]

Smart Cities

The development of smart cities is an emerging trend in urban planning that aims to optimize city services, enhance urban quality of life, and reduce environmental impact. The development of smart city technologies requires the integration of various technologies, including sensors, communication networks, and data analytics tools. However, the development of smart cities also raises concerns about potential privacy and security risks associated with the use of personal data and the management of urban infrastructure. The development of safe and secure smart city technologies that can enhance urban quality of life while ensuring privacy and security is an important task for technical sciences.[8]

Robotics

Robotics is another rapidly developing field that has the potential to transform various industries, including manufacturing, healthcare, and agriculture. The development of robots with advanced capabilities, such as artificial intelligence and autonomous navigation, can enable the creation of new technologies that were previously impossible. However, the development of robotics also raises concerns about potential ethical issues, such as the impact on employment and the potential for robots to be used for harmful purposes. The development of safe and ethical robotics technologies requires collaboration between technical scientists and experts in fields such as ethics and law.[9]

In summary, the development of advanced materials, big data analytics, biotechnology, smart cities, cybersecurity, renewable energy, artificial intelligence, robotics, and quantum computing are among the most pressing challenges facing technical sciences today. These challenges require collaboration between researchers, policymakers, and industry leaders to ensure that technological progress is balanced with social responsibility and the protection of human and environmental safety. Technical sciences play a vital role in solving these problems and creating a better future for society.

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IMPROVING 3D-PRINTING OF MEGAVOLTAGE X-RAYS RADIOTHERAPY BOLUS WITH SURFACE-SCANNER

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Computed tomography (CT) data used for patient radiotherapy planning can nowadays be used to create 3D-printed boluses. Nevertheless, this methodology requires a second CT scan and planning process when immobilization masks are used in order to fit the bolus under it for treatment. This study investigates the use of a high-grade surface-scanner to produce, prior to the planning CT scan, a 3D-printed bolus in order to increase the workflow efficiency, improve treatment quality and avoid extra radiation dose to the patient. The scanner capabilities were tested on a phantom and on volunteers. A phantom was used to produce boluses in the orbital region either from CT data (resolution ≈1 mm), or from surface-scanner images (resolution 0.05 mm). Several 3D-printing techniques and materials were tested. To quantify which boluses fit best, they were placed on the phantom and scanned by CT. Hounsfield Unit (HU) profiles were traced perpendicular to the phantom's surface. The minimum HU in the profiles was compared to the HU values for calibrated air-gaps. Boluses were then created from surface images of volunteers to verify the feasibility of surface-scanner use in-vivo. Phantom based tests showed a better fit of boluses modeled from surface-scanner than from CT data. Maximum bolus-to-skin air gaps were 1-2 mm using CT models and always < 0.6 mm using surface-scanner models. Tests on volunteers showed good and comfortable fit of boluses produced from surface-scanner images acquired in 0.6 to 7 min. Even in complex surface regions of the body such as ears and fingers, the high-resolution surface-scanner was able to acquire good models. A breast bolus model generated from images acquired in deep inspiration breath hold was also successful. None of the 3D-printed bolus using surface-scanner models required enlarging or shrinking of the initial model acquired in-vivo. Regardless of the material or printing technique, 3D-printed boluses created from high-resolution surface-scanner images proved to be superior in fitting compared to boluses created from CT data. Tests on volunteers were promising, indicating the possibility to improve overall radiotherapy treatments, primarily for megavoltage X-rays, using bolus modeled from a high-resolution surface-scanner even in regions of complex surface anatomy.

Silicone 3D Printing Processes and Alternatives

Silicone 3D printers and their alternative solutions can be divided into three categories: Direct silicone 3D printing: There are silicone 3D printers on the market, but they are still far from being commercially viable or available to the average business.

3D printing using materials with silicone-like properties: Common polymer 3D printing processes offer various materials with silicone-like material properties that can serve as alternatives for certain applications. Casting or molding silicone using 3D printed molds: Rapid tooling with 3D printing can bridge the gap between prototyping and mass-producing silicone parts with traditional manufacturing methods.[1] Making a hyper-realistic silicone replica of an actress's face, with molds digitally designed and 3D printed on the Form 3L.

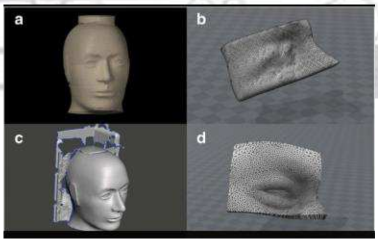
3D Printing Using Materials With Silicone-Like Properties

Some of the primary reasons why manufacturers choose silicones are the elasticity and flexibility of these materials that empower a wide range of applications. Silicones generally fall between 10A and 80A Shore durometer hardness. Common polymer 3D printing processes like FDM, SLA, and SLS offer various materials in this hardness range, with various degrees of likeness in other important material properties of silicone such as durability, thermal stability, UV resistance, food safety, biocompatibility, as well as color and translucency options.

FDM Material Alternatives to Silicone. For fused deposition modeling, elastomers such as thermoplastic polyurethane (TPU) and thermoplastic elastomer (TPE) are the most flexible materials that can offer an alternative to silicone. These materials are commercially available at Shore 45A to Shore 90A hardness, which covers part of the silicone hardness range, except for the softest materials. The pros associated with these alternatives are the general affordability of FDM 3D printers and materials. Conversely, the cons include lower precision and dimensional accuracy, low resolution, quality, and part strength, and limited design freedom that all restrict real-world usability. Silicone-like FDM materials are generally less durable than standard silicone, not food-safe, have lower temperature resistance, and offer limited color and no real translucency options, but they can be biocompatible and skin-safe.

Fig.1 a 3D model of the RANDO® phantom using CT-data with its corresponding bolus model (b) and 3D model of the phantom using surface-scanner data (c) with its corresponding bolus model (d).

Fig. 2 Left: Surface model of an ear split in 2 parts. Right: the 3D-printed boluses fitting the ear of a volunteer.[2]



SLA Material Alternatives to Silicone Stereolithography 3D printing is popular among professionals for its high precision and wide range of material options. SLA 3D printing offers multiple alternatives to silicone that empower manufacturers to prototype silicone-like parts or even manufacture end-use parts with the flexibility, elasticity, and durability of silicone. SLA parts offer the smoothest surface finish and a higher degree of design freedom than FDM. Silicone-like SLA materials are generally also less durable than standard silicone, not food-safe, not biocompatible (but can be skin-safe), and have lower temperature resistance. Silicone-like SLA materials can be translucent and can also be dyed to different colors.

SLA 3D printing offers multiple alternatives to silicone that can be used to prototype silicone-like parts or even manufacture end-use parts. [3] The specific material availability is dependent on the printer model, but generally falls within the 30A and 90A Shore durometer hardness range. Alternative materials to silicone among Formlabs' SLA 3D printing materials include:

Elastic 50A Resin is a soft material that's suitable for prototyping parts normally produced with silicone. This 50A Shore material is ideal for parts that will bend, stretch, compress, and hold up to repeated cycles without tearing, and spring back quickly to their original shape. Choose Elastic 50A Resin for applications like wearables (straps), stretchable enclosures and casings, compressible buttons, or soft tissue anatomy in healthcare.

Flexible 80A Resin is a stiff soft-touch material with an 80A Shore durometer to simulate the flexibility of hard silicones, as well as rubber or TPU. Balancing softness with strength, Flexible 80A Resin can withstand bending, flexing, and compression, even through repeated cycles. It is ideal for prototyping applications like handles, grips, overmolds, cushioning, damping, shock absorptions, seals, gaskets, and masks, or cartilage, tendon, and ligament anatomy in healthcare.

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UDC: 637.5

SICHERHEIT VON FLEISCH UND FLEISCHPRODUKTEN

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Fleischprodukte sind eines der am häufigsten konsumierten Lebensmittel der Bevölkerung. In den modernen Ladentischen können Sie eine große Auswahl an Fleischprodukten sehen, d.h. in Fertigfleisch und rohem Fleischprodukt. Fleischprodukte enthalten wichtige für den menschlichen Körper notwendige Elemente, die sehr nützliche Spurenelemente, Vitamine, Proteine und andere nützliche Substanzen enthalten.

Die Qualität und Sicherheit von Fleischprodukten sollen auf einem hohen Niveau sein. Um die hohe Qualität der auf den Markt kommenden Fleischprodukte zu erreichen, stellen spezielle Experten für Lebensmittelsicherheit in Zusammenarbeit mit den Agrarproduktionsunternehmen, den Aufsichtsbehörden und den für die Sicherheit von speziellen Lebensmitteln zuständigen Personen sicher, dass die Fleischprodukte als qualitativ hochwertige und sichere Produkte vermarktet werden.

Dies liegt daran, dass der Mangel an Qualität und Sicherheit von Fleischprodukten zu Infektionskrankheiten führen kann, die für den menschlichen Körper schädlich sind, die Funktionsstörung des Verdauungssystems und Lebensmittelvergiftungen. Aus diesem Grund muss der Körper von Haustieren, die auf Farmen gehalten werden, sauber sein.

Die richtige Auswahl von Fleischprodukten im Allgemeinen hat ihre eigenen speziellen Empfehlungen. Wir müssen diese Richtlinien strikt befolgen. Beim Kauf eines Fleischprodukts in den Ladenregalen oder auf einem Fleischmarkt sollte der Schwerpunkt auf seinem Veterinärzertifikat liegen. Er bestätigt, dass die Veterinär- und Hygieneuntersuchung vollständig durchgeführt wurde und die Produkte uneingeschränkt für Lebensmittelzwecke hergestellt wurden. Alle Informationen müssen vollständig und in kasachischer oder russischer Sprache an den Verbraucher geliefert werden.

Das Etikett muss vollständig etikettiert sein, mit allen Informationen über den Produktnamen, das Veröffentlichungsdatum, die Zusammensetzung und den Produktionsort, damit der Käufer das Produkt auf diesem Etikett lesen kann. Ich empfehle dem Käufer nicht, ein solches Produkt zu kaufen, wenn das Etikett erloschen, auf ein altes Etikett geklebt oder darüber geschrieben ist. Achten Sie beim Kauf von Fleischprodukten besonders auf die unbeschädigte äußere Verpackung. Wenn die äußere Verpackung des Produkts beschädigt ist, nehmen Sie das Produkt nicht mit, dies bedeutet, dass die Temperatur des Produkts nicht richtig eingehalten wurde.

Folglich nimmt der Anteil von Mikroorganismen in einem solchen Produkt zu, und es wird für den menschlichen Verzehr ungeeignet, ist sehr gefährlich. Wenn Sie der Qualität der Produkte skeptisch gegenüberstehen, haben Sie das Recht, ein Dokument zu verlangen, das die Qualität der Produkte bestätigt. Dies ist eine Konformitätserklärung des Produkts, ein vetirinäres Zertifikat oder ein vetirinäres Zertifikat.obligatorische

Dokumente, die jeder Hersteller des Produkts oder jede Person, die das Produkt verkauft, vorlegen muss.

Eine weitere wichtige Anweisung ist, besonders auf die Lagerbedingungen für Fleisch zu achten und besonders auf die Ausrüstung des Lagerortes für Fleischprodukte durch spezielle Kühlschränke zu achten.

Fleischfarbe

In einem Fleischprodukt ermöglichen die Farbe von Fleisch und Fett, die Farbe von Fleisch und die Qualität von frisch gemahlenem Fleisch die richtige Auswahl des Fleisches. Bei der Auswahl von Fleisch ist die Fleischfarbe jedes Tieres unterschiedlich. Zum Beispiel hat ein Schwein eine weiße rosa Farbe, ein Schaf ist rötlich-braun und eine Kuh ist himbeerrot. Besonderes Augenmerk sollte auf Fleischfett gelegt werden, da es die Frische des Fleisches symbolisiert. Die Fettschichten in Rindfleisch und Lamm sind weiß oder gelblich. Schmalz ist normalerweise rosa oder weiß. Durch die Konsistenz wird Schweinefett weich und zart, Schafs- und Rinderfett ist dicht.

Der Geruch von Fleisch

Der Geruch von frischem Fleisch sollte angenehm sein. Der effektivste Weg, dies zu testen, ist ein heißes Messer zu verwenden, das mit einem Stück durchbohrt werden muss, aber es gibt keine solche Möglichkeit im Laden oder auf dem Markt. Sie können dieses Verfahren verwenden, um die Qualität des Fleisches zu Hause zu überprüfen.

Nach Konsistenz

Wenn Sie ein Stück Fleisch mit dem Finger auf frisch geschlachtetes Fleisch drücken, wird es schnell geglättet und bildet eine Kerbe. Und das festgefrorene Fleisch wird nicht richtig geglättet, und die Kerbe wird mit Flüssigkeit gefüllt.

Überprüfung der Qualität von frisch gefrorenem Fleisch

Im Allgemeinen ist die Frische dieses Fleisches mit bloßem Auge schwer zu bestimmen. Der zuverlässigste Weg, es zu testen, besteht darin, dass es rot ist und die Härte die Qualität des Fleischprodukts bestimmen kann. Um dies zu testen, müssen Sie Ihren Finger auf das Fleisch legen und es für eine Weile halten. Nach einiger Zeit sollte ein roter Fleck an dieser Stelle erscheinen.

Wenn das Fleisch mehrmals eingefroren wurde, wird es die rötlich-braune Farbe annehmen.

Mehrere Faktoren tragen zur Verbesserung der Qualität und Sicherheit von Fleisch und Fleischprodukten bei.

- Qualitativ hochwertige und sichere, nahrhafte Ernährung von Futtermitteln, die von Vögeln und Haustieren konsumiert werden
- Richtige und bequeme Lagerung von Futtermitteln
- Systematische Durchführung von hygienischen und vorbeugenden Maßnahmen gegen Krankheiten, die für Menschen und Tiere üblich sind - Listeriose, Leptospirose, Salmonellose, Brucellose, Tuberkulose usw., die ihr Auftreten verhindern

– Bei der Herstellung von Produkten müssen die hygienischen und hygienischen Vorschriften und Anforderungen streng eingehalten werden. Sowie ständige externe und interne Qualitätskontrolle und Sicherheitskontrollen.

Es ist erwähnenswert, dass in vielen anderen Ländern, insbesondere in Europa, ganze Qualitätsmanagementprogramme und -systeme entwickelt und erfolgreich ausgeführt werden, die die vollständige Sicherheit von Fleisch und Fleischprodukten gewährleisten. In einigen Ländern gibt es ein spezielles Programm namens» White Book".Dieses Programm regelt methodische Ansätze, die eine 100% ige Sicherheit von Fleischprodukten gewährleisten. Die Arbeit dieses Programms erfolgt nach folgendem Prinzip:

1. hochwertiges Haustierfutter
2. gesunde Tiere
3. hochwertiges und sicheres Produkt
4. gesunder Verbraucher

Zusammenfassend müssen wir qualitativ hochwertige und sichere Produkte für die Menschheit herstellen. Weil minderwertiges und schädliches Essen für das menschliche Leben sehr gefährlich ist.

Mit "menschlicher Küche" meinen wir, dass wir mit dieser Nahrung die Makronährstoffe, Vitamine und Energie erhalten, die der Körper benötigt, aus der Nahrung, die wir jeden Tag konsumieren. Da Fleischprodukte ein Lebensmittel sind, das Sie häufig konsumieren, ist es sehr wichtig, dass es qualitativ hochwertig und sicher ist. In diesen drei müssen Experten, die die Sicherheit dieser Produkte überprüfen und für das gesamte menschliche Leben verantwortlich sind, Meister ihres Fachs sein.

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UDC: 338.2

LE ROLE DES MACHINES DANS LE DEVELOPPEMENT DE L'INFORMATION DU KAZAKHSTAN

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Dans ce rapport scientifique, nous avons essayé d’étudier le rôle des machines dans le développement de l’information du Kazakhstan.

État et moyens du développement des technologies de l'information.

Programme d'état "Kazakhstan Numérique".

Renforcement du rôle des technologies de l'information.

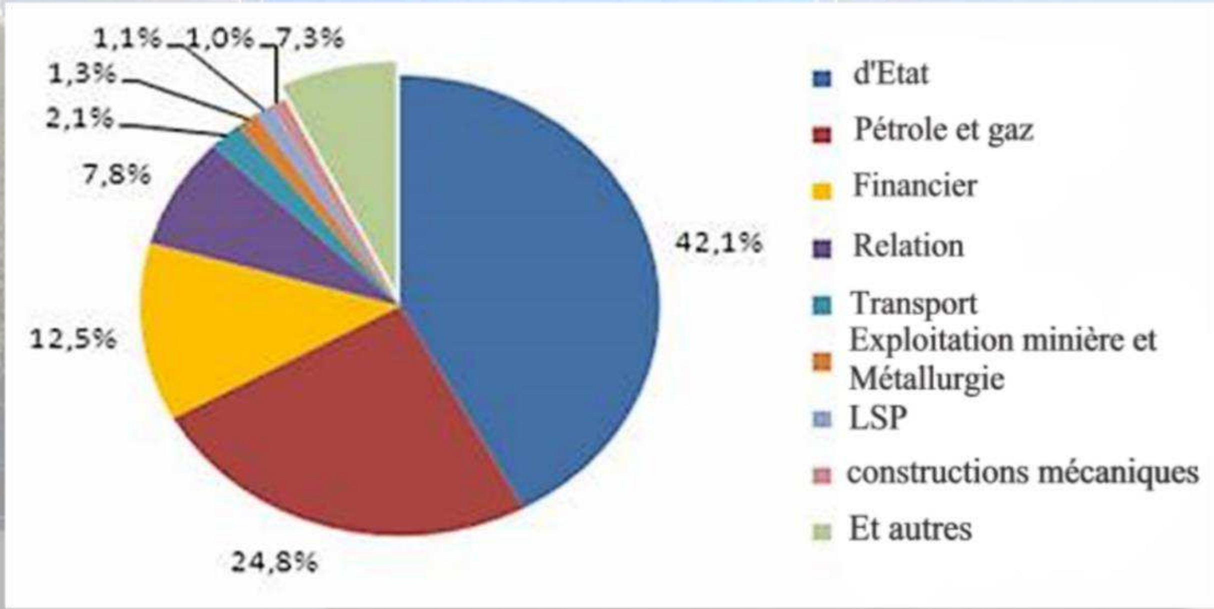
État (analyse):

•très faible informatisation de la population et un nombre relativement faible d'utilisateurs d'Internet

•manque de personnel qualifié dans l'industrie de l'informatique
•compétences insuffisantes.

Voie de développement:
Augmentation de la formation pratique de la population.
Le développement du potentiel intellectuel chez la jeune génération, les compétences d'extraire indépendamment les connaissances dans le contexte de l'utilisation active des technologies modernes de l'interaction de l'information.
Soutenir les entreprises nationales IT en entrant sur le marché extérieur.
L'étude du développement, ainsi que les stratégies de marketing des principales entreprises de premier plan-les fabricants de matériel informatique dans le monde et les introduire dans le marché kazakh [1,2].

Diagramme 1 : la participation des technologies de l'information dans les industries.



Nous voyons que la technologie informatique se rencontrent principalement dans l'industrie de l'état. Ensuite, nous allons dans le secteur du pétrole et du gaz, les Finances, la communication et ainsi de suite.
Calendrier de mise en œuvre du programme - 2019-2022.
L'objectif du programme est d'accélérer le développement de l'économie de la République et d'améliorer la qualité de vie de la population grâce à l'utilisation des technologies numériques [3].

Image 1. Digital Kazakhstan

Les ressources nécessaires à la mise en œuvre du programme sont un effet direct sur l'investissement.

À l'heure actuelle, le gouvernement kazakh a pour tâche non seulement d'optimiser les solutions informatiques, d'atteindre les objectifs fixés avec succès, mais aussi de fournir des connaissances qualitatives à ses citoyens. En travaillant sur la solution des problèmes de gestion, l'état oublie la conscience de ses citoyens.

À notre avis, il faut mettre l'accent sur le développement et l'application des stratégies informatiques nécessaires pour maximiser l'efficacité et l'efficacité, ainsi que sur l'éducation des populations pauvres et âgées. Il est également nécessaire de les soutenir et de leur fournir des services de base tout en améliorant leur niveau d'éducation.

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Natural Sciences

UDC: 811

A.A. VISHNEVSKY'S CONTRIBUTION TO THE DEVELOPMENT OF RUSSIAN SURGERY AND ANESTHESIOLOGY

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Among the outstanding Russian surgeons, a prominent place belongs to a world-renowned scientist, a well-known statesman and public figure, a brilliant clinician, a wonderful teacher, academician of the USSR Academy of Medical Sciences, Honored Scientist of the RSFSR, laureate of the Lenin and State Prizes of the USSR, professor, Colonel-General of the medical service Alexander Alexandrovich Vishnevsky. In medicine, he has gone a long and difficult way from experimental designs and developments to the heights of clinical surgery. The surgery of our country is firmly connected with his name. From 1924 to 1929 he studied at the Medical Faculty of Kazan University. The first scientific works of A.A. Vishnevsky were anatomical studies devoted to the development of local infiltration anesthesia according to the method proposed by his father. After graduating from the Medical Faculty, A.A. Vishnevsky worked for some time at the Department of Normal Anatomy of Kazan University. In 1933, Alexander Alexandrovich, under the guidance of Professor S.P. Fedorov, began to study clinical surgery. Having fundamental training in physiology and anatomy, he quickly improved in the field of surgical pathology, which was new to him. Together with his father, A.A. Vishnevsky in-depth studies the pathogenetic aspects of the action of novocaine blockade, the use of oil-balsamic dressings for various surgical diseases. So, in 1933-1935. he studies the mechanism of action of novocaine blockade on the course of trophic ulcers and contractures in leprosy patients who were treated at the Steep Streams leprosarium. The result of these original studies was the doctoral dissertation "Leprosy. Clinical experience of studying its pathogenesis", successfully defended in 1936.

In 1935, A.A. Vishnevsky moved to Moscow and started working at the surgical clinic of the All-Union Institute of Experimental Medicine, organized on the basis of the Moscow Regional Clinical Institute.

During this period, a number of his works of a clinical and theoretical nature were published:

- "Gastrectomy for cardia cancer"
- "Restoration of the urethra after its traumatic damage"
- "Experience in studying the reactive state of neurons"
- "Observations on the reactive properties of a nerve fiber".

In 1939, Alexander Alexandrovich was confirmed in the academic rank of professor. At the beginning of June 1939, a brigade of the Red Army Sanitary Department arrived in the area of hostilities on the Khalkhin-Gol River to assist the military medical service. The brigade also included A.A. Vishnevsky, who, in a combat situation, for the first time in the practice of military field surgery, confirmed the great importance of vagosympathetic and case novocaine blockades as effective means of combating shock, as well as the expediency of conducting primary surgical treatment of wounds under local anesthesia using the A.V. method. Vishnevsky. During the Soviet-Finnish War, Alexander Alexandrovich worked as an army surgeon.

In 1947, the Institute of Surgery of the USSR Academy of Medical Sciences was established, the director of which was appointed Alexander Vasilyevich Vishnevsky, and his son Alexander Alexandrovich was appointed deputy for scientific work. Here they continued, interrupted by the war, experimental research on the problem of nervous trophy. Long-term observations were summarized in the joint monograph "Novocaine blockade and oil-balsamic antiseptics as a special type of pathogenetic therapy". After the death of his father in 1948, Alexander Alexandrovich Vishnevsky headed the Institute, turning it into the largest research institution developing topical problems of modern clinical surgery.

A.A. Vishnevsky made a great contribution to the development of Russian military field surgery. Among the undoubted merits is the persistent introduction of local anesthesia at various stages of medical evacuation. He developed ways of practical use of the doctrine of nervous trophism in relation to military field surgery. His classic observations of the anti-shock effect of novocaine blockades on the wounded, first conducted in combat operations near the Khalkhin-Gol River, remain fully relevant in modern conditions. He was the first to apply and show the therapeutic effect of oil-balsamic dressings in the treatment of suppurated gunshot wounds. The use of these methods for the provision of surgical care and treatment of victims in field medical institutions was of great importance during the Great Patriotic War. Vishnevsky made a significant contribution to the development and improvement of military field surgery in connection with the peculiarities of new types of weapons and, above all, weapons of mass destruction.

His vast experience in the field of military field surgery was summarized by him in the monographs "On the doctrine of traumatic shock" and "Principles of the organization of surgical care in frontline surgery". The works of A.A. Vishnevsky in the field of cardiac surgery of the heart have become very famous. In 1957, he was the first in our country to perform an open intracardiac operation for the tetrad of Fallot, in conditions of artificial circulation with the use of domestic equipment. In the same year, for the first time, the scientist successfully performed an operation on an open heart, turned off from circulation in hypothermia. With the direct participation of Alexander Alexandrovich, a number of new operations for congenital heart defects were developed.

In 1961, on the initiative of A.A. Vishnevsky, a laboratory of cybernetics was created for the first time in a medical institution at the Institute of Surgery of the USSR Academy of Medical Sciences and the development of problems of diagnosis and prediction of diseases using electronic computers was started, and later remote diagnostics using teletype communication was used. As a talented researcher, Alexander Alexandrovich constantly sought to widely introduce the achievements of various branches of knowledge. So, using the successes of electronics, he tried to provide active assistance to patients with impaired pelvic organ function after spinal injury. Under his leadership, a method of radiofrequency stimulation of the bladder was developed with the subsequent restoration of not only the function of urination, but also defecation. The result of these studies was the creation of a spinal injury center at the Institute of Surgery, which led to the emergence of a new promising direction in medicine - the method of electro-pulse effects to restore the disturbed trophic and activity of organs that have lost their normal function.

The scientist paid serious attention to the development of such an important problem of surgery as burns. With his active participation, a burn center was organized at the Institute of Surgery, in which a complex method was used in the treatment of patients, including:

- novocaine blockades,
- treatment of the burnt surface,
- blood transfusion of blood substitutes,
- early skin grafting,
- hormone therapy.

He constantly passed on the experience of a major organizer of military field surgery and an outstanding clinical surgeon to his students in classrooms, at the operating table or in a simple conversation. Many dozens of his students became doctors and candidates of medical sciences. The international recognition of A.A. Vishnevsky's scientific achievements and his role in the development of surgery was the award of the Rene Lerish International Prize to him in 1955, as well as the election of a member of the International Association of Surgeons, an honorary member of a number of foreign medical societies. He was one of the most active participants in numerous scientific surgical congresses, congresses and conferences.

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IXODES TICKS ARE CARRIERS OF EHRLICHIOSIS IN DOGS IN KOSTANAI

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The article provides monitoring of spread of ehrlichiosis of dogs in Kostanay city. The collection of ticks spreading ehrlichiosis in the paddocks of Kostanay city was carried out, the species belonging of collected pasture ticks was determined, blood smears of dogs bitten by pasture ticks were examined. The conducted research allowed to make the following conclusions: ixodes ticks of Dermacentor genus were registered on the paddocks of Kostanay city. Ticks of genus Dermacentor are represented by two species: D.reticulatus, D.marginatus, absolute number in the ixodofauna of Kostanay are Dermacentor ticks (100%), with D.reticulatus species prevailing over D. marginatus species (68% and 32% of the total number of collected ticks respectively). One species of ticks, which serves as a vector of Erlichiosis in dogs - D.reticulatus, was determined on dogs, infected animals with Erlichiosis in relation to the total number of examined (EI) from September to December 2018 in Kostanai - 32 %, the EI of Erlichiosis in September 2018 in Kostanai was 5-3 %, in October 2-3 %, in November 1 %. In the conditions of big cities, the nosological profile of canine contagious pathologies is an unstable indicator both by the set of nosoforms and by the level of epizootic manifestation [1]. So far, many aspects of epizootic manifestation of contagious canine diseases are still insufficiently studied and explained. Such canine diseases include babesiosis, ehrlichiosis and anaplasmosis. Ehrlichiosis is a group of zoonotic, mostly transmissible, tick-borne infections, manifesting as febrile illnesses with myalgias, rash, enlargement of lymph nodes, liver and spleen, marked pancytopenia, sometimes with development of multiple organ failure [2]. Ehrlichiacanis is an infection in its clinical manifestation known as monocyticehrlichiosis in dogs (MES). The causative agent is rickettsia Ehrlichiacanis. The disease is also known worldwide as Canine rickettsiosis, Canine hemorrhagic fever, Tracker dog disease, Canine tick typhus, Nairobi bleeding disorder and Tropical canine pancytopenia [3]. Ehrlichiacanis (Ehrlichiacanis Infection) is a tick-borne infection known in its clinical manifestation as monocyticehrlichiosis in dogs (MES). The causative agent is rickettsia Ehrlichiacanis. The disease is also known worldwide as Canine rickettsiosis, Canine hemorrhagic fever, Tracker dog disease, Canine tick typhus, Nairobi bleeding disorder and Tropical canine pancytopenia. Babesiosis in dogs is a parasitic disease caused by single-celled microscopic organisms of the species Babesiacanis. Mix - infestation of animals and humans by several pathogens is a fact proven by many researchers [4]. The degree of severity, the clinical picture in mixed infestations develops faster due to the depletion of immunocompetent cells by a simultaneous reaction to different classes of pathogens, and there is a powerful immunological failure in the animal body [1-4]. This leads to fatal outcomes, cancer and ineffective treatment in the later stages of the disease. Babesiosis and ehrlichiosis are treated with different drugs, and the presence of one pathogen does not exclude the presence of the second one [4-6]. The possible simultaneous presence of ehrlichiosis and babesiosis pathogens in the tick organism indicates mixed invasion. It is necessary to note a single vector of these diseases - ixodid ticks: Ixodespersulcatus, Ixodesricinus, Ixodesscapularis, Dermacentorvariabilis, Amblyommamericanum, Rhipicephalussanguineus according to [7, 8].

Therefore, every infestation that occurs by a tick bite must be considered as a potential mixed infestation. For a long time in the literature, ehrlichiosis was divided into monocytic and granulocytic, such classification was given by medics, such classification was also accepted by veterinarians. Ehrlichiachaffeensis, Ehrlichiacanis, Neorickettsiarisitciwere thought to cause monocyticehrlichiosis in dogs, since they infect mononuclear leukocytes (monocytes and macrophages). Granulocytic ehrlichiosisis caused by Ehrlichiaewingii, Anaplasmaphagocytophilum [8]. However, to date, it has been established that individual pathogens are capable of inhabiting more than one cell type; this division is rather relative, and now the species name for ehrlichiosis is increasingly used. We could not find any data on ehrlichiosis of dogs in Kazakhstan in literature sources or veterinary records. However, during blood tests of dogs infected with babesiae, we found ehrlichiosis in the studied material. As it turned out, studies on epizootology, pathogenesis, clinic, treatment and spread of canine ehrlichiosishave not been conducted in our region, so our research work is timely and relevant.

Collection of ticks was carried out in the autumn period of 2018 in the dog walking areas of Kostanay city. Identification of ticks, determination of species belonging was carried out on the basis of "UNP Veterinary Clinic of KSU named after A. Baitursynov" in the laboratory of urocoprology and clinical laboratory. The material of the research was ixodid ticks and blood samples of 503 dogs bitten by ticks (provided by the laboratory). The ticks were collected with the help of drags according to Figures 1 and 2.

To identify ticks and sort them by species and sex, we used an MBS-10 microscope (magnification ×30) and V.V. Yakimenko's identifier. Yakimenko [9]. We examined 20 blood smears from dogs bitten by ticks, stained by Romanovsky-Giemsa under an immersion system, using a Levenguk binocular microscope, magnification - 10×100 and 20×100. The dynamics of ehrlichiosis was determined by calculating the rate of infestation (EI - the percentage of infested animals in relation to the total number of examined animals in each month of the year) and the rate of infestation, which was determined by the methods used in veterinary laboratories of Kostanai (AI - ratio of the number of erythrocytes infested by babesia to erythrocytes in the microscopic field, in %).

Research results.

During the fall 2018 period, 97 specimens of ixodid ticks were collected. All of them belong to the genus Dermacentor. Of them Dermacentormarginatus - 57 (59 %), Dermacentorreticulatus - 40 (41 %), respectively Figures 3, 4. Ticks of Dermacentorreticulatus species have a spike on the dorsal side of the second segment of the palpi in females or a tooth in males directed backwards, the palps are angular, the outlines of the proboscis together with the palps are hexagonal. Ticks of Dermacentormarginatus species have no spike on dorsal side of the second segment, palps smooth, outlines of proboscis together with palps are quadrangular in males and females. Of the 97 ticks there were males, 36 (37%) were females.

36 (37%) and 61 (63%) females. The sex difference of mites by size is on the dorsal (dorsal) side of the body scutum (scutum); in males it covers the whole dorsal surface; in females, larvae and nymphs, only the front part of the body; the rest of the idiosome is covered by the stretchable cuticle. The cuticle color of hungry females of Dermacentormarginatus is dark brown; the dorsal spur of the peritremum is well developed and has a chitinous thickening of the lateral rim.

According to our research, the percentage of animals infected with ehrlichiosis in relation to the total number of examined (EI) from September to December 2018 in Kostanai is 32%.

As a result of examination of smears, we found the presence of mixed infestation in dogs bitten by ticks of the genus Dermacentor.

In the study of smears we determined the presence of mixed infestation with babesiosis, ehrlichiosis and anaplasmosis, according to Figures

Ehrlichiosis pathogens were located 90% in monocytes and 10% in blood cytoplasm. The AI of ehrlichiosis was 5-3% in September, 2-3% in October, and 1% in November. In one dog, the AI of ehrlichiosis was 7%. Ehrlichiae are small poleomorphiccoccoidal or ovoid microorganisms with a dark blue tint when stained by Romanovsky-Giemsa. We found them in vacuoles, mainly in monocytes, in the form of compact clusters of individual particles of the pathogen, called morulae because of their appearance. Ehrlichiosis pathogens of dogs form morulae (clusters of bacteria) in phagosomes of circulating leukocytes. Ehrlichiacanis infects monocytes. Cytoplasmic vacuoles contained usually a single ehrlichiosis pathogen. Conclusions

Our research on monitoring the spread of ehrlichiosis of dogs in the city of Kostanay in the fall of 2018 allowed us to draw the following conclusions.

1. Ixodes ticks of the genus Dermacentorare registered in the paddocks of Kostanay city. Ticks of the genus Dermacentorare represented by two species: D.reticulatus, D.marginatus.

2. one species which serves as a carrier of canine Ehrlichiosis - D.reticulatus was determined on dogs.

3. absolute number of ticks of Dermacentor genus in Kostanay city (100%) and species of D. reticulatus prevails over D. marginatus species (68% and 32% of the total number of collected ticks respectively).

4. Infected animals with ehrlichiosis in relation to the total number of examined (EI) from September to December 2018 in Kostanai - 32 %.

5. AI of ehrlichiosis in Kostanay in September 2018 was 5-3%, in October 2-3%, in November 1%.

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RESEARCH OF THE INTELLIGENCE OF MARINE MAMMALS

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The capacity to learn and use knowledge, comprehend difficult situations, and think abstractly - are all examples of intelligence. Dolphins exhibit all of these abilities, and the majority of scientists concur that dolphins are highly intelligent. They exhibit self-awareness, problem-solving abilities, empathy, creativity, teaching skills, grief, joy, and fun. [1] They are known to be exceptionally skilled imitators and quick learners. We humans are not the only representatives of intellectual beings. Marine animals like dolphins and whales can even surprise you with their physiological abilities and intelligence.

Super abilities of dolphins

The fact that dolphins and all other toothed whales have a whole section of their brains devoted to echolocation may be the most noticeable distinction between their brains and ours. The ability or superpower that allows dolphins to "see" with sonar is known as echolocation. By emitting ultrasound, they cheat the object, thus obtaining some kind of visual image. The hearing of these mammals is hundreds of times sharper than human. They are able to hear the sounds of their brethren for hundreds and sometimes thousands of kilometers. Even in dark or murky water, they can hunt and navigate using echolocation. [2]

Do they recognize themselves?

According to research, they do. Researchers marked the dolphins' bodies with erasable markers and placed mirrors in their habitats. They observed that the dolphins swam right up to the mirrors and moved in a way that allowed them to "see" at the marks on their own bodies. This is related to the idea that dolphins have a similar sense of self as humans. [3]

Since 1970, many studies have shown that marine mammals have complex cognitive abilities, such as self-knowledge and a sense of identity. For example, a study published in 2013 showed that bottlenose dolphins use a unique whistle to address each other. The researchers also found that young dolphins can recognize themselves in the mirror 7 months after birth, while it takes up to 18 months for human babies to do this.

It is also evident that dolphins acquire distinctive whistles that are particular to each individual dolphin. Both mammals are able to imitate the sound patterns of other members of their pods or groups and use echolocation to identify one another. Whales also use this technique. This enables them to talk face-to-face to other dolphins and whales. The remarkable songs of humpback whales, which have evolved and grown longer through time, also showcase the animals' astounding capacity for communication and knowledge.

Teaching brains

The kind and intelligent nature of dolphins is generally accepted. The most of us have witnessed or heard about dolphin pranks. More amazing is how rapidly kids pick up new information and how well they retain it. Some dolphins have been found to pick up abilities and tricks even when they are merely observing and not actively learning. They exhibit characteristics of experience-based learning as well, employing cunning to hunt well in the wild. When hunting amongst sharp coral, dolphins have discovered in some places to cover their snouts with sponges.[4]

It is worth considering that a person receives 90 percent of the information through visual signal processing. So dolphins get it at the expense of auditory and echolocation. At the same time, at a level at which a person cannot even create technical devices yet.

Unusual experiment

Leading Russian ecologists led by L. Krushinsky conducted an ingenious experiment to study the intelligence of dolphins. The coach showed his dolphin his favorite toy – a big ball, and then hid it behind a screen. But when the screen was opened, the dolphin saw not a ball, but two objects of similar outlines: a three-dimensional box and a flat shield. Obviously, the ball disappeared into one of these objects, and not behind it, since the dolphin could see the shield and the box from all sides. To retrieve the ball, it was enough for the dolphin to hook a loop tied to a box or shield with its jaws, they would tip over and the ball would fall into the water. And the dolphin, in addition to his toy, will also receive a fish for his sagacity.

One more intelligent being

Octopuses are also rightfully considered one of the smartest animals in the world. Scientists often conduct experiments involving octopuses — there are simply too many of them. Relatively recently, the Octolab TV team, which is trying to learn as much as possible about these creatures, built an entire obstacle course for one of them. An individual named Rudy was chosen for the experiment. The choice fell on him because he is old enough to solve complex problems and young enough to pass obstacles. The authors of the experiment noted that the octopus was kept in each room for no more than a few minutes so that it would not begin to experience stress.

The octopus experiment was divided into four parts and Rudy went through all the stages without any problems. On the first level, he needed to find a secret door behind the bright algae and he easily found it. At the second stage of the experiment, the octopus had to pass through a narrow tube and Rudy again found a way out. The third level was called "Bridge" and, as you can guess, the octopus guessed what he needed to go through and successfully did it. To pass the fourth stage, the octopus had to press the button and have time to pass through the opened door.[5]

Whales, dolphins and octopuses behave in ways that suggest intelligence and a sophisticated mind. Not only do they learn as individuals, but as individuals that can pass their knowledge onto others. Marine animals do incredible things, so many experiments and studies show that some of them are superior in physiological abilities to humans.

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RATIONAL USING OF NATURAL RESOURCES OF KAZAKHSTAN

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Kazakhstan is a unique country with a rich cultural and historical heritage located in the heart of Eurasia. Geographically advantageous position, subsoil full of natural resources, stable economy allowed it to become the most prosperous in Central Asia.

Kazakhstan is a huge country (the ninth largest in the world in terms of area) freely located in Central Asia, it surprises with the variety of natural zones, rich flora and fauna, and the richest deposits of minerals.

Natural resources are the most important component that ensures the well-being of humanity. They include air, water, soil, forests, minerals, flora and fauna. The nature reserves are exhaustible and inexhaustible.

Now let's know what natural resources has our unique country, how these resources are used and what leverage to use in order to leave what we now have to posterity.

Of the republics that are part of the USSR, Kazakhstan ranked second in terms of area, and first in reserves of many iron ore minerals, such as chromium, molybdenum and lead, and only third in reserves of steppe gold. Most of all, ferrous, non-ferrous and rare metals, oil and gas are concentrated in the bowels of the Republic of Kazakhstan, reserves of hard and brown coal, bauxites and rock salt are huge. Moreover, various minerals are found in different regions of the country. Scientists believe that they have been explored by approximately 65-70%, that is, the bowels of the Kazakh steppe will still surprise us with their treasures. In terms of natural resources, Kazakhstan can compete with almost all countries of the world. You can often hear that the entire periodic table is represented in the bowels of this state. Out of 110 elements, 99 have been found here. In addition, since Kazakhstan can be proud of the largest deposits of oil and natural gas, this refers it to the states that have a primary influence on the formation of the world energy market.

According to the latest expert estimates, oil and gas reserves amount to more than 23 billion tons, and about 13-14 billion are concentrated in the area of the Caspian Sea and the Mangystau peninsula. If oil and gas deposits are concentrated mainly in the west of the country, then the east is rich in non-ferrous and ferrous metals and polymerase. The richest deposit, Rudny Altai, makes it possible to extract titanium and tungsten, molybdenum and nickel. The North Kazakhstan region has steppe gold deposits, although they are not comparable in volume to Western Siberia or Uzbekistan. Central Kazakhstan is a steppe zone, rich in deposits of iron ore deposits. These are copper, iron, manganese and others. The largest coal basin (Karaganda deposit) is also located here. The Republic of Kazakhstan has the sixth place in the world in terms of natural resources, and this attracts the attention of such countries as the USA, China, Japan, Turkey, and Pakistan.

There are seven large rivers and more than seven thousand small rivers in Kazakhstan, which can dry up in the summer, and then some regions of the country lack fresh water. In addition, about 40 thousand lakes are scattered throughout the vast territory of the country. The largest is the amazing Lake Balkhash, which, by the will of nature, is half-fresh and half salty and is located in the southeast. In general, almost all lakes in Kazakhstan are salty and salt is actively mined there.

Natural resources are exhaustible and its sustainable management implies a combination of economic and ecological approaches. The economic theory of natural resource management shows how many management systems for resources such as forests and fish stocks can lead to resource depletion or destruction. Appropriate incentives and organizations can contribute to sustainable management. Unfortunately, much of the world's current forest and fisheries management systems are far from sustainable. ecological point of view. Sustainable development must ensure the integrity of biological and physical natural systems. Of particular importance is the viability of ecosystems, on which the global stability of the entire biosphere depends[1].

Ecological principles of using a resource

In the era of not just scientific and technological progress, but in the post-industrial era, environmental protection is of particular importance, since in the course of development people actively influence nature. This leads to excessive use of natural resources, pollution of the biosphere and climate change.

In order to preserve the integrity of the biosphere, several conditions are necessary:

- accounting for the laws of nature;
- protection and protection of the environment;
- rational use of resources[2].

The basic ecological principle that all people must follow is that we are only a part of nature, but not its rulers. And this means that it is necessary not only to take from nature, but also to give, to restore its resources. For example, due to intensive cutting of trees, millions of kilometers of forests on the planet have been destroyed, so there is an urgent need to make up for the loss and plant trees in the place of cut down forests. It would be useful to improve the ecology of cities with new green spaces[3].

Problems of development of natural resources

As we can see from the above examples, the republics have huge reserves of natural resources for the future. However, as you know, their development is hindered by difficult natural conditions. The problem of development of natural resources brings to the fore the issues of nature protection. Mistakes made in the development of natural resources are associated with the unreasonable use of underground resources and resources, the prevalence of the erroneous opinion that natural resources are inexhaustible. All this taken together led to a violation of the natural balance. Take, for example, water resources. For the republic, the rational use of natural resources is of great importance, since new enterprises and irrigated crop areas require significant reserves of water resources. Pollution of rivers, unreasonable use of water resources, changes in the hydrological regime of rivers because of human activities have led to changes in other components of nature.

Measures for the rational use of the country's resources

The overall goal of sustainable natural resource management is to find the best or optimal ways to exploit natural and artificial (plough agriculture) ecosystems[4]. The rational using of natural resources in our republic is ensured by the following conditions:

– state ownership of all types of natural resources, which allows a comprehensive and planned approach to their use and preserve the wealth of the subsoil for future generations.

– implementation of the security of the national economy in mineral raw materials with minimal socially necessary costs, the introduction of progressive low-waste and waste-free industries to reduce the level of harmful environmental impact of mining industries.

– the use of natural resources should be accompanied by their restoration (for renewable natural resources)[1];

– integrated use of natural resources;

– secondary use of natural resources;

– carrying out environmental protection measures;

– introduction of the latest technologies in order to reduce the anthropogenic load on the environment[5].

Main actions of rational using of nature

For those who are not aware of environmental issues, the concept of rational use of resources seems to be a very vague issue. In fact, everything is very simple:

– it is necessary to reduce their intervention in nature;

– as little as possible to use natural resources unnecessarily;

– protect nature from pollution (do not pour pollutants into water and soil, do not litter);

– abandon cars in favor of ecological transport (bicycles);

– save water, electricity, gas;

– refuse disposable devices and goods;

– benefit society and nature (grow plants, make rational inventions, use eco-technologies).

– wide use of secondary raw materials and complex use of natural resources.

– the correct use of the wealth of nature is a solution that will allow economic, social and environmental benefits in the use of natural resources[6].

– the issue of complex use of resources. This means that humanity must learn to use non-waste technologies more widely and reuse the developed resources. This will save raw materials and reduce environmental pollution.

– state regulation in the field of environmental protection and state administration in the field of the use of natural resources;

– mandatory preventive measures to prevent environmental pollution and damage to it in any other form;

– obligatory compensation for damage caused to the environment;

– ensuring national interests in the use of natural resources and the impact on the environment;
– issuance of licenses, permits and conclusion of agreements (contracts) for the right to use natural resources;
– organizing the restoration and reproduction of natural resources, the introduction of resource-saving technologies;
– conducting monitoring and cadasters of natural resources;
– setting limits and distributing quotas for the use of natural resources[2];
– management of state legal entities engaged in the use, restoration and production of natural resources;
– organization of protection of natural resources[7].

This list of recommendations "How to *rationally* use natural resources" does not end there. Each person has the right to decide for himself how he will dispose of natural goods, but modern society calls for frugality and rationality so that we can leave our descendants the natural resources that they will need to live.

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QUALITY CONTROL AND TYPES, METHODS OF RADIATION THERAPY ON A LINEAR ACCELERATOR VITALBEAM

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Radiation therapy is a widely used method of treating cancer. Radiation therapy consists of several important stages. At each stage, it is necessary to observe the accuracy of radiation therapy. One of the significant stages is radiation planning, where the quality control of the plan is carried out for the accuracy of the patient's irradiation.

Quality control of radiotherapy equipment is an integral part of the quality assurance of radiation therapy system of measures to control the quality of the entire technological process of radiation therapy.

The main document regulating the tolerant levels of deviations of the parameters of radiation therapy devices from the set ones is the document of the International Atomic Energy Agency (IAEA) "The main content of radiotherapy programs: clinical, medical and physical aspects, radiation safety and protection" (Technical Document No. 1040, 1998). This document also discusses the IEC requirements for LT devices, which makes it possible to correctly interpret the presented tolerance levels.

In radiation therapy, medical physicists play an important role for dosimetry, treatment planning, quality control, equipment selection, equipment commissioning, quality assurance, calibration and radiation safety.

On a linear accelerator, high-precision quality control methods are used to check treatment plans, such as checking the plan with a semiconductor detector, a detector matrix, films in the plane and an ionization chamber.

Machine Performance Check (performance check of the device, hereinafter MPC), is a software application for quality control of the following technical characteristics of a medical linear accelerator: geometric characteristics of radiation exposure fields, characteristics of radiation safety system, dosimetric characteristics of fields, as well as characteristics of control systems that affect the conditions of radiation exposure of cancer patients [1].

There are the following widely used methods of radiation therapy: three-dimensional conformal radiotherapy, intensity modulated radiation therapy (IMRT), rotational radiation therapy with volume modulated intensity (VMAT or RapidArc), image-corrected radiation therapy (IGRT).

Three-dimensional conformal radiotherapy - 3D conformal radiation therapy (3D-CRT) is a method of irradiation, the technology of which is based on volumetric planning. Provides good dose distribution due to the use of multi-lobed diaphragms, rotation of accelerator tripods, collimators and treatment tables. That is, the shape of the irradiated volume is as close as possible to the shape of the tumor. The procedure is performed using a multi-petal collimator, the petals of which, lining up in the form of a tumor, limit the irradiation of healthy tissues.

Radiation therapy with modulated intensity (IMRT) is a method of irradiation that makes it possible to irradiate different areas of the therapeutic field during the same session with different radiation intensity by changing the shape of the radiation field at different times and at static values of other dose–forming parameters of the accelerator. Due to a larger dose gradient and the use of inverse planning of radiation conditions, dose maps and dose–volume histograms can be obtained much better than during conformal radiation therapy.IMRT differs from conformal irradiation by varying the absorbed dose rate over the irradiation field from each direction of the photon beam. Changes in the parameters of the MPD and the radiation beam are made using the «StepandShoot» («Step – shot») «SlidingWindow» («Sliding window») method.

Rotational radiation therapy with volumetric modulated intensity (VMAT or RapidArc) – this method has other names, for example, rotational irradiation with volumetric intensity modulation, RapidArc, etc. The method of mobile irradiation with beam parameters changing during the rotation of the tripod was the next step in the development of high irradiation technologies. Its purpose is to reduce the irradiation time and release a given absorbed dose to the target in one or two turns of the linear accelerator tripod.

The method provides a high gradient of absorbed dose and, thus, allows irradiation to be carried out in close proximity to healthy organs and to deliver more significant doses to the target, compared with other methods of conformal irradiation of patients with malignant neoplasms (Fig.1).

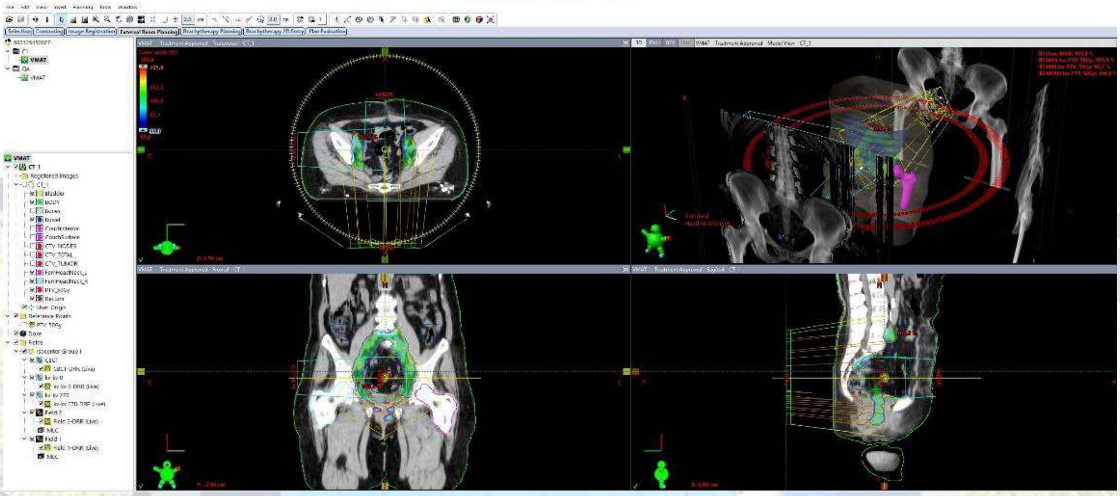

Fig.1. Intensity Modulated Treatment Plan (VMAT)

Image–corrected radiation therapy (IGRT) is a high-precision method of radiation therapy based on the fact that before each irradiation session, using X-ray images obtained using a mounted X-ray machine, the patient's position on the treatment table is verified by comparing them with reference images obtained as a result of computer planning of irradiation conditions. The method allows to reduce the random error when placing the patient on the treatment table, thereby reducing the errors in the dose applied to the patient. Since the use of OBI and EPID, as well as multi-petal diaphragms, is necessary to carry out irradiation using this method, then quality control of the parameters of these devices is mandatory. The X-ray device is mounted either on the accelerator tripod and has the same isocenter of rotation, which allows for three-dimensional visualization using the method of computed tomography in a conical beam, or on the walls (ceiling, floor) of the treatment room. In the latest linear accelerators, the X-ray system allows monitoring the patient's position during therapeutic irradiation [2,3].

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CHROMOSOMAL ABNORMALITY IN AN INCLUSIVE EDUCATION ENVIRONMENT

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Inclusive education is one of the modern teaching methods. In particular, inclusive education implies joint education of children with disabilities in public educational institutions. The first attempts to integrate people with special needs were made in the USA, Japan, and in the Scandinavian countries. In the 70s of the last century, Scandinavia adopted a system of "normalization", which represented everyday life as close as possible to life in a normal society for people with disabilities[4]. In 1994, UNESCO held the Salamanca World Conference on the Education of Persons with Special Needs, which resulted in the promulgation of the principle of co-education of children with special needs in general educational institutions and the introduction of the term "inclusion"[3]. Despite the provision of some important principles, such as the right to education, taking into account unique abilities and educational, vital needs, combating discrimination, inclusive education had a dubious ability to be implemented. Of the many reasons why this system is not correct, we can highlight one not simple, but obvious reason. Today, I want to draw your attention to why this system of education has a negative effect on the generally accepted system of education and can have the opposite effect not only for children with special needs, but also for students with basic needs.

Biologically, as we know, a person has 46 chromosomes; they have the main part of the genetic information and have a special role in the formation and development of the embryo. According to D.E. Koryakov and I.F. Zhimuleva, a more accurate definition of a chromosome is the definition of a chromosome as a structure that contains a nucleic acid, and a function that is the storage, transmission, implementation of hereditary information. Modern science claims that DNA is located in chromosomes, in turn; DNA consists of genes that are responsible for any hereditary information. The most important function of chromosomes is replication, the process of creating two daughter DNA molecules based on the parent DNA molecule. The chromosomes themselves can change their structure and undergo aberration, a mutation that changes the structure of the chromosome. There are 3 types of chromosomal rearrangements: deletions (loss of a chromosome section), inversions (change in the order of the genes of a chromosome section to reverse), duplications (repetition of a chromosome section), translocations (transfer of a chromosome section to another), as well as dicentric and ring chromosomes. Isochromosomes are also known, bearing two identical arms. If the rearrangement changes the structure of one chromosome, then such a rearrangement is called intrachromosomal (inversions, deletions, duplications, ring chromosomes), if two different ones, then interchromosomal (duplications, translocations, dicentric chromosomes)[1]. These mutations are not normal, but occur less often than we think.

A person is characterized by the presence of 23 pairs of chromosomes, which gives 46 chromosomes in the end. 22 pairs are autosomes, the same in both male and female organisms. The remaining pair are called sex chromosomes, which are denoted by the Latin letters X and Y.

Males have an XY combination, and females have an XX pair of chromosomes. Chromosomes have an important function during mitosis, cell division. And each mutation has an effect on the offspring.

Chromosomal diseases result from mutations in the germ cells of one of the parents. No more than 3-5% of them are passed from generation to generation. Chromosomal abnormalities are responsible for approximately 50% of spontaneous abortions and 7% of all stillbirths.

All chromosomal diseases are usually divided into two groups: anomalies in the number of chromosomes and violations of the structure of chromosomes. Currently, more than 700 diseases are known in humans caused by changes in the number or structure of chromosomes. About 25% are autosomal trisomy, 46% - on the pathology of the sex chromosomes.

Structural adjustments account for 10.4%. The most common chromosomal rearrangements are translocations and deletions. Modern science pays attention to only three diseases out of a total of 700: Down's syndrome, Patau syndrome, Angelman's syndrome. As stated earlier, we have 46 chromosomes in total. Each of them can undergo five types of mutations, not counting trisomy. It so happens that some manifestations of a chromosomal mutation are not compatible with life and we can never describe their symptoms. In addition, we recognize the existing syndromes only by generally accepted symptoms. Among which are: autism, inhibited development and defects in the structure of the body. Scientists were able to separate 4 degrees of autism. However, they all have vague boundaries and it is not possible to make an accurate diagnosis[2].

My theory is that every person is unique. As I have made it clear, there are several types of mutation that can occur on each chromosome. Moreover, we cannot determine with 100 percent accuracy which type of mutation acquires which generation. There are many factors that affect a person's chromosomal makeup and how it will be reflected in a person. I want to propose to reconsider the system of inclusive education and divide students according to the degree of development of brain activity. Autosomal rearrangements may not affect the physical and anatomical shape of a person, but affect brain activity. Maybe for centuries we did not understand our brothers and sisters and forced them all to study according to one system of education, not attach importance to the intellectual strength of a person. At the school where I did my internship, there were some students who lagged behind the main class in terms of involvement in the subject and academic performance. Nevertheless, they had a pronounced cheerful character and befitting behavior for a child. Inclusive education does not pay attention to the physiological and mental needs of the child, thereby slowing down the pace of development for the entire classroom. Should we limit someone or force them to exceed their personal capabilities? Science needs to pay attention to the mental state of a person and divide them into groups of brain activity. Thus, subjecting to modern society draws attention to the natural origin of man, which would cause mutual understanding and concern for other sections of society.

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FORESTS: A KEY PLAYER IN THE GLOBAL CLIMATE SYSTEM

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Abstract: Forests are one of the most important carbon stores on our planet. However, clearing forests for agriculture or infrastructure releases huge amounts of carbon dioxide and other greenhouse gases into the atmosphere, which is one of the drivers of climate change.

At the same time, forest plantations play a crucial role in climate change mitigation, not only by absorbing greenhouse gases, but also by creating more resilient landscapes: they regulate water regimes, improve soil conditions and save them for agriculture, protect coastal communities from extreme weather events and sea level rise and create migration corridors for plants and animals. Therefore, preserving and restoring forests is essential to mitigate climate change, adapt to its impacts, and conserve biodiversity.

Keywords: *forests, climate change, carbon sink, deforestation, biodiversity, water cycle, greenhouse gas emissions, restoration.*

Forests are critical to the health of our planet, playing a key role in the global climate system. Not only do they provide vital habitats for wildlife and a source of livelihood for local communities, but they also help regulate the Earth's temperature and mitigate the impacts of climate change. Forests cover around 30% of the Earth's land surface, storing vast amounts of carbon and producing oxygen through the process of photosynthesis. As trees absorb carbon dioxide (CO_2) from the atmosphere, they release oxygen and store the carbon in their biomass, roots, and soil. This carbon storage is known as a carbon sink, and forests are one of the most effective and efficient natural sinks we have. When forests are cleared or degraded, whether through deforestation or natural disturbances like wildfires, the carbon stored in the trees and soil is released back into the atmosphere as CO_2. This can lead to a net increase in greenhouse gases in the atmosphere, exacerbating global warming and climate change.

However, despite their critical importance, forests are facing a range of threats that are putting their health and function in jeopardy. Deforestation, degradation, and fragmentation are the biggest threats to forests worldwide. These threats are driven by a range of factors, including agriculture expansion, infrastructure development, mining, and logging [1]. The impacts of deforestation and degradation are felt at a local, regional, and global level. Locally, the loss of forests can lead to soil erosion, reduced water quality, and a decline in biodiversity. Regionally, deforestation can impact the climate, leading to changes in rainfall patterns and an increased risk of natural disasters. Globally, deforestation contributes to climate change by releasing vast amounts of CO_2 into the atmosphere. To address these threats, a range of conservation and restoration efforts are underway around the world. These efforts range from protected area management to sustainable forest management practices and landscape restoration initiatives [2].

Forest conservation and restoration are therefore essential for mitigating climate change. Protecting existing forests and planting new ones can help to reduce greenhouse gas emissions, increase carbon sequestration, and enhance biodiversity. Forests also play a critical role in regulating the water cycle, which is closely linked to the carbon cycle. Trees and other vegetation absorb water from the soil through their roots and release it into the atmosphere through transpiration. This process helps to regulate the Earth's water cycle by influencing precipitation patterns and runoff. Forests also help to prevent soil erosion, protect watersheds, and reduce the risk of floods and droughts.

The United Nations has set a goal of halting deforestation by 2030 and restoring 350 million hectares of degraded land by 2030. Many companies have also committed to reducing their carbon footprint by sourcing sustainable forest products and investing in forest conservation projects [3].

Kazakhstan belongs to low forest cover countries. According to the Committee for Forestry and Wildlife of the Ministry of Ecology, Geology and Natural Resources of the Republic of Kazakhstan, as of January 1, 2022, forests occupy 5% of the country's territory, and their area is 13.6 million hectares. Almost half of them are *Halóxylon* (Saxaul) [4].

It should be noted about the stands of the *Halóxylon*, which occupies most of the forest fund of Kazakhstan and found in arid regions of Central Asia. *Halóxylon* has significant ecological and economic importance for the region, as it provides habitat and food for various animals and is used for fuel and construction. However, recent research has also shown that *Halóxylon* has a significant influence on the climate in its environment. One of the most important ways Halóxylon affects the climate is through its role in carbon sequestration and it is a highly efficient carbon sink; it absorbs and stores large amounts of carbon dioxide from the atmosphere through photosynthesis. This has important implications for global climate change, as increasing the amount of carbon stored in plants and soil is one strategy for mitigating the effects of greenhouse gas emissions [5].

Additionally, *Halóxylon* has a unique ability to modify its local microclimate. The dense canopy of leaves and branches created by *Halóxylon* trees provides shade and helps regulate temperature and humidity in the surrounding area. This can have important implications for local weather patterns, as well as for the survival of other plant and animal species in the area. *Halóxylon* also plays an important role in preventing soil erosion in arid regions. Its deep roots help stabilize the soil and prevent wind erosion, which can have devastating effects on both the local ecosystem and human communities that rely on the land for agriculture and other purposes.

Overall, *Halóxylon* is a key player in the complex and interconnected systems that make up arid ecosystems in Central Asia. Its importance for both the environment and human communities underscores the need for conservation efforts to ensure its continued survival and thriving. More than 100 million tons of dust and poisonous salts are carried annually to Europe and Antarctica from the bottom of the disappearing Aral Sea. The tragedy of Kazakhstan and Uzbekistan has become a threat to the whole world. But there is hope to minimize the consequences of the ecological catastrophe. It would seem that fragile Halóxylon seedlings are able to resurrect the already dead earth.

The practice of the last 10-15 years has proved that one of the ways to reduce the spread of dust and salt into the environment is the sowing and planting of Halóxylon and halaphite plants on the dried bottom of the Aral Sea. Plantations of sandy rocks provide protection of adjacent territories from falling asleep with salt and dust particles, that is, they will help improve the environmental conditions of the Aral Sea region. So, one bush of middle-aged Halóxylon retains up to 10 m^3 of sand particles.

It has been noticed that in *Halóxylon* plantations, already in the second year after planting, the speed of sand movement in the surface layer decreases by 20%, after five years - by 80%, after six - by 90%, and at the age of seven trees the wind completely subsides.

Experts expect that by 2025 the area of forests on the dried bottom of the Aral Sea will increase to 1.4 million hectares. The method of the Kazakh forest service is today recognized as the most successful in the world in combating desertification. In general, thanks to the efforts aimed at the protection of forests, their restoration and rational use, in recent years in Kazakhstan there has been a tendency to increase forest areas.

Today, forests are the world's most important carbon store. However, their deforestation and frequent fires cause huge amounts of carbon dioxide to be released into the atmosphere, which provokes climate change and an increase in the average annual temperature on Earth [6].

In addition to absorbing greenhouse gases, forests are a natural protective barrier against natural disasters, helping to create more resilient landscapes by regulating water regimes and preventing soil erosion.

According to the Paris Agreement, the participating countries have committed themselves to reducing greenhouse gas emissions, as well as implementing projects to adapt to the effects of climate change.

Kazakhstan intends to reduce greenhouse gas emissions by 15% by 2030. In 2020, the Government of Kazakhstan, together with the United Nations Development Program (UNDP) and the international IT company Bitfury, launched a project to reduce the carbon footprint by preserving existing forests and increasing their area.

To date, Kazakhstan is taking serious steps to restore forests as part of the Concept for the country's transition to a “green” economy. One of these initiatives is a joint project of UNDP, the Global Environment Facility and the Ministry of Ecology and Natural Resources of the Republic of Kazakhstan to prevent deforestation and forest degradation, protect them from fires and other natural and anthropogenic threats [7].

Today, there are many reasons to protect forests. They serve as an important reminder of how beautiful and fragile the natural world can be. Preserving forests and restoring them requires joint efforts and decisive action, so humanity needs to reduce the pressure on nature today for a sustainable future for all.

Forests are a key player in the global climate system, regulating the carbon cycle, water cycle, and biodiversity. They provide vital ecosystem services and support the livelihoods of millions of people worldwide. However, the world's forests are under threat from human activities, and urgent action is needed to protect and restore them. Governments, organizations, and individuals all have a role to play in promoting sustainable forest management practices and halting deforestation to mitigate climate change and preserve the Earth’s natural heritage.

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SOLVING EXPONENTIAL AND LOGARITHMIC EQUATIONS

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In the process of writing this article, I took as a basis the educational and methodological Manual of candidate of Pedagogical Sciences, Professor Kazhi Nursultanovich "Prize-winning hundred reports", published in 2009. The article discusses exponential and logarithmic equations and ways to solve them using this book. In the mathematical curriculum of the school, an important place is given to solving exponential equations and logarithmic equations. After students first get acquainted with the equations in the 10th grade, the exponential function and the logarithmic function are introduced to its properties and systems, and in the 11th grade-exponential equations and logarithmic equations. Systems with exponential and logarithmic equations are found in ENT tasks. Therefore, it is necessary to study the methods of solving them, since in ENT tasks, exponential and logarithmic equations can come in a combined form. And in order to correctly solve the system of equations, it is necessary to know the basic properties of the exponential and logarithmic equation.

A simple logarithmic equation: $\boldsymbol{log_a x = b}$**.** If a > 0, a ≠ 1, b can only accept the value of $x = a^b$. To solve logarithmic equations, methods are used to introduce a new variable, group, logarithm by membership, use potentiation, etc. [1]

Algorithm for solving equations by the method of introducing a new variable:

1) we denote one expression in the equation by a new variable;

2) instead of the expression in the given equation, we enter a new variable and get a quadratic equation associated with the new variable;

3) we solve the resulting quadratic equation;

4) we find the value of the first variable by substituting [3]

Let's try to solve the equation using the method of entering a new variable:

$$3\sqrt{lgx} + 2\,lg\sqrt{\frac{1}{x}} = 2 \qquad [2]$$

Solution:

$$3\sqrt{lgx} + 2\,lg\sqrt{\frac{1}{x}} = 2$$

$\frac{1}{a} = a^{-n}$ using this property, we write it like: $\sqrt{x^{-1}}$. We use this property $\sqrt[n]{a^m} = a^{\frac{m}{n}}$ and came to this type: $x^{-\frac{1}{2}}$.

$$3\sqrt{lgx} + 2lgx^{-\frac{1}{2}} = 2$$

We use the property of the logarithm: $\log_a b^c = c \times \log_a b$, $2\lg x^{-\frac{1}{2}} = 2 \times \left(-\frac{1}{2}\right) \lg x$.

$$3\sqrt{lgx} + 2(-\frac{1}{2})lgx = 2$$

$$3\sqrt{lgx} - lgx = 2$$

$$3\sqrt{lgx} = 2 + lgx$$

We square the two sides of the pattern, $(2 + lgx)^2$ and use the formula: $(a + b)^2 = a^2 + 2ab + b^2 \rightarrow (2 + lgx)^2 = 4 + 2 \times 2 \times lgx + lg^2x = 4 + 4lgx + lg^2x.$

$$9\lg x = 4 + 4\lg x + \lg^2 x$$

$$9\lg x - 4\lg x - \lg^2 x = 4$$

$$5\lg x - \lg^2 x = 4$$

We use the new variable input method: $lgx = a$.

$$5a - a^2 = 4$$

$$5a - a^2 - 4 = 0$$

$$-a^2 + 5a - 4 = 0$$

$$a^2 - 5a + 4 = 0$$

We solve the quadratic equation using Viet's theorem:

$$\begin{cases} x_1 + x_2 = -b \\ x_1 \times x_2 = c \end{cases} \rightarrow \begin{cases} x_1 + x_2 = 5 \\ x_1 \times x_2 = 4 \end{cases} \rightarrow x_1 = 1, x_2 = 4.$$

We put the solution of the equation in place:

$$\begin{cases} lgx = 1 \\ lgx = 4 \end{cases} \rightarrow \begin{cases} x_1 = 10 \\ x_2 = 10000 \end{cases}$$

Solution: $x_1 = 10, x_2 = 10000.$

Summarizing this article, I came to the conclusion that exponential and logarithmic equations are of great interest to students. In solving such equations, logical thinking skills are developed, creative and mental abilities are enhanced. They are important in the mathematical curriculum of the school and in the teaching of elementary mathematics in higher educational institutions. In the course of the study, the following problem was solved: along with theoretical material, practical material was covered, various methods of solving exponential and logarithmic equations were considered (introduction of a new variable). This article can be useful for teachers working in general education and mathematics classes, as well as for students entering higher education institutions.

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UDC: 620.952

MICROALGAE AS AN ALTERNATIVE SOURCE OF BIOFUEL

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Abstract: The article is devoted to an alternative way of using microalgae as a promising source of raw materials for biofuels. The advantages of using microalgae biomass and types of biofuels based on them are given. The most practical and productive types of microalgae for production of biomethane, biohydrogen, bioethanol, biodiesel are distinguished. Data on the use of microalgae as a raw material for biofuels in the world are presented. This research plays a very important role for ecological and economic progress in the modern world.
Keywords: microalgae, biofuel; biomass; methane, bioreactor, biodiesel, biogas, bioethanol.

Biofuel research is currently of great interest because of the growing global demand for energy from developing countries and the recent rise in world oil prices. According to the International Energy Agency World Energy Outlook, energy demand could grow by 40% between now and 2030 [1].

At this moment it is important to search for alternative plant raw materials of high productivity and their industrial development to obtain biofuels. As it turned out, the fuels obtained with the help of plant raw materials are more environmentally friendly compared to traditional fossil energy raw materials. Particular attention in this regard is given to microalgae due to the advantages of cultivation over traditional crop farming in the production of biomass for energy purposes. A special role is played by the development of technologies for growing and processing microalgae into various types of biofuels [2].

Microalgae can be cultivated both in open bodies of water (including saline ponds and lakes) and under fully controlled conditions using photobioreactors. Microalgae have very high productivity, several times higher than modern crops.

Microalgae can be grown in environments unsuitable for other crops, such as fresh, brackish or saline water or soil unsuitable for traditional agriculture. The use of microalgae for biodiesel production does not negatively affect the production of food and other products derived from crops [3].

Microalgae are a promising and productive source of triglycerides, and in some cases the oil yield of microalgae far exceeds that of the best oilseeds. The oil content of microalgae ranges from 20 to 50% and can sometimes reach 80% of the dry biomass weight compared to 5% of the best agricultural oil crops. Like plants, microalgae use sunlight to produce oil, but they are more efficient than agricultural plants. Microalgae grow faster than oilseeds and require less land to grow. Typically, when it takes them a few years to extract their fat, they double their biomass in 24 hours compared to plants [1].

The oil from the microalgae is converted into an alkyl ether (biodiesel) in the presence of a catalyst, and the glycerol is extracted as a major byproduct that can be used for other industrial purposes. Finally, after oil extraction, the biomass can be processed into ethanol or methane for use as biofuel, animal feed or organic fertilizer. Biodiesel from microalgae has enormous potential to sustain energy stocks and reduce climate change due to greenhouse gas emissions [5].

Algae-based biofuel can be used as a substitute for or blended with conventional diesel fuel or any petroleum fuel without significant engine modification. Mixing algae biodiesel with diesel or oil has been shown to reduce engine wear compared to conventional diesel fuel. It also shows superior lubricating properties and extends engine life. Algae biodiesel breaks down almost 4 times faster than conventional diesel fuel. Algae biodiesel has a higher ignition temperature, thus flashover makes it much safer than conventional diesel [4].

At present, commercial cultivation of microalgae is mainly carried out for the purpose of producing bioadditives in small bioreactors with an annual production capacity of several tens to several hundreds of tons of biomass. About half of the total algae biomass is grown in China, Japan, Taiwan, the United States, India and Australia. Commercial applications of products derived from their biomass have been obtained, such as: bioadditives, fish food, biofertilizers, antioxidants (carotene, astaxanthin), natural dyes, cosmetics, biofuels [1].

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UDC: 57.579

INFLUENCE OF ANTHROPOGENIC FACTORS ON MICROBIOLOGICAL ACTIVITY OF SOIL

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Abstract: The problem of soil pollution always remains relevant, since the purity and composition of the air layer, surface and groundwater depend on the nature of the soil cover, its properties, chemical and biochemical processes present in soils. The soil is the habitat of microflora, the function of which plays an important role in the formation of its fertility, as well as pathogenic microorganisms. This, in turn, has a huge impact on people's health due to contamination of food or water and air. To avoid unpleasant consequences, it is important to regularly check and monitor the soil for microbiological indicators.

Keywords: soil, microflora of soils, microorganisms, saprophytic bacteria, thermophiles, total bacterial count, soil contamination

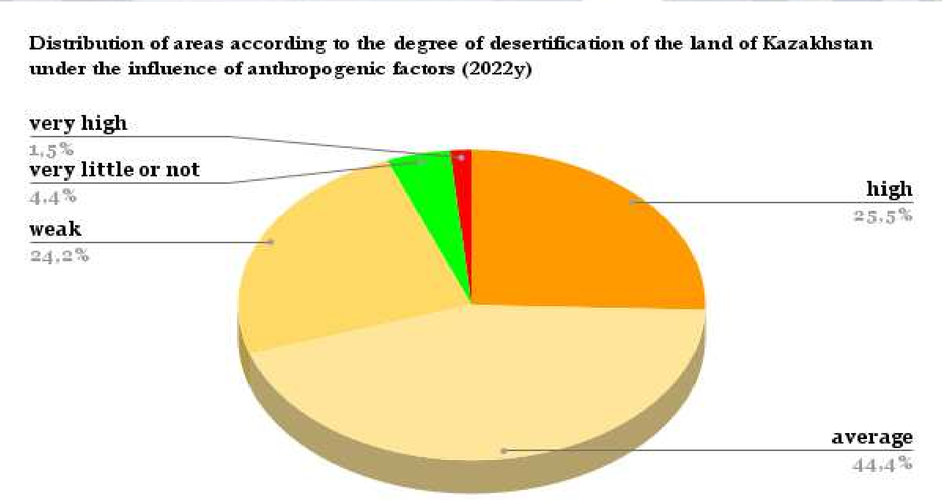
Аннотация :Проблема загрязнения почв всегда остается актуальной, так как чистота и состав воздушного слоя , поверхностных и грунтовых вод зависят от характера почвенного покрова, его свойств, присутствующих в почвах химических и биохимических процессов. Почва является средой обитания микрофлоры, функция которой играет важную роль в формировании ее плодородия, а также патогенных микроорганизмов. Это, в свою очередь, оказывает огромное влияние на здоровье людей из-за загрязнения пищи или воды и воздуха. Чтобы избежать неприятных последствий, важно регулярно проверять и контролировать почву по микробиологическим показателям.

Ключевые слова: почва, микрофлора почв, микроорганизмы, сапрофитные бактерии, термофилы, общее микробное число, загрязнение почвы.

The soil is the top layer of the earth on which the plant grows. The surface loose layer of the Earth's surface, changed under the influence of animal plants, especially microorganisms, climatic conditions and humans. Decomposition and synthesis of organic substances takes place in the soil.The soil is the place where the processes of destruction and synthesis of organic substances take place. This happens under the influence of various types of pesticides and mineral fertilizers, as well as industrial waste from enterprises and vehicles. As a result, heavy metals and petroleum products accumulate in the soil, which enter underground reservoirs, atmospheric air, and agricultural plants. This affects the state of the environment and human health in general. In addition, the microbiological composition of the soil cover changes, and hence its fertility. However, soil contamination also occurs by pathogenic microflora, which can be quite dangerous for humans and animals. In this regard, in order to prevent environmental pollution, it is necessary to analyze the soil for the microbiological composition and the number of bacteria.

The conducted microbiological laboratory studies of soils make it possible to take timely measures to eliminate risks and dangers to human health and life. In addition, the assessment of soils and soils of urbanized territories by mechanical, chemical and sanitary-microbiological indicators, allows you to make important decisions about the possibility of placing certain industrial or cultural objects, and changes the value of land plots and objects placed on them [1; 2].

The quality of the soil will depend on its morphological, genetic, chemical and physical properties. The main natural diagnostic signs necessary to determine the quality of the soil in accordance with these properties include: thickness (thickness) of the humus layer; percentage of humus, sediment and clay; humus of the soil; stocks (reserves) of mobile nutrients (phosphorus and calcium) in the soil; mechanical composition of the soil, acidity and much more.



picture №1

Sources of soil pollution: The main soil pollutants include pesticides (toxic chemicals), mineral fertilizers, production waste, airborne gas-smoke sparks of contaminated substances, oil and petroleum products, etc.

Methods of soil sampling.

The soil should be specific to a particular site. If there is a homogeneous soil along the entire plot, several grooves from different places located in checkerboard order or with the centerline of the plot take at different depths.

The soil sample is taken with a special drill or a clean shovel. Each sample weighing 2-3 kilograms is placed in glass containers with a rubbed lid, in a clean bag or in a double layer of dense wrapping paper, and the date is provided with label paper indicating the place where the sample was taken and the depth of extraction. In the laboratory, selected soil samples are sprinkled on paper surfaces in a thin layer, crushed pieces and dried in the air. For analysis, 0.5-1.0 kilograms of soil are taken. Before laboratory tests, roots and other uncharacteristic impurities are removed from the soil and weighed to determine the percentage ratio.

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UDC: 547

SUGAR

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Everything that is beautiful in this life is either immoral, illegal, or leads to obesity.

- Oscar Wilde

According to who, one in ten people on the planet is obese. This epidemic is called the plague of the 21st century. Every year, 2.8 million people die as a result of being overweight or obese. The most disturbing thing is that this disease also affects children. [1] in turn, obesity is associated with diseases such as hypertension, vascular atherosclerosis, angina, heart attacks, diabetes, arthritis, food allergies, and reduced life expectancy [2]. The main cause of "worldwide obesity" is considered excessive consumption of simple carbohydrates. One of the most well-known simple carbohydrates is sugar. In this article, we would like to tell you how sugar affects the human body and why it is called "white death".

For starters, what are carbohydrates? Carbohydrates are otherwise called glucides, saccharides. They are organic compounds whose molecules include carbon, oxygen, and hydrogen atoms. The main function of carbohydrates is energy. When splitting glucides, a lot of energy is released. 1 g of carbohydrates, oxidized, gives 4.1 kcal of energy. Also, the functions of carbohydrates include: structural, anabolic, storage, and receptor. Glucose is the fuel. As a result of oxidative transformation, it releases energy for the work of tissues and organs. To what carbohydrates are useful for the body, you can also include maintaining the correct PH. Violation of carbohydrate metabolism leads to cell depletion.

The lack of carbohydrates is also harmful, as well as their overabundance. From the digestive system can develop gastritis, ulcers, violation of the intestinal microflora. Increases the load on the liver and kidneys. Physically, a person does not feel the best way. He becomes weak, lethargic, constantly wants to sleep, has a headache, and digestive processes are disrupted. All this is a consequence of the loss of the necessary minerals and vitamins by the body. The brain and nervous system suffer. Thought processes slow down. Irritability appears [7].

According to the rate of assimilation, all carbohydrates consumed by a person in food are divided into: "fast" (simple) and "slow" (complex). "Simple carbohydrates" can quickly provide the body with energy. When eating "fast" carbohydrates, they are very easily digested. But at the same time, there is a rapid increase in the concentration of sugar in the blood. Excess monosaccharide is converted into triglycerides, which are the basis of adipose tissue, as a result of complex metabolic processes.
However, simple carbohydrates in food are also found in those that are very useful in terms of the presence of vitamins and trace elements. For example, honey (natural), bananas, dried fruits, etc.

"Complex" carbohydrates are polysaccharides that are digested more slowly and evenly.

Slow carbohydrates in food can be found, for example, in greens, vegetables, fruits, cereals and legumes, whole grain bread, mushrooms.

Now let's go directly to sugar. Sugar is a carbohydrate that belongs to the class of "simple" carbohydrates. In chemistry, it is called sucrose. Sucrose is a disaccharide whose molecule includes glucose and fructose [8].

According to its physical properties – it is a sweet crystalline substance, extracted mainly from the juice of sugar cane or sugar beet. In its pure form, sugar is white, and its crystals are colorless [8].

What are the main functions of sugar in food? First, it gives the food a sweet taste, and secondly, the nutritional value (calorie content). But it has other functions that are not so well known. The presence of sugar in drinks gives them not only sweetness, but also fullness of taste.

Sugar has a number of pros and cons.

Let's look at the pros first. Sugar plays the role of a preservative, takes part in creating a certain structure of the product. Yeast needs sugar for the fermentation process that lifts the bread dough. In dressings and sauces, it balances the natural acidity of products [4].

Now let's move on to the cons. Sugar causes obesity and a number of diseases that accompany it, leads to tooth decay and caries, contributes to the development of cancer, and accelerates aging. In addition, sugar is highly addictive [3].

Sugar, getting to us in the body, is broken down into glucose and fructose already in the mouth under the action of saliva enzymes. Through the tissues, sugar is absorbed into the blood. The concentration of glucose increases, and this serves as a signal for the release of insulin-a hormone of the pancreas. Insulin stimulates the activity of the enzyme glucokinase, which is present in liver cells and promotes the attachment of phosphorus to glucose molecules. Since only in this (phosphorylated) form, glucose can be broken down here, in the liver, to the final products of metabolism, while releasing energy. But not all of the glucose immediately goes to cover energy needs. Under the influence of insulin, part of the glucose is converted into glycogen, which is deposited mainly in the liver. This is the reserve used by the body to maintain a constant concentration of glucose in the blood, and therefore to supply it to organs and tissues [5].

In the process of splitting and further converting glucose in the liver, fatty acids and glycerol are formed. Fatty acids are released into the bloodstream and transported to adipose tissue depots, such as subcutaneous fat, and deposited there. With excessive intake of sugar in the body, the fat content in the blood may increase (hyperlipidemia), and it is more deposited in fat depots. Inevitably, obesity develops.

Experimental part

There is a recommended daily sugar intake. The norm for girls of our age, i.e. 18 years, is 49 grams of sugar, for boys 61 grams [8]. We ask you to remember these values in order to compare them with real indicators.

During the Sugar project, we conducted a survey among 50 students, and the results of the survey may make you think. In this survey, we found out how much sugar the average student consumes.

So, after calculating the diet of each of the respondents, we got that the student eats an average of 40 spoons of sugar a day. Of these, we eat 2 tablespoons of sugar in its pure form, which is 10 grams of sugar. We consume 1/3 of a bar of chocolate a day, which is 30 grams or 6 spoons of sugar. We get 9.46 grams of sugar from fruit. With drunk juices, our body receives 10 tablespoons of sugar.

Energy is an integral part of most students ' lives. During the experiment, we noticed that there are students who can’t do without them at all and can use up to five energy drinks a day. It should be noted that the sweetness is addictive. So, with energy drinks, our body receives 9 grams or 5.4 tablespoons of sugar.

Baking or flour products, which we also use daily, contain 12 grams or 7.2 tablespoons of sugar.

As a result, we get 190.5 grams or 40 spoons of sugar. Although, it seems that we use a little, right?

Recommendations for the daily rate: every day, eat a total of 5-9 servings of vegetables and fruits. Every day, eat a total of 6 to 11 servings of bread, cereals, starches, legumes, and other complex carbohydrates. Limit your intake of refined sugars to no more than 10% of your total daily calorie intake.

Conclusion

The trend of excessive sugar consumption is growing. And after conducting an experiment among students aged 18-19, we were convinced of this. We want to encourage young people to lead a healthy lifestyle. And, first of all, it is necessary to limit the consumption of simple carbohydrates and replace them with more useful ones. Of course, carbohydrates are our main source of energy, and without them, the human body will not be able to function properly. Therefore, we urge you to use less sugar or exclude it from the diet altogether.

Simply eliminating sugar from the diet is a big step towards a healthy lifestyle.

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Economic Sciences

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PERCENTAGE MATH. HOW TO USE MONEY PROFITABLY

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Relevance. In all areas of activity, a person encounters interest. Quite often in various inscriptions there is a “%” sign, for example, “sale - 50% discount”, or “special offer - when buying a second product - 30% discount”, etc. When buying many food products, this “mysterious” sign also catches your eye. To understand these inscriptions and understand what information they carry, you need to understand the percentages and their calculation well. We constantly receive information in percentages: in stores - it provides a 25% discount on all products, sour cream contains 15% fat, fabric - 50% cotton and 50% polyester, etc. Everyone should be able to freely calculate the offers of stores, banks, and deposit and credit departments and choose for themselves the most advantageous offers. In this regard, the selected topic is especially relevant.

Mathematics is an area of knowledge that includes the topics of numbers, formulas and related structures, shapes and the spaces, in which they are contained, and quantities and their changes. These topics are represented in modern mathematics with the major sub disciplines of number theory, algebra, geometry, and analysis, respectively. There is no general consensus among mathematicians about a common definition for their academic discipline. [2]

It is impossible to do without the concept of “percentage” either in accounting, or in financial analysis, or in statistics. To accrue a salary to an employee, you need to know the percentage of tax deductions; in order to take a loan or open a deposit account with a savings bank; depositors are interested in the size of interest rates on the amount of the deposit, etc. In trade, the concept of "percentage" is used most often: discounts, markdowns, margins, profits, loans, income tax, etc. - all these are percentages.

The purpose of the research work: To show and explore the widespread use of interest in different areas of human life.

Tasks:

1. To analyze the literature on the topic "Interest and interest calculations."
2. To investigate the income and expenses of your family.
3. To apply mathematical knowledge for calculations.
4. To explore the range of interest rates on loans in the banks of the city of Astana.

Project hypothesis: “Interest” has practical application.

Methods: analysis, proof, comparison.

Solving mathematical problems of practical content allows us to verify the importance of mathematics for various spheres of human activity. The ability to perform interest calculations is necessary for every person. The calculations are carried out on the example of my family.

Scientific significance: The value of the results obtained is that they demonstrated a wide range of applications for calculating interest in economic fields, that is, the close relationship between mathematics and economics.

Practical significance: This work can be used in mathematics and economics, to calculate loans, profitable investments for any family.

A practical task that has application in real life is the calculation of a loan. Currently, people are increasingly taking goods on credit (a loan in cash or commodity form, provided by the lender to the borrower on repayment terms, most often with the payment of interest for using the loan), which is available to everyone.

Everyone wants to buy the right product as profitably as possible. It is very interesting which loans in our city are the most convenient.

To conduct this experiment, I considered consumer loans from banks where my relatives receive wages and take loans - Halyk Bank and Caspian Bank.

In order to calculate the total amount of the loan, you cannot do without compound interest formulas.

By converting the formula, we got: $K = a\left(1 + \frac{sp}{m}\right)$, [1]

where a - the initial cost of the loan;
s - The term of the loan;
p - is the annual interest rate;
m - is the number of days in a year (360 days, every month - 30 days)

Which bank is the most profitable to take a loan from?

To study this issue, I took my family as an example.
The average monthly salary for 5 people is 255,000 tenge.
Let's say that we need to purchase goods in the amount of 150,000 tenge and pay for it within 3 months.

Calculation

1. **«Kaspi bank»**
   K= 150000(1+ (0,21*180) /360) = 165750 tenge
   The overpayment will be 165750-150000 = 15700 tenge
2. **«Sberbank»**
   K= 150000(1+(0,2*180) /360) = 165000 tenge
   The overpayment will be 165000 -150000 = 15000 tenge
3. **«Halyk bank»**
   K= 150000((1+ (0,17*180) / 360) =162700 tenge
   The overpayment will be 162700 -150000 = 12700 tenge
4. **«Fortebank»**
   K= 150000((1+ (0,15 *180) /360 =161250 tenge
   The overpayment will be 161250 -150000 =11250 tenge

According to these calculations, it is possible to accurately determine that the most profitable loan can be taken in Fortebank, since there is the lowest rate and, accordingly, overpayment. [3]

Comparative table of loans – "top popular" banks

Bank	**Average rate**	**Average amount**	**Average term**
Fortebank	15%	from 340,000 to 28,800,000	from 8 to 96 months
Sberbank	20%	from 150,000 to 3,600,000	from 11 to 84 months
Halyk bank	17%	from 158,947 to 13,153,846	from 8 to 103 months
Kaspi bank	21%	from 20,000 to 1,000,000	from 3 to 48 months

Findings:

1. In the course of work on a scientific project, it was determined how percentages affect a person's financial well-being and what role they play in everyday life.
2. How and where to get a loan.
3. The practical significance of mathematics in life.
4. The family budget was calculated, therefore, the most affordable and favorable credit conditions were determined.

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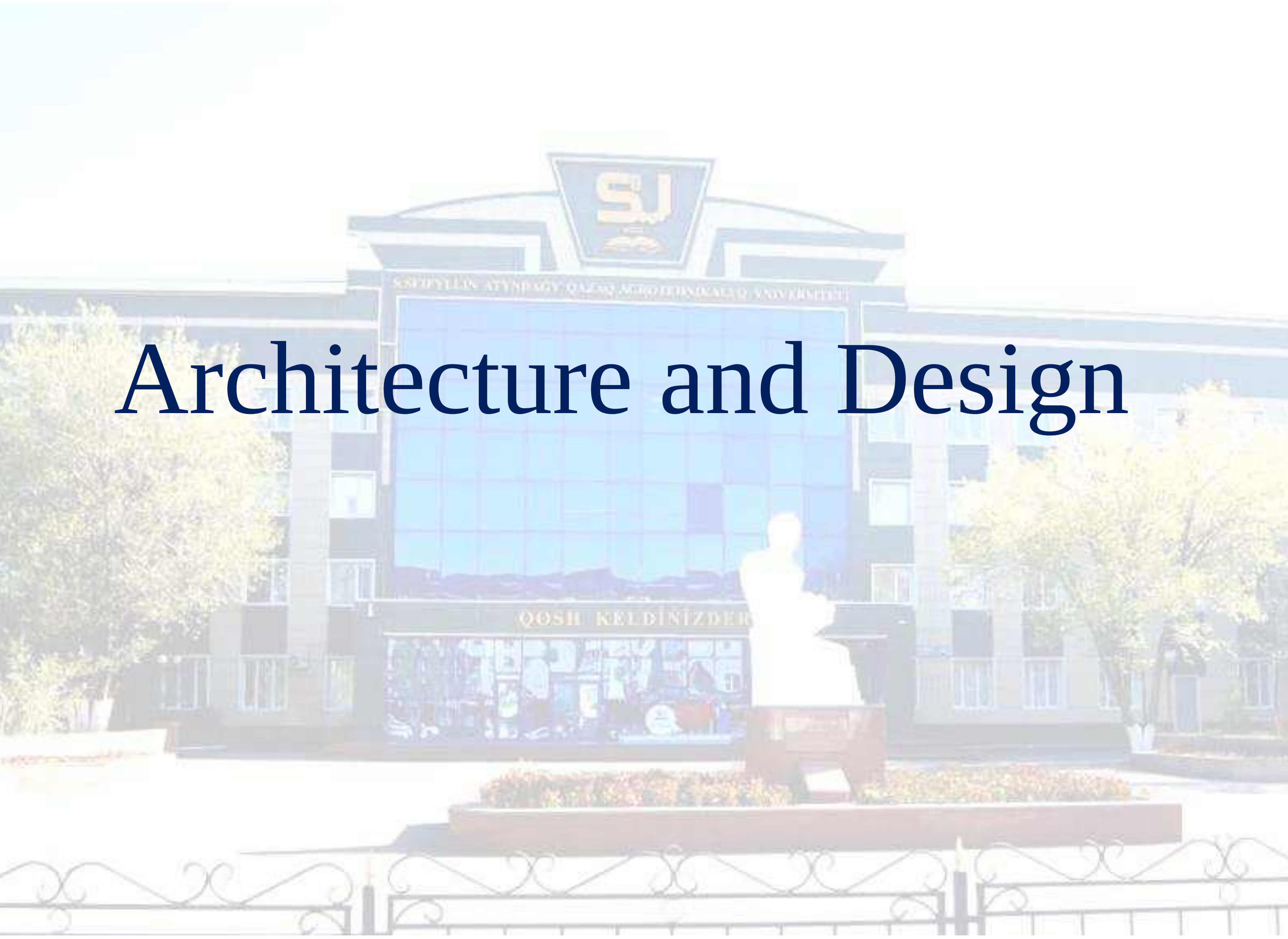

Architecture and Design

UDC: 349.41

THE PROBLEMS OF LAND MANAGEMENT IN KAZAKHSTAN

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Aim: Review and analyze the problems of land management in Kazakhstan.

The current problems of land management affect the economic, environmental and social parts of land management can be seen through the impact of land management activities on the environment and the nature of land use, restoration and reclamation of disturbed lands, protection of lands from erosion, etc. Proper measures in land management can make it possible to obtain economically profitable land. Now the problem of land management is relevant, since in our country the potential is developing very slowly, slowing down the growth of economic development. Lack of worthwhile organization and financing of land management, refusal to develop established laws in the Constitution of the Republic of Kazakhstan. [1]

Disadvantages of land use of agricultural enterprises arise most often as a result of the complex process of formation of land masses of agricultural enterprises and lead to high economic costs to eliminate these problems. It is worth adding also the impact of problems on agriculture. At present, costly land management works are on the shoulders of landowners, since there is not enough state funding. For the organization and financing of land management works, a competent policy on the part of state bodies is necessary. An inventory has not been carried out on agricultural lands, most of the land plots are not registered in the cadastre, therefore they are not considered registered. Land management work on the transfer of ownership or use to agricultural organizations or citizens of non-agricultural land has not been carried out. All this does not allow obtaining reliable information about land plots, boundaries, qualitative characteristics and location. Such shortcomings indicate the unformed inventory. As a result, the state incurs losses due to a decrease in the total amount of budget revenues from the registration of transactions with land shares and other land plots. The main disadvantage of the land cadastre is its fragmentation, the presence of information in it only about 10% of legally used land plots, that is, information in the Unified State Register of Lands is available only about land plots registered on the cadastral basis according to the declarative principle. In modern conditions of land use, more and more relevant issues of land management and cadastre become.

The transformation processes taking place in the social and economic life of the country require the development of new conceptual approaches to the implementation of land management processes based on the analysis of problems in the land management system and cadastre. In the socio-economic development of society, land resources, land use and land relations have played a key role throughout human history. As an object of legal regulation, from an economic point of view, land acts as an object of economic activity and is the material base of any production process, organically acting as a source of satisfaction for a wide range of diverse human needs.

Earth in the ecological sense is a natural object, an integral part of the natural environment, interacting with other objects of nature, and in a broader sense, covering all natural resources. With independence in the Republic of Kazakhstan, the 1990 Land Code stipulated that only the possession and use of land is allowed. There was no concept of private property.

The 1993 constitution emphasized that natural resources, including land, were owned by the state. Since 1995, the main thing for foreign investors has been the availability of connections and access to government officials and state officials. Committees entitled from the state of Kazakhstan to conclude contracts.

The significance of the land problem has not yet been recognized by the authorities of Kazakhstan.

Research methods: researched by book sources and statistics analysis.

By 2003, the growing national bourgeoisie benefited from the exclusion of foreign participants from the struggle for agricultural land, primarily for the possibility of inexpensively buying up land in large quantities. In the next resale in the future, therefore, the right of private ownership was granted only to the citizens of the Republic of Kazakhstan. This provision was also confirmed in the 2003 Land Code. In words, the authorities of Kazakhstan stood up for the introduction of the right of private ownership of agricultural land to include land in trade and attract wide sections of Kazakhstani society, but in reality only the wealthy nomenclature could take advantage of this. As a result of the lack of educational work to clarify the essence of the changes in the Land Code, weak peasant farms became even weaker, and latifundistas who had resources associated with the executive branch were able to buy land sold to them by residents of villages and auls for a pittance. The process of legitimizing huge land masses, now openly or affiliatedly owned by people in power, has begun. The media began to appear reports of hundreds of thousands of hectares of land owned by those in power. Moreover, the vast majority of land latifundists are "businessmen from the authorities."

Since 1995, the main thing for foreign investors has been the availability of connections and access to government officials and state officials. committees entitled from the state of Kazakhstan to conclude contracts. The practice of cash kickbacks was introduced everywhere - "caps" when making transactions and the appearance of "helpers" to reach the right people. [2]

Since 2003, power has been concentrated in the hands of an uncontrolled executive branch. The total looting of the land fund by akims of rural areas began, selling land plots to everyone who was ready to pay. Since the local residents demanded a free transfer of land in accordance with the queue for land, as they live here, it was profitable to sell land to the left to wealthy visitors, townspeople, political nomenclature and oligarchs. [3]

Akims of all levels actively pursued a policy of land acquisition through the decisions of land and town planning commissions, in which the main violin was played by developers who carried out the will of the akims themselves. These commissions did not include civil activists and representatives of independent NGOs that could express the will of the residents.

In the same way, the authorities decided to act in the Shanyrak microdistrict. In response, the inhabitants of Shanyrak organized the defense of their houses (some of them had state certificates for land, but most of them did not).

By the beginning of the land rallies in 2016, the country's land fund was already concentrated in the hands of oligarchic groups, which led to pressure on the government, which raised the issue of selling land to foreign companies and foreigners. The commission proposed: to conduct an inventory of agricultural land, audit the value of land, including the cadastral value, introduce the provision of agricultural land in an electronic format in the public domain.

Corruption is already noted at the level of support for agricultural producers, which leads to the inefficiency of lending state corporations. KazAgro's money went to intermediaries. KazAgro stimulated the emergence of false farms that existed formally, whose collateral real estate of borrowers existed, as a rule, only on paper. However, the money for KazAgro was received under state guarantees from international banks (the European Bank for Reconstruction and Development) and must be returned.

The activities of akims, who have been selling land in rural areas all this time, are not controlled. With the exception of isolated cases, none of them was arrested and convicted for the sale of land, for example, in the same Talgar district of Almaty region, school and hospital territories, cemeteries in Karabulak (Klyuchi) were sold or leased.

Houses of culture were “grabbed” en masse for a pittance, and local public activists pointing to the criminal sale of land, disgusting roads, all these years received threats, even shot.

Illegal construction is going on in the cities of Kazakhstan, school sports stadiums and playgrounds have been destroyed, when officials sell these lands under the guise of denser development. Land plots were confiscated from former orphanages and universities: KazNU named after al-Farabi, ASU named after Abai, KazGosZhenPU, various institutions: the Institute of Obstetrics and Gynecology, the National Museum of Arts named after. Kasteev, "Kazakhfilm" and representatives of the executive branch, heads of institutions, relevant ministries, judiciary and prosecutors are involved everywhere. [4]

Conclusion: based on this, I would like to conclude that these urgent problems of land management in Kazakhstan should be considered in the current world. And our country is doing everything possible, such as this year to allocate more than 1000 grants for the specialty of cadastre and land management. This is a huge step towards the development of this channel in Kazakhstan.

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IMPACT OF UNIVERSITY CAMPUS ARCHITECTURE ON STUDENT LEARNING PROCESS

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Many studies have shown that the correct design of space has a pronounced psychological and physiological effect on humans. The design of university complexes is no exception.[1]

The campus (from the Latin word for field) denotes the space that houses the buildings and infrastructure of a university or school located outside the city. Thus, the term includes buildings that house classrooms and research rooms, libraries, restaurants, university dormitories, and sometimes sports complexes, among others. Even a short stay on a well-designed, beautifully built and functional campus provides insight into the importance of architecture and its impact on educational processes.

Architecture can not only stimulate imagination and creativity, but also unite students and teachers into one community, where everyone feels a certain energy aimed at developing this community. When designing, architects can influence students and teachers of higher education institutions. Since there are more than 21,000 universities in the world, the concept we are considering is important and prominent on a global scale. There are several ways of organizing space through which architecture and design influence the educational process. Consider a few of them.[3]

Landscaping. In addition to the space, the views that the occupants of the building (students, teachers) have can influence concentration. We might think that looking out the window is a sign of daydreaming, on the contrary, the view of nature from inside the classroom improves physical and mental health, and also allows students and teachers to rest their eyes and mind. A green space at a university can become a mini-laboratory, a place of learning (agriculture, handicraft, greenhouse, etc.), which allows environmental values to be integrated into the campus layout.[2]

In 2000, a group of psychologists at Cornell University in New York published a study in which they showed that children who played in a green environment before a concentration test were more concentrated than those who played in an urban

environment. Another study found that students who looked at nature from their dorm rooms had higher concentration scores than those who looked at buildings.
According to psychologists Steven and Rachel Kaplan of the University of Michigan, the challenges of modern life affect our mental fatigue and note that nature gives rest to the spirit.[5]

Lighting. As scientists prove, a person's well-being depends, among other things, on the amount of light during the day. It is easy to realize this from spring to autumn, when the days are long, there is a lot of sun and the level of satisfaction with life rises. Everything changes with the arrival of winter. You should know that not only natural light has a significant impact on our well-being, but also the artificial lighting in which we live. Well-controlled lighting using LED fixtures not only saves energy, but also enhances student comfort and learning ability. In addition to regulatory requirements, dynamic lighting improves the quality of learning and enhances the cognitive abilities of students. The design of the school and classrooms should allow natural light to enter. Windows help reduce eye strain and create a connection between the inside and outside world. All auditoriums must have natural and artificial lighting on both sides. It is desirable that windows offer a view of trees, lawns, gardens, animals, etc., and not of cars and roads.[4]

Open spaces. Although universities exist for learning, they are also places for students to socialize and relax. It is important to strike a balance between quiet classrooms and recreation areas on campus that need open space. The possibility of additional informal communication between students contributes to the improvement of the mental well-being of each and the general atmosphere in the team as a whole. Open courtyards and shaded seating areas encourage students to spend more time outdoors, relax or socialize with peers, and encourage group work.
It is desirable that open areas be organized on the campus that can be used as classrooms, with the beauties of nature as additional values. There may also be an outdoor amphitheater on site to enhance the student learning environment and community spirit.

Adaptation to all When designing comfortable campus spaces, architects must pay attention to the development of student-friendly infrastructure (educational research and concepts are constantly evolving over time, and tasks are also multiplying). Comfortable bedrooms with adjustable and flexible layouts and plenty of spacious and flexible seating areas where large groups of students can congregate (student controlled spaces) are needed. There is a need for reliable storage for gadgets and other personal items. The creation of a friendly environment is achieved in various ways (studying, dining, recreational and coworking spaces) not only for students, but also for staff working in the institution and teachers. It is also necessary to provide specialized spaces for people with various disabilities, and not just gadgets for access to the university.[3]

In recent years, the importance of modern university architecture and its influence brings new architectural and design solutions that are widely used in the design of new modern university complexes. Now the architecture of campuses is aimed not only at the academic success of students, but also at uniting students and teachers into one community, developing imagination, creativity, and maintaining a balance between study and leisure. And for this reason, modern university buildings are radically different from those that were designed 50-100 years ago.[2]

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DESIGN ET ECOLOGIE

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Au cours des dernières décennies le problème de l'écologie humaine et de la culture écologique est venu à l'avant-plan. Les mesures restrictives ont commencé à être complétée par d'autres formes d'organisation de l'interaction humaine avec l'environnement. La résolution du problème environnemental prioritaire était l'idée de l'inclusion des produits organiques synthétiques dans l'environnement, à savoir, l’approche écologique de la culture du design. Les concepteurs ouvrent au public les nouvelles formes : les conceptions et les technologies apportent la saveur et organisent l'espace de vie et de la communication socio-culturelle, provoquent souvent un nouveau cycle de consommation. Conception qui est compris par nous comme une sphère d'activité de design créatif de la société et comme un ensemble d'objets et dispositifs qui rendent notre vie plus facile et plus confortable et comment spécifiquement formé, le concept de style de vie esthétique joue dans le monde moderne un rôle sérieux.

Conception de la culture dans la société moderne se positionne comme une forme de base de l'organisation collective et de la transformation des activités humaines. Influence de la conception sur tous les aspects de la société est de plus en plus il ya de nouvelles conditions et les formes de l'interaction humaine et de la culture du design. Pour l'un de ces tumeurs peut être attribuée l'éducation significative de conception. Les origines de l'approche écologique à la conception peuvent être retracées dans l'histoire de l'humanité dans les bâtiments architecturaux, des articles ménagers et des arts décoratifs. L'environnement de l'objet-spatiale ensemble, créé et produit par le peuple, parlant une sorte de matérialisation des idées sociales, politiques, idéologiques, culturelles et esthétiques, les capacités économiques et technologiques de la société. Image, décoration, la conception, l'espace et les objets fonction, son remplissage, perspectives reflète le niveau du développement de la société et de la technologie.

Conception environnementale est définie comme une partie d'outils de conception et des méthodes pour résoudre les problèmes actuels de protection sociale de l'environnement (et les gens eux-mêmes) des effets de la pollution et des déchets civilisation technologique déséquilibre écologique dans Biotechnosphere la fois du point de vue des valeurs de la nature et de la culture. De ce point de vue, la tâche de la conception écologique est de veiller à la propreté de l'environnement de la construction et matériaux de finition utilisés pour les produits -. Des objets de design, les processus écologiques de la production et de la consommation, en tenant compte du problème de l'élimination des déchets et de l'état de l'environnement de l'objet de différentes sphères de l'activité humaine [1]

L'espace environnemental est directement liée à l'écologie humaine, que l'impact sur la qualité du milieu de vie, la santé, le développement des compétences, le confort psycho-physique. L'espace de vie dans la mesure démontre l'unité de l'homme avec l'environnement et correspond à la notion d'écologie que l'interaction entre le sujet et l'environnement. En raison de la diversité des qualités de l'environnement spatial peut identifier un certain nombre de base, donnant une base pour évaluer la capacité de l'environnement de l'espace du point de vue de l'écologie humaine [2]:

La densité de l'espace peut être caractérisée par sa teneur des êtres humains et exprimée en nombre de personnes par unité de surface. Valeurs de densité extrêmes indiquent un risque possible (écrasement, la panique, le manque d'assainissement);

• ressource spatiale - le rapport libre (propre) et le territoire occupé.

Espace pur laissé pour l'homme et les éléments de la nature - ecotope, la communication dans l'espace libre et le développement.

Confort - la qualité de l'espace, assurant bien-être humain sur les niveaux physiques, psychologiques et sociaux. Cette prospérité est principalement due aux conditions sociales et psychologiques: le confort psychologique apprécié par les gens au-dessus du physique. Les conditions environnementales de confort est de maintenir les limites de l'espace personnel. En milieu urbain, il est réduit dans un environnement naturel - a la taille optimale, et comprend un espace naturel propre;• respectueux de l'environnement, relation avec la nature, caractérisée par la possibilité de contact humain et de l'espace naturel. Cette relation peut être très physique, visuelle, psychologique. Sa qualité est assurée par la présence de cas naturelles, artificielles ou, dans des cas exceptionnels, une des formes naturelles virtuelles.Ainsi, la conception écologique - une direction de conception, se concentrer sur la clé harmoniser la relation entre l'homme et son environnement, la préservation de l'environnement naturel. Ceci est un domaine complexe de l'activité de conception, tendant à la mise en œuvre de l'objet conçu dans les critères de convergence de l'environnement aux exigences des consommateurs et esthétiques de la personne. Son objectif est de créer des conditions optimales pour la satisfaction des besoins humains, sans perturber l'équilibre de l'environnement. Conception écologique implique une approche globale de la conception de tous les objets qui sont liés aux activités humaines, de petits objets utilisés dans la vie quotidienne, à la conception des bâtiments, des villes et des paysages. [3]

Les objectifs de conception de l'environnement sont:

• Amélioration de la situation actuelle de l'environnement en créant des produits qui répondent aux exigences de la nature, des gens et de la culture;

• Trouver un équilibre entre la forme et l'amélioration de la fonction des objets de conception et les principes de l'approche écologique;

• Examen des matériaux et des technologies en termes de normes environnementales;

• Création d'une nouvelle culture de consommation, la structure doit etre sur la base de la réduction des quantités excessives de nourriture;

• Changement délibéré des attitudes de la société à travers des images artistiques d'objets de design.

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