



ACTUAL PROBLEMS OF MODERN SCIENCE, EDUCATION AND TRAINING

KHOREZMSCIENCE.UZ





CONTENTS

Section 1. ACTUAL PROBLEMS OF MATHEMATICS, PHYSICS AND MECHANICS.....	4
ISMOILOV MUKHIDDIN BAKHROM O'G'LI /// m – CONVEX FUNCTIONS AND THEIR PROPERTIES.....	4
Section 2. MODERN PROBLEMS OF PHILOLOGY AND LINGUISTICS.....	8
MASHARIPOVA YULDUZ OTAXANOVNA /// THE LEXICAL-SEMANTIC FEATURES OF MODULATION.....	8
TURAEVA IRODA SHERAMATOVNA /// USE OF ETHNOGRAPHIC FOLKLORISM IN THE FIRST UZBEK NOVELS.....	13
TOJIBOYEVA MUQADDAS /// INHERITANCE OF LITERARY HERITAGE AND LITERARY INFLUENCE ISSUES.....	18
QODIROV SOBIRJON SOLIJON O'G'LI /// TOURISM DISCOURSE AND SOME OF ITS FEATURES.....	21
Section 3. MODERN PROBLEMS OF PEDAGOGY AND PSYCHOLOGY.....	27
GAFUROVA NODIRA RAVSHANOVNA /// DEVELOPMENT OF TOLERANCE SKILLS OF PRIMARY SCHOOL STUDENTS - AS A SOCIAL NEED AND A PEDAGOGICAL PROBLEM.....	27
MELIKUZIYEV DADAKUZI JURAKUZIYEVICH /// CONTENT OF FORMATION OF STUDENT NATURAL SCIENCE ON THE BASIS OF THE INTERNATIONAL PROFESSIONAL ASSESSMENT PROGRAM.....	30
Section 4. MODERN PROBLEMS OF TOURISM AND ECONOMICS.....	36
ABDULLAEV FARKHOD OZODOVICH, ISMAILOV ADHAMBEK BAKHRAMOVICH /// ASSESSMENT OF THE DIGITALIZATION OF THE PUBLIC GOVERNANCE SYSTEM.....	36
RAXIMOVA MIYASSAR RAJABOVNA /// ECONOMETRIC MODELS FOR ASSESSING ENVIRONMENTAL FACTORS AFFECTING THE COMPETITIVENESS OF THE REGION.....	42
RAJAPOV KAMOLADDIN ERKAEVICH, ERKAEVA BIBIROBIYA KAMOLADDIN QIZI, ERKABAEV FAXRIDDIN KAMOLADDIN O'G'LI /// DEVELOPMENT OF MECHANISMS FOR ATTRACTING INVESTMENT IN THE PROMOTION OF EXPORTS AND THE DEVELOPMENT OF FOREIGN ECONOMIC RELATIONS.....	48
HOLMIRZAEV ABDULHAMID XAPIZOVICH /// SMALL BUSINESS: INDICATORS AND CONCLUSIONS.....	53
ALIAKBAR NAURIZBAEV /// THE ROLE OF BONDS MARKET IN FINANCING JOINT STOCK COMPANIES.....	58



Section 5. MODERN PROBLEMS OF TECHNICAL SCIENCES.....64

ZAYNIDINOV HAKIMJON NASIRIDINOVICH, MAKHMANOV ORIF KUDRATOVICH /// SOFTWARE MODULES OF "COMPLEX-ANALYTICAL INFORMATION SYSTEM OF SCIENTIFIC TITLES", SYSTEM ARCHITECTURE AND INTEGRATION OPPORTUNITIES.....64

BOYNAZAROV ODILJON FAYZULLAEVICH /// EPISTEMOLOGICAL ANALYSIS OF THE CONCEPT OF INFORMATION CULTURE.....73

TUYCHIEVA DILRABO MAMIRJONOVNA /// THE EFFECT OF MICROWAVE ENERGY ON THE PROTEIN COMPLEX OF WHEAT GRAIN.....78

PULATOV MADAMINJON MUHAMMADJON OGLI /// COMPOSITION, BENEFITS AND DISADVANTAGES OF DECORATIVE BRICKS PRODUCED BY HYPER-COMPRESSION METHOD.....82

USMANKULOV ALISHER KADIRKULOVICH, SALOMOV ABUBAKIR AKHMADKULOVICH, ABBAZOV ILKHOM ZAPIROVICH, EGAMBERDIEV FAZLIDDIN OTAKULOVICH, KAZAKOVA DILAFRUZ ERKINOVNA /// THE RESULTS OF PRELIMINARY STUDIES AND THE CHOICE OF THE DIRECTION OF RESEARCH TO IMPROVE THE UXK UNIT FOR CLEANING RAW COTTON FROM MACHINE COLLECTION.....86

Section 6. ACTUAL PROBLEMS OF HISTORY, PHILOSOPHY AND SOCIOLOGY.....93

ABDURAHMONOV UMIDJON USMONOVICH /// THE ROLE OF HEALTHY SOCIAL COMPETITION IN DETERMINING YOUNG LIFESTYLE.....93

SULTANOVA GULNOZA SABIROVNA /// INTELLECT AND COGNITIVE PROCESS.....97

Section 7. ACTUAL PROBLEMS OF NATURAL SCIENCES.....102

JUMANIYAZOV MAKSUD JABBIEVICH, SAPAEVA SURAYO FOFURZHANOVNA /// WAYS AND POSSIBILITIES OF TAKING RUST CLEANING AND INHIBITING MEANS FOR THE CONSTRUCTIVE TYPE OF EQUIPMENT USED IN THE PRODUCTION PROCESS.....102

ACTUAL PROBLEMS OF MATHEMATICS, PHYSICS AND MECHANICS

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m – CONVEX FUNCTIONS AND THEIR PROPERTIES

Ismoilov Mukhiddin Bakhrom o'g'li
Lecturer, Department of Mathematical Analysis,
Faculty of Mathematics of the
National University of Uzbekistan
mukhiddin4449@gmail.com

Annotatsiya. Ushbu ishda m – qavariq funksiyalarning ba'zi xossalari, jumladan, m – qavariq funksiyalarning silliq approksimatsiyasi, m – qavariq funksiyalarning ketma-ketligi limitining m – qavariqligi, chekli sondagi m – qavariq funksiyalar maksimumi m – qavariq bo'lishi isbotlanadi.

Kalit so'zlar: k – tartibli Gessian operatori, sunbgarmonik funksiya, m – qavariq funksiya, silliq approksimatsiya, integral o'rta qiymat.

Аннотация. В данной работе изучена m – выпуклые функции и их некоторое свойства, в частности аппроксимация m – выпуклых функций и доказана m – выпуклость лимит последовательностей m – выпуклых функций, m – выпуклость максимума конечного числа m – выпуклых функций.

Ключевые слова: оператор Гессииана k – порядка, субгармонические функции, m – выпуклые функции, гладкая аппроксимация, среднее интегрально значение.

Abstract. In this work studies m – convex functions and some of their properties, in particular, approximation of m – convex functions and proved the m – convexity of the limit sequences of m – convex functions, m – convexity of maximum of the finite number of convex functions.

Keywords: k – Hessian operator, subharmonic functions, m – convex functions, smooth approximation, mean integral value.

Introdaction. Lets imagine we are given $D \subset \mathbb{R}^n$ function in one sphere and $u \in C^2(D)$ function in another. Lets have a look at the matrix $D^2u = \left(\frac{\partial^2 u}{\partial x_i \partial x_j} \right)$ that was composed of the second-order derivatives of the function. It is measured as a symmetric matrix D^2u because of $u \in C^2(D)$, so all its numerals are considered to be factual numbers. Look at this figures

$$H_k(u) = H_k(\lambda) = \sum_{1 \leq i_1 < \dots < i_k \leq n} \lambda_{i_1} \dots \lambda_{i_k}$$

, in this example $\lambda = (\lambda_1, \dots, \lambda_n)$ is a vektor and D^2u is also a vector that composed of eigenvalues of the matrix. This systematic graph k is called Hessian operator. If we are given such a symbol such as

$$(t + \lambda_1) \dots (t + \lambda_n) = t^n + H_1(\lambda)t^{n-1} + \dots + H_n(\lambda), \quad t \in \mathbb{R},$$

in this case we will learn functions that leads to the solution of the task

$$H_k(u(x)) = H_k(\lambda(x)) \geq 0, \quad \forall x \in D.$$

1st explanation (q. [5]). If the relation between $H_k(u(x)) = H_k(\lambda(x)) \geq 0, \quad \forall x \in D, \quad k = 1, \dots, n-m+1$ function $u \in C^2(D)$ and between the field $D \subset \mathbb{R}^n$ is acceptable this function is called m -convex function in the field of D .

Convex function class m - is determined by m -cx(D)

in another words with the help of the graph given below

$$m\text{-}cx \cap C^2(D) = \{u \in C^2(D) : H_k(u(x)) = H_k(\lambda(x)) \geq 0, \quad \forall x \in D, \quad k = 1, \dots, n-m+1\}.$$

Generally, defining convex functions m - is an important issue of modern life. A number of properties of convex quadratic polynomials are described by Trudinger in the class of continuous functions by currents and in the class of m - semicontinuous functions in general as a descending function. We give general explanation to the convex m - just for local integration functions and consider its important properties.

2nd explanation. $u \in L^1_{loc}(D)$ should be a partially uninterrupted function that goes down from the height. If double differentialized m - was convex and v_1, \dots, v_{n-m} for functions defined as follows and if the flow was positive

$$\begin{aligned} & [dd^c u \wedge dd^c v_1 \wedge \dots \wedge dd^c v_{n-m} \wedge \beta^{m-1}](\omega) = \\ & = \int u dd^c v_1 \wedge \dots \wedge dd^c v_{n-m} \wedge \beta^{m-1} \wedge dd^c \omega, \quad \omega \in F^{0,0}(D \times \mathbb{R}^n) \end{aligned} \quad (1)$$

in this case $u \in L^1_{loc}(D)$ function $D \subset \mathbb{R}^n$ is called convex in m -.

The following properties are directly derived from the definition:

1st property. If the function u in D is convex m -, in this case $u_j(x) \in C^\infty(D)$ and in the field D convex functions order will be found m -, and they are to be $j \rightarrow \infty$ and $u_j \downarrow u$.

Prove. Let's look at this standard core function

$$k(x) = \begin{cases} \frac{1}{c} e^{-\frac{1}{1-|x|^2}} & |x| < 1 \\ 0 & |x| \geq 1 \end{cases}$$

Here the constant

$$\int_{\mathbb{R}^n} k(x) dV = 1$$

is chosen to satisfy the equality. We construct this sequence using this given below

kernel

$$K_j(x) = \frac{1}{j^m} k(j \cdot |x|), \quad j = 1, 2, 3, \dots$$

It is known that the sequence of these functions $|x| < \frac{1}{j}$ outside the sphere is equal to zero, respectively. Let's take a look at this package

$$u_j(x) = u * K_j(y-x) = \int_{R^n} u(y) K_j(y-x) dy = \int_{R^n} u(y+x) K_j(y) dy$$

We show that u_j functions in D spheres m – will be convex moreover $j \rightarrow \infty$ in the sphere of $u_j \downarrow u$ is also going to be convex.

Indeed, for all $v_1, v_2, \dots, v_m \in C^2(D) \cap C^0(\bar{D})$ m – $cv(D)$ functions

$$\begin{aligned} & \left[dd^c u_j \wedge dd^c v_1 \wedge \dots \wedge dd^c v_{n-m} \wedge \beta^{m-1} \right] \omega = \int u_j \wedge dd^c v_1 \wedge \dots \wedge dd^c v_{n-m} \wedge \beta^{m-1} \wedge dd^c \omega = \\ & = \int \left(\int_{\square^n} u(y+x) K_j(y) dy \right) \wedge dd^c v_1 \wedge \dots \wedge dd^c v_{n-m} \wedge \beta^{m-1} \wedge dd^c \omega = \\ & = \int_{\square^n} \left(\int u(y+x) \wedge dd^c v_1 \wedge \dots \wedge dd^c v_{n-m} \wedge \beta^{m-1} \wedge dd^c \omega \right) K_j(y) dy \geq 0 \end{aligned}$$

So u_j functions D in the spheres such as m – is considered to be convex. $j \in \Gamma$ in $K_j(x) \in d(x)$ because of Dirak's approach to d function

$$\begin{aligned} \lim_{j \rightarrow \infty} u_j(x) &= \lim_{j \rightarrow \infty} u * K_j(y-x) = \lim_{j \rightarrow \infty} \int_{R^n} u(y) K_j(y-x) dy = \lim_{j \rightarrow \infty} \int_{R^n} u(y+x) K_j(y) dy = \\ &= \int_{R^n} u(y+x) \delta(y) dy = u(x) \end{aligned}$$

And now it is enough to show that it is u_j monotonic decrease $u_j(x) \geq u_{j+1}(x)$ and we use subharmonicity in defining this. Because function $u(x)$ in the sphere of D is considered as a subharmonic function $u_j(x)$ and D . This is based on the cumulative mean

$$u_j(x) \geq u_{j+1}(x)$$

Because

$$\begin{aligned} u_j(x) &= \sigma_m \int_0^{\frac{1}{j}} K_j(t) t^{n-1} M(u, x, t) dt = \sigma_n \int_0^{\frac{1}{j+1}} K_{j+1}(\tau) \tau^{n-1} M\left(u, x, \frac{(j+1)\tau}{j}\right) d\tau \geq \\ &\geq \sigma_n \int_0^{\frac{1}{j+1}} K_{j+1}(\tau) \tau^{n-1} M(u, x, \tau) d\tau = u_{j+1}(x) \end{aligned}$$

relation is reasonable.

2nd property. m – cx decreasing sequence or flat approaching sequence limit namely is m – cx .

As a prove of this property, we use the above definition for the direct passage to the limit under the integral.

The main conclusion of the article consists of the following theorem:

Theorem. A finite number of convex functions maximum m – will be convex m – function again.

The function m – which was supremum $u(x) = \sup_{\theta} u_{\theta}(x)$ which was regulated from above and which was optional flat bounded $\{u_{\theta}(x)\}$ m – can also be called convex function.

For further clarification, for a local plane-bounded sequence $\{u_j\} \subset m - cx$, the upper limit regulation $u(x) = \overline{\lim}_{j \rightarrow \infty} u_j(x)$ is $u^*(x)$ also $m -$ a convex function.

Prove. $v_1, \dots, v_{n-m} \in m - cx(D) \cap C^2(D)$, we assign functions and get $\alpha = dd^c v_1 \wedge \dots \wedge dd^c v_{n-m} \wedge \beta^{m-1}$. α the differential form is closed and strongly positive. Therefore, $dd^c u \wedge \alpha$ differential operator will be an elliptical operator and $dd^c u \wedge \alpha = 0$ is determined by the equation α – for harmonic functions $B \subset \subset D$ – for the sphere there is Poisson kernel $P_\alpha(z, w)$ which was determined by Grin function $G_\alpha(z, w)$

$$u(z) = \int_{\partial B} P_\alpha(z, w) u(w) d\sigma(w), \quad z \in B. \quad (2)$$

$$[dd^c u \wedge \alpha](\omega) = \int u \alpha \wedge dd^c \omega \geq 0, \quad \forall \omega \in F^{0,0}, \quad \omega \geq 0,$$

and the class of subharmonic functions defined by the inequality α is determined by requiring this integral inequality to be satisfied instead of equation (2). (q. [3]).

$$u(z) \leq \int_{\partial B} P_\alpha(z, w) u(w) d\sigma(w), \quad z \in B \quad (3)$$

If $\alpha = \beta^{n-1}$ is right, then α – the class of subharmonic functions overlaps with the well-known class of subharmonic functions. As proved in the theory of subharmonic functions, we can show that the relation (3) holds for a maximum of a finite number $u_1(z), \dots, u_N(z)$ α – of subharmonic functions:

$$\max(u_1(z), \dots, u_N(z)) \leq \int_{\partial B} P_\alpha(z, w) \max(u_1(w), \dots, u_N(w)) d\sigma(w), \quad \forall z \in B.$$

Hence, $\max(u_1(z), \dots, u_N(z))$ it has a subharmonic function α – in the field D

$$\begin{aligned} [dd^c u \wedge dd^c v_1 \wedge \dots \wedge dd^c v_{m-1} \wedge \beta^{n-m}](\omega) = \\ = \int u dd^c v_1 \wedge \dots \wedge dd^c v_{m-1} \wedge \beta^{n-m} \wedge dd^c \omega \geq 0, \quad \forall \omega \in F^{0,0}, \quad \omega \geq 0. \end{aligned}$$

Hence it follows that this inequality holds at the maximum for a finite number m – of convex functions.

The first part of the theorem is proved. The proof of the second part of the theorem is proved in the class of subharmonic functions, as in potential theory.

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THE LEXICAL-SEMANTIC FEATURES OF MODULATION

Masharipova Yulduz Otaxanovna

English teacher

Urgench State University

Urgench, Uzbekistan

masharipova_yulduz@list.ru

Annotatsiya: Mazkur maqolada modulyatsiyaning leksik-semantik xususiyatlari atroflicha yoritib berilgan. Olimlarning modulyatsiya haqidagi fikrlari misollar orqali ko'rib chiqilgan va maqola so'ngida modulyatsiya haqidagi turlicha fikrlar umumlashtirilib modulyatsiyaga aniq ta'rif berilgan. Xulosa o'rnida modulyatsiya turlarining ta'riflari misollar yordamida jadval ko'rinishida shakllantirilgan.

Kalit so'zlar: modulyatsiya, toifalar, xususiyatlar, tarjima usuli, ma'lumot.

Аннотация: В данной статье подробно описаны лексико-семантические особенности модуляции. Взгляды ученых на модуляцию проиллюстрированы примерами, а в конце статьи суммированы различные взгляды на модуляцию и дано четкое определение модуляции. Вместо этого определения типов модуляции сведены в таблицу с примерами.

Ключевые слова: модуляция, категории, особенности, способ перевода, информация.

Abstract: This article provides a detailed description of the lexical-semantic features of modulation. The views of scientists on modulation are discussed through examples, and at the end of the article the different views on modulation are summarized and a clear description of the lexical-semantic features of modulation is given. Instead, descriptions of the types of modulation lexical-semantic features are tabulated using examples.

Key words: modulation, categories, features, translation method, information.

Introduction: While translating the passage, the form of the content causes various changes in the meaning of the original text. And to find the correct equivalent of the text translator uses different types of transformations. One of them is modulation. By using this transformation translator can express a certain message of the source language (SL) while translating the text into target language (TL). Modulation provides naturalness in translation. And it is gained by using lexical sources and grammar which is clear to the target language readers.

Literature review: Vinay and Darbelnet find the most important features of the modulation. They say that modulation is a great method of translation which helps to express and save the naturalness of the translation. And translators use this transformation when it is too difficult to find the equivalent of the text of source language in the TL. And it means that translating a text is not only to find the right words in the TL, but owing the ability of using the correct TL grammar also. [1; 89]

L.S. Barkhudarov called modulation as "the replacement of cause with effect" in his book named after "Language and Translation". The author argues that in

modulation, the interrelationship between the texts of the source and target languages is often related to the cause-and-effect relationship of the meanings of the words. [2; 189] Here are some examples from the translation of J. Selinder's novel:

It is not difficult – it is easy.

I don't blame them. – Я их понимаю. [2; 214]

As a result the following form of the cause-and-effect relationship of the meanings of the words appear:

CAUSE	EFFECT
Vacation had begun	A lot of schools were home already

Research methodology: Y.I. Retsker describes modulation as following in his book named “Translation theory and practice”: “This type of transformation is based on a contextual, logical approximation of the correspondence between the original text and the translated text.” It should be noted that in the theory of translation transformations, along with the term “semantic development”, the terms “logical development” and sometimes “metonymic translation” are used. It is possible to argue about the big or small success of each of these topics, but all of them involve the same techniques”. [3; 51]

The perception of semantic development may be based on the metaphorical relationship of similarity. In this case, the translation uses the methods of metaphorization, re-metaphorization and metaphorization.

The method of metaphorization is to replace a non-metaphorical phrase with a metaphor. This process is accompanied by the transformation of the original unit into a phraseological unit. The process of re-metaphorization is also based on phraseology.

In her book “Translation Practice”, Z. Proshina describes modulation as follows: “Modulation is the selective use of semantic logical alternatives to words in translation. Choosing an alternative through a simple logical solution. For example: “But outside it was raining.” - “Но на улице шел дождь.” The original equivalent of the word “outsider” is the word “снаружи”. However, in Russian it is not possible to say “Но снаружи шел дождь”. The translator cannot use this meaning of a logically incorrect word in the translation, and he chooses the word “наулице” through a complex logical choice. Here, the translator can choose a compound word or an acceptable phrase instead of a single word. [4; 43]

Vinay and Darbelnet describes modulation as follows: “Modulation is a change in the grammar of the original text in the translated text. This change is mainly due to the fact that the original affirmative text becomes a negative sentence in the translated text. The main reason for this change is the inconsistency of the translated text with the language norms of the original text.” [5; 36] As we mentioned above, Vinay and Darbelnet also interpreted modulation as the translation of a word by changing its form and appearance but retaining its meaning. They identified 10 types of modulation. [6; 58]

Analysis and Results: Modulation can change the semantics and point of view of the SL. Because it can occur not only on the word level but also on the phrase, clause and sentence level [7; 33]. Here some samples of modulation from the book “O‘tkan

kunlar” which is written by Abdulla Qadiri and its translation versions into English by Carol Ermakova and Mark Reese:

Abdullah Qadiri: *Ko ‘b fursat o ‘tmadi.* [8; 70]

Carol Ermakova: *After some time had elapsed, ...* [9; 71]

Mark Reese: *... a few moments passed in this manner.* [10; 90]

The passage “*Ko ‘b fursat o ‘tmadi*” translated into English as “*After some time had elapsed*” by Carol Ermakova and as “*... a few moments passed in this manner*” by Mark Reese. “*Ko ‘b fursat o ‘tmadi*” expresses negative meaning in Uzbek language. And this text translated into English with a positive forms of the lexical sources, I mean words. In Macmillan dictionary the verb “*elapse*” means as following: “*if time elapses, it passes.*” [11; 447] and the verb “*pass*” means – if time or period of time passes, it happens and comes to an end [11; 1034] As a result we can define that the negative meaning of Uzbek language “-ma” translated into English without any negative suffixes, but by using the verbs which express the meaning of the negotiation in English. And this process carried out with the help of modulation in English.

Abdullah Qadiri: “*Yuzidan muloyimlik, eriga itoat, to ‘g ‘riliq ma ‘nolari tomib turg ‘an bu xotin qutidorning rafiqasi – Oftob oyim, ikkinchisi yetmishlardan o ‘tkan bir kampir. Oftob oyimning onasi – Oysha bibi.*” [8; 28]

Carol Ermakova: “*A shapely woman, her small face, open and friendly, radiates devotion to her husband. This is Oftoboyim, Kutidor’s wife. The second woman is an old lady of around seventy, her mother, Aisha-bibi.*” [9; 32]

Mark Reese: “*She has a face that personifies kindness as well as modest deference to her husband, without any sign of artifice. She is Qutidor’s wife-Oftob Oyim. As for the second woman, she is an elderly lady of about seventy years, the mother of Oftob Oyim-Oysha Bibi.*” [10; 47]

With the sentence “*Yuzidan muloyimlik, eriga itoat, to ‘g ‘riliq ma ‘nolari tomib turg ‘an*”, the author describes Kutidor's wife, Oftoboyim, in terms of obedience and devotion to her husband, which are typical of Uzbek women. Carol Ermakova translated this passage as “radiates devotion to her husband,” while Mark Reese found an alternative to “without any sign of artifice.”

In the second part of the sentence, the author uses the phrase “kampir” (old woman) when referring to Aisha Bibi, Kutidor's mother, and the translators preferred to use the word “mother” in translation through semantic development.

Abdulla Qadiri: *Eng so ‘ng o ‘g ‘liga hujum qilg ‘an bu falokatning tadbiridan aqli ojiz qoldi, miyasi ishlashdan to ‘xtadi va shundan so ‘ng – “Parvardigoro, keksaygan kunlarimda dog ‘ini ko ‘rsatma,” dedi va ko ‘z yoshlari bilan soqolini yuvdi.* [8; 90]

Carol Ermakova: *His intellect was powerless to suggest a way out of this difficult situation. “Oh, great Allah! Let no harm befall him! Do not ruin my old age!” he cried, and tears rolled down his cheeks, drenching his face and beard.* [9; 90]

Mark Reese: *Finally, the full weight of the threat to his son left him unable to imagine a solution to this disaster. His brain shut down and he sobbed aloud, “Dear God, please do not visit my later years with tragedy,” washing his beard with his tears.* [10; 110]

As we study this text from a linguocultural point of view, we come across several

similarities and expressions in the text of the original text. "Aqli ojiz" (mentally retarded) in this text means "weak, powerless, powerless," meaning a state of being in a state of crisis, not knowing what to do. The next sentence is "miyasi ishlashdan to'xtadi" which shows the position that the brain has stopped working. This phrase reinforces the meaning of the phrase "mentally retarded" by expressing the seriousness of the protagonist's condition and the fact that even the human thinking organ, the brain, has stopped working. The last sentence, "He washed his beard with tears," is a metaphor for the state of a person crying.

Abdullah Qadiri: *Aytishlaricha, Otabekning barcha rejalari shu qutidor bilan kengashib bo'lar ekan.* [8; 71]

Carol Ermakova: *It is said that Atabek takes counsel on all matters with his father-in-law.* [9; 73]

Mark Reese: *We are told that Otabek discusses all his plans with him.* [10; 91]

The phrase "*Aytishlaricha*" in the original text is used in the translated text as "It is said" and "we are told", which in turn is modulated by the rule of missing-semantic transformation.

Abdullah Qadiri: Chunki majlis o'rnini aytsa pochchasi bilan jiyani Rahmatning ham qo'lg'a tushishlari aniq va buning bilan ul **o'z oyog'iga bolta qo'ygan** bo'lar edi. Shu mulohaza yuzasidan ul tutiliqdi: "**Majlis o'rni yodimda yo'q, taqsir.**" Mantiqsiz bu javobga qarshi qo'rboshi **achchig'i bilan baqirdi**: "**Yodimda Yo'q?!**" Homid garangsidi va bir xil *siniq tovushda*: "**Esimda bo'lsa ham nozik bir joy edi, taqsir,**" dedi. [8; 66]

Carol Ermakova: If he admitted where the gathering had taken place, his brother-in-law and his nephew Rakhmat would also be arrested. Giving this information would be **tantamount to stabbing himself in the leg**, he would have nowhere to go. "Erm, **it seems to have slipped my mind,**" he said falteringly. But this reply was not to Kurbash's liking, and he flew into a rage. "Ah, slipped your mind, has it?!" he **roared**. Hamid was ruined. "Well, maybe it has not, but it cannot be spoken of, it is very sensitive place..." he stammered. [9; 68]

Mark Reese: If he named the meeting place, his brother-in-law and cousin Rahmat would also be incriminated and **he would have cut off his feet with his own ax**. He was confused, and he began to stall. His confusion delayed his response, which came at last: "**I don't remember the place of the meeting, Your Honor.**" To this suspected dissembling, the qorboshi **shouted angrily**: "Don't remember?" Hamid became more flustered and said in a weak voice, "Even if I could remember it, I can't tell you the location." [10; 86]

The phrase "**o'z oyog'iga bolta qo'ygan**" translated into English as "**tantamount to stabbing himself in the leg**" by Carol Ermakova and as "**he would have cut off his feet with his own ax**" by Mark Reese. Both of them gave the direct meaning of the source text. If this passage was translated by modulation it would be loose its naturalness, because it's too difficult to find the equivalent of the sayings of different cultures.

Abdullah Qadiri: Qo'rboshi yozdi: "- Ha-ha! Hali Yusufbek hojining o'g'li degin. Bizning Marg'ilonni ham **qong'a botirmoqchi** ekan-da, muttahamlar, ikkinchisi?"

“–Shu kunlarda Otabekka qizini bergan marg’ilonlik Mirzakarim.” “– **Pes-pesni qorong’ida topqan ekan, uchinchisi?”**... [8; 67]

Carol Ermakova: “Aha,” muttered Kurbashi as he wrote. “The son of Yusufbek-hadji, you say! What a scoundrel! **They want to drown our Margilan in blood, too!** And who is the second?” “Mirzakarim, from Margilan. He married his daughter to Atabek but a few days ago.” “**Even in the darkness a wretch will find his own kind.** Who else?” [9; 69]

Mark Reese: “Yes, yes! So you’ve said, the son of Yusufbek Hajji. So those cowards are going **to sink Margilan into a sea of blood?** And the second?” “Mirza Karim from Margilan, who recently married his daughter to Otabek.” “**A bastard will find another bastard, even in the dark...** And the third?” [10; 87]

The phrase “**qong’a botirmoqchi**” translated into English as follows: “**They want to drown our Margilan in blood**” and “**to sink Margilan into a sea of blood**”. Translators translated this passage with the help of the transformation of modulation by using metaphoric phrases in this sentence.

Conclusion: To sum this study, it became clear that each language has its own specific features. That is sometimes it may cause to appear difficulties while translating the texts. As an example we analysed some texts from the book “O’tkan kunlar”. being comparative in nature, might explain the process of translation as it is partly a comparative stylistics. It can also be of benefit to students since it helps them identify These samples help to understand that people in different languages express situations differently, because their minds and form of realities, culture, traditions are differently. Many studies were done in the field of modulation. And the studies concluded with the same conclusion that modulation appears when there are a lot of differences between languages and translators' own style which lead the texts of the source language to change in semantics.

In conclusion, we can describe the main lexical-semantic features of modulation as follows: modulation refers to following features: cause – effect issue, which is described in some books as reason, the translation of the negative sentence in the form of affirmative sentence, the expression of the part as a whole, the translation of images in accordance with the image in each culture, metaphor, metonymy, the rendering of a definite sentence are the shaping factors.

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USE OF ETHNOGRAPHIC FOLKLORISM IN THE FIRST UZBEK NOVELS

Turaeva Iroda Sheramatovna
Karshi state university
academic lyceum teacher
[**lucky-mens@mail.ru**](mailto:lucky-mens@mail.ru)

Annotatsiya. Ushbu maqolada ilk o'zbek romanlarida etnografik folklorizmlardan foydalanish haqida so'z yuritilgan. Har qanday san'atning boshi folklorida degan gap bugun paydo bo'lgan emas. U uzoq yillik hayotiy kuzatish, ilmiy tajribaning hosilasidir. Folklor milliy an'alarimizning o'zagini tashkil etadi. Bu an'ana va qadriyatlar birinchi navbatda og'zaki ijodda kuylanib, ulug'lanib kelingan.

Kalit so'zlar: o'zbek romanlari, etnografiya, folklor, san'at, janr, adabiyot, badiiy asar, uyg'onish davri, ijodkor, madaniyat.

Аннотация. В статье рассматривается использование этнографического фольклора в первых узбекских романах. Мысль о том, что начало любого искусства находится в фольклоре, сегодня не возникла. Это продукт многолетних жизненных наблюдений, научного опыта. Фольклор лежит в основе наших национальных традиций. Эти традиции и ценности впервые воспевались и воспевались в устном искусстве.

Ключевые слова: узбекские романы, этнография, фольклор, искусство, жанр, литература, искусство, Возрождение, творчество, культура.

Abstract: This article discusses the use of ethnographic folklore in the first Uzbek novels. The idea that the beginning of any art is in folklore did not appear today. It is the product of many years of life observation, scientific experience. Folklore is the core of our national traditions. These traditions and values were first sung and glorified in oral art.

Key words: Uzbek novels, ethnography, folklore, art, genre, literature, art, Renaissance, creativity, culture.

Introduction. Just as the economic power of any country is determined by the development of state industry, the contribution of any national literature to the aesthetic thinking of mankind is determined by the weight of its novelism. Because the novel reflects the level of development of the nation's artistic thinking.

Since man is the subject of literature, it is impossible to imagine him as a whole without the human psyche. This means that in any work of art, no matter when or in what genre or method it is created, it is natural that human psychology is reflected in one way or another. [4]

The "trinity" of historical heroism, historical environment and historical-artistic interpretation is considered to be an important factor in the transformation of the principle of historicity into one of the main criteria of Uzbek novels. After all, a historical work is based on the lives of famous people who played an important role in the development of the people and society; aspects of the life and work of a historical figure with his own prototype in relation to the writer's aesthetic ideal will be reflected in the play. In such novels, the principle of embodying historical events in the eyes of the reader, giving them a national spirit and portraying historical figures as heroes of the nation prevails in the process of creating the character of woven images or characters with their own prototype in history. [7]

If we look at the Uzbek novel as a whole, we can be sure that the works on historical themes, in a sense, form their core, a heavier, higher and more classical part than modern works. Uzbek literature began its first step on the path to novel thinking with a historical novel - "O'tgan kunlar" and, interestingly, this first step went down in history as one of the highest peaks of our literature.

Then, despite the fact that the gap is ten years apart, with all its ideological and artistic features, a unique novel of another unique talent, "Kecha va kunduz" was born. After these figures, whose lives ended in terrible tragedies, but in a short time left monuments of centuries, a new generation of literature, in a sense, contemporary with them, but different from them in terms of the historical path formed under the pressure of time and under the influence of these factors a new era began in the literature.

Folklore is the beginning and source of all art, and therefore is in harmony with many other arts, but at the same time it is a unique art form with its own uniqueness. The field includes music, dance, handicrafts, fine arts, arts and other arts. In other words, oral art is a creative process that expresses the past, present and future of a nation and is closely linked to its destiny. That is why our scholars called it folk literature. To know what a nation is, one must first look at its folklore. [3]

Folk art is an art of constant change, of constant movement in the true sense of the word. In other words, the samples of folk art are constantly updated, changed and improved, while maintaining the continuity of traditions in each performance. For this reason, examples of folk art have many variations. This variability is one of the most important aspects of the originality of folklore.

The pattern of folklore differs not only in its oral performance, but also in its oral assimilation, oral performance, and oral inheritance, in other words, its re-creation in each performance process. According to folklorists, there is no song in folklore, but there is a state of performance, a process of performance. This idea can be applied to other genres of folk art. [8]

The idea that the beginning of any art is in folklore did not appear today. It is the product of many years of life observation, scientific experience. Indeed, the origins of the fine arts, crafts, music, dance, art, etc., go back directly to the oral tradition of the people, to the people's initial imagination and beliefs. Work has already begun on the

publication of a hundred volumes of "Monuments of Uzbek folklore." The publication of this great heritage as a whole, I think, will be one of the greatest achievements in the spiritual life of our republic.

Literature review. Christopher Murphy, an American scholar who has studied the life and work of Abdullah Qadiri in a monograph, has defended his doctoral dissertation on "The connection of Abdullah Qadiri's historical novels with the traditions of folklore." -Students of the novels "O'tkan kunlar" and "Mehrobdan chayon" and examples of traditional folklore "Alpomish", "Kuntugmish", "Tahir and Zuhra" and masterpieces of Uzbek classical literature. Compared to the epics "Farhod and Shirin", "Layli and Majnun", the common points in them were first analyzed by the methods of structural analysis. Murphy, who is currently the chief specialist for the Turkish and Central Asia section of the U.S. Library of Congress and head of the Middle East section, later published a study entitled Abdullah Qadiri and the Bolsheviks. [2]

During the years of independence, the science of ethnography was further developed abroad, and the process of creating perfect translations of the writer's literary heritage began. In the research of the new generation of archeologists of this period, the analysis of the author's works shows the process of transition from socio-political interpretations to artistic aesthetic interpretations.

Research Methodology. Each of the characters in The "O'tgan kunlar" is a world of its own, and they never duplicate each other. They are all created with a high degree of skill. Abdullah Qadiri's The "O'tgan kunlar" is the culmination of Uzbek novelism. The artist's skill is also evident in the fact that he harmonizes national heroes and national traditions through historical events while describing the life of the people to whom he belongs through the national language. [5]

Analysis and results. When we talk about Abdullah Qadiri, we involuntarily think of the founder of our novel. Because it is natural that everyone is interested in the question of what kind of person the writer was, whose works have become the property of our literature and culture in general.

During the Soviet coups, the notion of the individual declined and contributed to the nation's spiritual decline. The loss of honor and national pride is a sign of personal decline. Qadiri called it a "spiritual defeat." [9] In the last century, new Uzbek literature appeared. It was created by such great artists as Fitrat, Behbudi, Cholpon, Qahhor, Oybek, Gafur Gulam, Hamid Olimjon, Shaykhzoda. Among them, the personality of Abdullah Qadiri is a phenomenal phenomenon. Oybek writes about Qodiri: "On the surface, he looks calm and modest, because he weighs every word, does not say every word that comes into his mouth, and begins to speak slowly and unobtrusively, as if interfering with himself."

Sources describe the writer's character as self-confident, courageous, determined, and truthful. Qadiri believed that the purpose of life was to remain true to himself, to himself, and to devote all his energy, zeal, and potential to the nation, society and literature.

Abdulla Qodiri is a brilliant, well-known poet and writer, playwright and publicist, the founder of the novel genre in Uzbek literature. Qadiri's works are dedicated to the life of the Uzbek people. [6]

The influence of folklore on written literature is as important today as it was in the time of Alisher Navoi. In all the works of Alisher Navoi, we see a creative approach to folklore, based on nationalism and the glorification of universal values. This tradition continues to some extent in the researches of Navoi, after the time of Babur, from Abdullah Qadiri to our writers today, from Cholpon to the research of contemporary poets. Not only in our country, but also in the world literature. It can be said that the last century marked the beginning of a renaissance in folklore in literature. The work of writers such as Joyce, Borges, Marquez, Kafka, Kawabata is an example of this. In the 21st century, the era of re-appeal to world myths, the era of new interpretations, the era of neomythologism has begun. [1]

Folklore helps each artist to find their own way, their own style, their own identity, their own roots.

"Literature begins with a myth and ends with a myth," says Jorge Luis Borges, one of Latin America's greatest writers. In other words, any art, including the art of rhetoric, begins with folklore and develops with it.

Today, we cannot imagine our national values and traditions without the folklore. Folklore is the core of our national traditions. These traditions and values were first sung and glorified in oral art. In my opinion, any artist, even if he thinks that he has no idea about folklore, has folklore traditions in his mind. Throughout his career, some have relied on these traditions, some knowingly and some unknowingly. That is, we cannot imagine the process of artistic creation without folklore.

In the psyche, consciousness, thinking, in other words, in the subconscious experiences of the nation to which the artist belongs, the customs, traditions, values, and artistic symbols of that nation are in the form of ready-made codes. Because he grew up in that environment, he was brought up in that language, he can "speak" in the same language with the "unseen world". As you move away from your surroundings, know that you are moving away from the space that binds you to the blue with invisible threads. Then don't try a thousand times, you won't find it again, and another alien environment will still push you away. Creativity is manifested in the ability to find those lost, hidden, hidden codes - national symbols - and turn them into wisdom for today. Regardless of the genre in which the artist works, he has no right to forget on what ground, in what spiritual space, where he draws his spiritual strength, and to what ancestors the blood of the beating heart goes. [10]

Conclusion. From the above, it is clear that in the work of Abdullah Qadiri, nationalism is expressed in two ways.

First of all, the author achieves the artistic purpose of all his works, in particular, the novel "O'tkan kunlar", by expressing the theme in terms of the history and mentality of his homeland, his people.

Second, the solution of the theme, the idea, the image, is rooted in Islamic enlightenment and the teachings of Jadidism, which deepens nationalism.

In addition, inspired by the general spirit of folklore, the writer nurtured the family environment, folk customs and rituals in the behavior of the images he created, depicting their activities. Of course, Abdullah Qadiri's attitude to folklore traditions is not direct, but indirect. At the same time, the author appealed to the traditions of



folklore in convincingly reflecting the realistic image of the images he created, the development and resolution of the conflict of the novels on a vital basis. [12]

More precisely, Abdullah Qadiri's use of folklore traditions was based on synthesis. A closer look at the author's works reveals that he incorporated scenes from the life of the people, especially comic images typical of folklore, into his work. The art of comedians and clowns in his novel The "O'tgan kunlar" is a shining example of how the art of folk spectacle in real life is skillfully integrated into the novel.

In his novel The "O'tgan kunlar", Abdullah Qadiri tends to portray life as a psychological phenomenon. That is why the folklore traditions in his novel are used in this way.

It can be said that the epic image and epic narration in the new Uzbek literature began, first of all, with Abdullah Qodiri, in which the form of poetic image in the folk oral and written classical literature, the method of romantic expression is very natural to realistic prose. chirgani was a huge discovery. Abdullah Qadiri's works combine national spirit and folklore traditions, reflecting the artist's unique style. [11]

The way to the door of secular knowledge, literature, and art in general, begins with the realization of this national wealth, the assimilation into yourself and your psyche. This heritage, which is as simple, as wise, as great and eternal as our people, will glorify the name Uzbek everywhere and always. Because the heritage called folklore is always the awakening and eternal history of the people.

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INHERITANCE OF LITERARY HERITAGE AND LITERARY INFLUENCE ISSUES

Tojiboyeva Muqaddas
Andijan state university
Department of Uzbek language
and literature
Doctor of philology, docent
muqaddas-tojiboyeva@mail.ru

Annotatsiya. Maqolada adabiy ta'sir, an'ana va vorislik munosabati ijodkor o'ziga xosligining shakllanishida muayyan vazifani o'tashi masalasiga munosabat bildirilgan.

Kalit so'zlar: adabiy an'ana, adabiy ta'sir, vorisiylik, faylasuflar nazariyasi, mumtoz adabiyot, g'arb adabiyoti, jadid adabiyoti.

Аннотация. В статье рассматривается взаимосвязь литературного влияния, традиции и наследования, роль художника в формировании идентичности.

Ключевые слова: литературная традиция, литературное влияние, преемственность, философская теория, классическая литература, западная литература, современная литература.

Abstract: The article discusses the relationship between literary influence, tradition and inheritance, the role of the artist in the formation of identity.

Key words: literary tradition, literary influence, succession, philosophical theory, classical literature, western literature, modern literature.

Introduction. In the study of the phenomenon of the literary process, the issues of tradition and novelty, cultural heritage, and literary influence have always been at the center of literary criticism. The Literary Dictionary defines the literary tradition as follows: "Literary tradition is the cream of creative experience accumulated by the literature of the past, the part that has not lost its significance and relevance over time, has become an eternal value and is passed down from generation to generation." Thus, the literary tradition includes not all the achievements of the past literature, but also the part of it that is considered relevant by the artists of a certain period, valued as an eternal value and considered a model in their creative work. Each generation has a selective approach to the literature of the past, takes an active creative approach to it, and serves the artistic and aesthetic tasks set by its predecessors. Accordingly, the coexistence of literary tradition and innovation is a legitimate phenomenon, both of which form a unity in dialectical communication and become an important internal factor in the development of literature "[8.12.].

Literature review. It has also been established in its time that tradition and succession are not only a phenomenon inherent in fiction, art in general, but that it is a philosophical category and an important factor in the development of society. "Throughout history," the philosophers write, the process of using and assimilating cultural heritage has taken place in two different aspects. The first ("vertical") aspect of succession represents the interdependence of the past and the present. Another ("horizontal") aspect is the appearance of inheritance in the process of interaction of

cultures that existed at the same time” [1.21]. Although formal, such a view defines two different ways of approaching the problem of literary tradition and inheritance.

The second direction is given by D.Dyurishin in the book "Theory of comparative study of literature" with a special chapter "Internal relations", in which there are cases of direct and indirect influence. When two objects are involved in a direct interaction: the affected and the affected, a third object is needed in the indirect effect, and this object acts as a link between the first and second objects [3.118-119]. The object in the middle can be a poet's work, a work or a motif, plot and emblem in some work. In modern literature, we observe both aspects of exposure. The most common is the first case, in which Jadid poets are directly linked to great creators. For example, the connection of Avloni's gazals to Navoi, as well as aspects of Qadiri's works related to Babur's prose. Although the influence of Saadi's "Gulistan" is evident in Avloni's stories in the second type of connection, because this tradition was used in Navoi's or Khoja's stories before it reached Jadid prose, Navoi's or Khoja's works indirectly serve as an "middle object" in Saadi-Avloni's relationship.

Thus, in the "theory of literary influence" the relationship between creators can take place directly (as D.Dyurishin called "genetic connection"), and in the periodic relationship, in addition to direct influence, a third object can be acquired between "influential" and "affected".

Research Methodology. As described above, in the "vertical" aspect, events in literature in terms of time, the experience of great writers, the system of symbols, artistic means and other elements of art emerge through their influence on the events of the period after them. Because any development is formed on the basis of hereditary relations with the literature, which is more or less unique. We can see this aspect in the example of a language or a region and a region's literature. In addition, the experiences of some great geniuses, whose creative principles can transcend the boundaries of one nation or region and literary environment, can also have an impact on world culture.

Analysis and results. This phenomenon has been described by world literary critics as the popularization of the creative experience of hundreds of great geniuses, such as Ferdowsi, Nizami, Yassavi, Dante, Jami, Navoi, Shakespeare, Balzac, Pushkin, Tolstoy and others. The German scholar Max Verley writes that "European literature, which entered the world cultural process with its traditions, expressions, and ways of development, not only participated as a link between tradition and succession, but also influenced the crystallization of poetic essences in fiction" [2.218] .

M.Verley describes such a "unity of literary traditions" in the example of German literature, writing that Goethe's work in all subsequent periods was a source of influence not only on German literature, but also on world literature. A similar situation can be observed with the literature of Central Asia, in general, with the literature developed under the influence of Islamic culture. It is known that Arabic-Persian poetry and Uzbek literature have in common ideas and motives, a series of symbols, forms of expression, types of poetry and prose genres, as well as artistic means. This is one of the issues that needs to be explored in the inter-literary section of tradition and literary influence. In studying the problem of literary tradition and succession, more scholars are working on the relationship between Persian and Turkish literature. For example, in the articles in the book "Navoi and issues of literary influence" the

factors influencing the work of Alisher Navoi are Firdavsi, Nizami, Saadi, Hafiz, Aristotle, Farobi, Beruni, Ibn Sino, Ibn Rushd as scientific sources [4.3-27]. Other articles in this collection include Navoi and our time (I.Sultan), Foniyy and Hafiz (A.Mirzoev), Navoi and Samarkand poets (V.Abdullaev), Navoi and Khusrav Dehlavi (Y.Is'hakov), Navoi and Hasan Dehlavi (A.Hayitmetov), Navoi and Hussein Boykaro (S. Ganieva) and others [7].

Apparently, the "vertical" and "horizontal" aspects recommended by the above philosophers in the field of literary influence are used here in a mixture. The collection also tried to cover Navoi's genius with his predecessors, Navoi and his time, from the works of Navoi and later great writers to Navoi and Soviet literature (H. Yakubov's article). Prof. N.Karimov commented on the study of German scholar Zigrid Kleinmichel "Alisher Navoi and Ahmad Pasha" and said that he was interested in Navoi's works, especially Uzbek literary critics, because he was engaged in the literature of the twentieth century Turkic peoples, including Uzbek literature and folklore. It was an unexpected novelty for the fireplace to shed light on an important page in the history of Uzbek-Turkish literary relations, which has remained unknown, "he wrote. "The main goal of nazirago poets is to learn the art of ghazal writing from master poets, to learn from them in the field of artistic skills" [5.18,23].

Prof. M.Muhiddinov in his work "Literary tradition and creative originality" writes that "a deeper study of a number of important issues in the history of Uzbek literature, an attempt to shed light on the basis of Navoi's work, common to Salafi poetry ... helps to expand readers' knowledge of Oriental literature" [6.4]. If we focus not only on the issues of literary tradition, succession and influence associated with Navoi's work, but also on the theoretical content of the concepts and terms that express this general phenomenon, the issue becomes even more complex.

As modern Uzbek literature develops in a new environment, it is spiritually nourished by the works of great poets and thinkers such as Alisher Navoi and Babur, the beauty of our national literature, passed down from generation to generation as "eternal values" and enriched the world's literary and artistic treasury. Made effective use of enlightenment ideas, traditional symbols, artistic means, and similar literary elements. If we look at the essence of ideas and literary experiences that have become a tradition only in the example of the works of writers who are close to each other in terms of worldview, we have limited the literary tradition and the essence of inheritance to it. The literary and historical heritage of the early twentieth century can be the basis for the present and future of Uzbek literature on a certain scale. Referring to the history of Eastern classical literature and the works of writers who lived and worked in the past, the study and analysis of the spiritual treasures they created provides an opportunity to take a deeper look at the roots of today's literature.

Conclusion. Therefore, when speaking of fixed traditions in Jadid literature, first of all, it is possible to observe the enlightenment-aesthetic views in classical literature, their continuity in the literature of the new period as well.

In his work, D.Dyurishin criticized the "theory of influence" prevalent in the West and argued in a separate chapter against "repetition, mechanical imitation, and slavery." In addition to studying the general aspects of the interaction, it also involves efforts to "get rid of the influence" and gain originality. In this process, the study of the



methodological aspects of literary works can lead to the desired result. In the section "General, special cases of style" of the "Rules of literature" Fitrat classifies as "general cases of style, which should be found in all poetic styles", "special cases of style, which should be found in figurative style". The general cases of the style are "correctness in grammar", "purity in word formation", "tone", "openness", "harmony". These artistic aspects apply to both the object of influence and the affected, and are possibilities that bring them closer together. The special case of the style is the attitude of each author to the tradition, based on the nature of his talent, the inner demands of his work and the demands of the time in which he lives. These are the tools that help to define the unique image of the artist. Both the literary influence and the relationship of tradition and inheritance play a certain role in the formation of the creative identity. The result of Jadid writers' inheritance of classical traditions is that they help each artist find a unique identity.

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TOURISM DISCOURSE AND SOME OF ITS FEATURES

Qodirov Sobirjon Solijon o'g'li
Lecturer, Department of
Interfaculty Foreign Languages
Andijan State University, Uzbekistan
shohbegim@list.ru

Annotatsiya: Bu maqolada zamonaviy turizmning asosiy muhim vazifalari bayon qilingan. Turizm - axborot uzatish va muloqotni osonlashtirish vositasi. Aloqa funktsiyasining ahamiyati shunchalik kattaki, bir qator tadqiqotchilar turizmni, asosan, madaniyatlararo muloqot harakati deb hisoblaydilar. Darhaqiqat, boshqa madaniyatning madaniy makonining semantik qatlami ma'lumot manbai bo'lib xizmat

qiladi va sayohat jarayonida shaxslar, jamiyatlar, madaniyatlar darajasida muloqotni boshlaydi. Bundan tashqari, turizm ijtimoiy aloqalar orqali an'analar va madaniy davomiylikni saqlash va yetkazish vositasiga aylanmoqda. Turistik nutq, asosan, reklama nutqining klassik talablariga javob berishga, e'tiborni jalb qilishga, qiziqishni saqlab qolishga, istakni uyg'otishga va natijaga erishishga qaratilgan. Bu vazifalarni bajarish uchun iste'molchilarning xulq - atvorini shakllantirishga oid o'ziga xos reklama usullari qo'llanilmoqda.

Kalit so'zlar: Turistik nutq, turizm, xususiyatlar, aloqa, reklama, sayyohlik nutqi, turistik ma'lumot, turistik nutq janri.

Аннотация. Не менее важная функция современного туризма - общение. Туризм - это средство передачи информации и облегчения общения. Значение коммуникативной функции настолько велико, что ряд исследователей рассматривают туризм в первую очередь как акт межкультурной коммуникации. Действительно, смысловой слой культурного пространства другой культуры служит источником информации и инициирует общение в процессе путешествий на уровне индивидов, обществ, культур. Кроме того, туризм становится средством сохранения и передачи традиций и культурной преемственности через социальные связи. Дискурс туризма в основном направлен на удовлетворение классических требований рекламного дискурса: привлечь внимание, поддержать интерес, вызвать желание и, наконец, получить действие. Для выполнения этих функций используются определенные рекламные методы, которые влияют на поведение потребителей.

Ключевые слова: туристический дискурс, туризм, особенности, коммуникация, реклама, туристическая речь, туристическая информация, жанр туристской речи.

Abstract: This article gives important functions of modern tourism. Tourism is a means of conveying information and facilitating communication. The importance of the communicative function is so great that a number of researchers consider tourism primarily as an act of intercultural communication. Indeed, the semantic layer of the cultural space of another culture serves as a source of information and initial communication in the process of travel at the level of individuals, societies, cultures. In addition, tourism is becoming a means of preserving and conveying traditions and cultural habits through social connections. The main aim of tourism discourse is to meet the classical requirements of advertising, to capture attention, maintain interest, create desire, and finally get action. In order to fulfill these functions, specific advertising techniques are being used to shape consumer behavior.

Key words: tourism discourse, tourism, features, communication, advertisement, tourist speech, tourist information, genre of tourist speech.

Introduction. There is a high reputation for tourism and recreation, with a total of 7.4 thousand cultural heritage sites, 209 of which are located in four museum cities – “Ichon-kala” in Khiva, “Historical center of Bukhara”, “Shakhrisabz” and “Samarkand”. The historical center of the city is located in Samarkand city and is included in the UNESCO World Heritage List.

The volume of exports of tourism services developed twice in 2010 - 2017 and 546 in 2017, 9 million US dollars in 2018 to 1 041 million US dollars. By 2016, the

growth rate of the number of foreign visitors averaged 8%, in 2017 - 7%, and exceeded 2.69 million. At the end of 2018, 5,3 million foreign tourists visited to the republic. Private sector support and protection measures were taken in 2015, resulted in 398 units by the end of 2018, the number of tourist organizations on the number of hotels has reached from 950 to more than 661 900.

Literature Review. In the future, the state policy in the field of tourism will lead the tourism sector in the complex accelerated development of regions and their infrastructure, solve pressing socio-economic problems, increase employment, ensure regional diversification and development, increase incomes, living standards and quality of life, improving investment attractiveness and image. [1]

There have been many different studies of tourist speech, which are understood as a distinct diversity of texts day b

y day. The relevance of this work stems from the growing importance of the tourism sector in the economy, the planned growth of its contribution to the country's Gross domestic product (GDP), as well as the linguistic features of tourist speech texts. [2]

Today, tourism is a major socio-economic phenomenon on a global scale. Other any industry does not cross so many cultures. People never get tired of learning new things, so tourism will always be a relevant area of activity. According to statistics, about 180 million people are involved in the tourism business, which accounts for more than 10% of the world's workforce [4]. Such a scale of the tourism industry has led to the emergence of linguistic research aimed at studying tourism speech as a specific type of speech activity.

Determining typological status of tourism is an important task in the study of tourist discourse. There are different views on this issue. In particular, it has been suggested so type of speech which is a subtype of institutional advertising speech [6]. From another point of view, it is an independent type of speech that there is ability to interact with other types in speech (daily, scientific, advertising, etc.) [4].

The first of the above positions is controversial because it narrows the concept of tourist speech. Point of view, the discourse of tourism is the recipient of this special thematic areas, with a clear direction of purpose, originality, the uniqueness of a set of linguistic tools, and an independent type of speech characterized by a unique genre paradigm.

Travel speech refers to the communication of people who do not belong to a particular social group or linguistic community. Nevertheless, the participants of the dialogue have a clear idea of the genre features of tourist speech, as well as the organization and methods of information exchange.

Research Methodology. We must consider this important side of tourism which determining the characteristics of tourist speech is a type of communicators involved in situations that represent the tourism business. The participants are divided into 2 types:

- a) general population, which is considered as real and potential tourists;

b) various organizations in the tourism industry (travel companies and agencies, airlines and railway ticket offices, guide agencies and guide-interpreters, staff service sector and others).

For determining typological status and specific features of the tourist speech activity is discussed above. They are:

a) an economic institution that operates the tourism business (management, marketing, financial flows, personnel policy, public relations), mass media, cultural and art institutions of different countries, state, legal, social, environmental organizations);

b) entrance to the field of institutional discourse, touristic discourse can be classified as a type of business discourse, because formality is clearly manifested as attribute of tourism (communication participants have a professional relationship with each other);

c) status (the relationship implies social distance);

d) the presence of a business problem;

e) accuracy of time and space;

f) etiquette, tone of communicative behavior, which varies depending on the type of recipient:

1) the communication between representatives of organizations - the rules of formality, neutrality, etiquette;

2) the communication with tourists - emotionality, evaluation, trust, intentional transition to friendly relations, psychological impact, and so on.

Analysis and Results. It is necessary to study tourism speech and its genres deeply because of given the significant increase in the role of tourism in the world. It should be noted that in Linguistics, a genre is understood as a set of features such as the presentation style of a text, the form of speech, traditional methods of speech structure, and the integration of socially accepted speech units. Genres of tourist speech can be described as follows:

1) verbal genres (communication with a tour operator, excursion with a guide, etc.), depending on the situation and conditions, so oral communication is used;

2) non-verbal genres, i.e. written or printed variations of tourist texts (booklets, pamphlets, manuals, phraseologisms, etc.) [5].

The most complex and distinctive feature of the above genres of tourist speech is the guide for travelers. It is not only the most common, but also combines several other genres of tourist speech. A guide is the most important source of information about the culture of the country, which ensures the interaction of different cultures in a single cultural space. [6]

The tourist guide provides tourists with extensive information and some historical information about the culture, mentality, specific features of life of the country. According to the main topic, guides can also be divided into different types (copyright, advertising, encyclopedic, reference and information). At the same time, all the guides are designed in such a way that they are interested in and awake a desire to visit a particular country. In such conditions non-verbal communicative aids help them. This is a country-specific business card. Each manual includes the following sections:

- 1) historical facts;
- 2) traditional holidays and cultural events;
- 3) information on attractions;
- 4) map and information on the location of the country;
- 5) excursion programs;
- 6) price and time of species;
- 7) contact information.

Besides, the manuals may contain other sections and they may have a completely different structure. There are no stable models and restrictions. The essence of the textbook is to shape the image of the country or to simulate a certain reality in the mind of the reader. Thus, all applications have a certain psychological effect on users. The following methods are the most effective:

1) hierarchy of the field – only main areas are given in the text of the manual, i.e. the most attractive objects are shown (beautiful landscapes, architectural monuments, etc.);

2) the selection evidences – in order to attract readers to the place, the authors of the manuals provide only interesting facts;

3) interpretation - using various stylistic and syntactic methods in the text, the reader is informed by a certain point of view. [7].

It is also noted that there is a principle of creolization, i.e. presence of images (e.g., a map of the object or photographs of beautiful landscapes, architectural monuments) in the instructional genre. Photographs and illustrations complement the content of the text and show an adorable view of objects or landscapes. The creation of tourist texts implements the basic strategy of this speech, which gives a high positive rating to the product of tourism.

Conclusion. If concluding our review of specifics of tourist speech, we emphasize the following:

- 1) tourist speech, which is a type of business institutional speech;
- 2) there are specific features such as formality, status, normality, etiquette, and tonality.

In linguistic pragmatic characterization tourist speech is not homogeneous - depending on the specific characteristics of the communicative situation. According to the purpose of the activity and the type of recipient, it can be divided into three subtypes:

- 1) professional;
- 2) scientific;
- 3) public tourism speech.

There are a number of features and genres in tourist speech that have been formed as a result of the necessity to optimize intercultural communication.

A travel guide is a complex genre of tourist speech because there are many complex structures and different speech tactics.

Since tourist speech is a media, it interacts with other types (advertising, scientific, daily) that determine the usage of strategy and values in tourist speech.



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MODERN PROBLEMS OF PEDAGOGY AND PSYCHOLOGY

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DEVELOPMENT OF TOLERANCE SKILLS OF PRIMARY SCHOOL STUDENTS - AS A SOCIAL NEED AND A PEDAGOGICAL PROBLEM

Gafurova Nodira Ravshanovna
Senior Lecturer,
Faculty of Foreign Languages,
Department of Foreign Languages
of Fergana State University,
alfargoniy.uz@gmail.com

Annotasiya: Maqolada boshlang'ich sinf o'quvchilarining tolerantlik ko'nikmalarini rivojlantirish – ijtimoiy ehtiyoj va pedagogik muammo sifatidagi ahamiyati yoritilgan. Shuningdek, ta'lim tizimiga yangicha yondashuvni olib kirish, avvalo tolerant ijtimoiy ta'lim muhitini yaratishga oid xulosalar ko'rsatilgan.

Kalit so'zlar: tolerantlik ko'nikmalari, konfessiya, "Ma'rifat va diniy bag'rikenglik", tolerantlik g'oyalari, tolerant munosabat, Ta'limning uzluksizligi, tolerant fikr.

Аннотация: В статье подчеркивается важность развития навыков толерантности у младших школьников как социальной потребности и педагогической проблемы. В нем также делаются выводы о внедрении нового подхода к системе образования, прежде всего, о создании толерантной социальной среды обучения.

Ключевые слова: навыки толерантности, конфессия, «Просвещение и религиозная толерантность», идеи толерантности, толерантное отношение, преемственность образования, толерантное мышление.

Abstract: The article highlights the importance of developing tolerance skills in primary school students as a social need and a pedagogical problem. It also draws conclusions on the introduction of a new approach to the education system, primarily the creation of a tolerant social learning environment.

Keywords: tolerance skills, denomination, "Enlightenment and religious tolerance", ideas of tolerance, tolerant attitude, continuity of education, tolerant thinking.

Introduction. The population of Uzbekistan considers that religious extremism and fundamentalism, corruption and bribery pose the greatest threat to the stability of the socio-political situation in the country. At the same time, Uzbeks are concerned about negative developments that pose a serious threat to society as a whole. In our opinion, the negative factors that threaten the stability of Uzbekistan, in turn, are the main threats to interethnic relations. Effective measures to combat such threats serve to reduce public anxiety and build confidence in the future. Therefore, it is important to form tolerant thinking in students through school education, thereby developing their tolerance skills. Therefore, the task was to bring a new approach to the education system, first of all, to create a tolerant social learning environment.

Literature review. At the new stage of development of Uzbekistan, the first priority is to strengthen the atmosphere of mutual respect, friendship and harmony between representatives of different nationalities and religions. This is our greatest asset and it is the duty of all of us to preserve it like the apple of our eye. It should be noted that the General Assembly of the United Nations adopted an important document - the resolution "Enlightenment and Religious Tolerance", which was initiated by the President at the 72nd session of the General Assembly in September 2017. [2] This is one of the important steps towards creating an environment of social tolerance in the process of change. The formation of national and religious tolerance is one of the priorities in the domestic and foreign policy of Uzbekistan, especially in the United Nations.

Numerous studies have been conducted on the socio-philosophical aspects of the category of tolerance, its evolution in the historical process, pedagogical-psychological and sociological aspects, and its scientific basis, and such research continues today. In particular, the socio-philosophical aspects and peculiarities of tolerance in the field of philosophy have been studied by such scientists as D.Alimova, A.Zakrulaev, E.Karimova, Z.Munavvarov, I.Saifnazarov, Z.Kadirova, M.Khajieva, M.Sharifkhodjaev.

On the educational basis of the formation of tolerance skills in the field of pedagogical sciences can be cited such research works as G.Akramova "Didactic bases of formation of concepts of tolerance in primary school students", G.Aripova "Pedagogical conditions of formation of tolerance thinking in the family".

Fundamental research on tolerance has also become a regular feature of research centers in the Commonwealth of Independent States. Among the scientists who studied tolerance were T. Bolotina, S.N. Glazachev, G.D. Dmitriev, D.V. Zinovev, M. Zolotukhin, P.F. Komogorov, MS Mirimanova, V.N. Pavlov, V .A.Sitarov, L.V.Stroganova can be included.

In the research work of E. Rierdon, T. Adorno, J. Ellport, S. Mendus, S. Heller and others in Western countries, the theoretical foundations of the category of tolerance, the issues of tolerance and the contradictions of modern society are studied.

Results and discussion. A number of tolerance skills and competencies need to be developed in educators and students. These include:

- ability to express tolerant opinions and defend one's point of view as a personal opinion;
- the ability to be tolerant of the opinions of others, that is, to recognize that others, no matter how different from their own, have their own opinion and that they also have the right to express their opinions;
- Ability to be tolerant and resilient in the face of conflicting views, opinions, and conflicts of opinion.

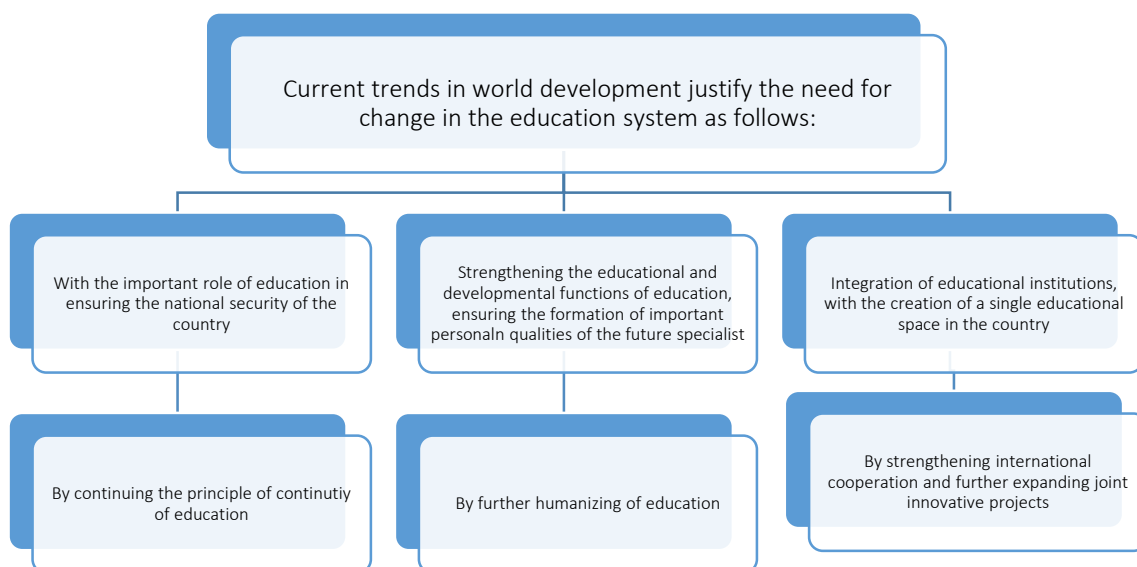


Figure 1. Current trends in world development as a necessary basis for change in the education system.

At the same time, the inculcation of a sense of tolerance in the minds of the new generation, as well as adults, and the formation of such qualities as kindness and devotion have reached the level of universal values. To accomplish these tasks, it is necessary, first of all, to make greater use of the opportunities of school education in the development of values such as mutual respect and understanding, tolerance and tolerance. To this end, the existing environment in school education, the communication measures provided by educators to foster tolerance and mutual respect play a major role. It is also important in this process to make effective use of the enormous organizational potential of this factor by introducing students to the life of nations living in different regions. To do this, "it should become a kind of 'unwritten' rule that during the study period, each student visits different regions of the country and gets acquainted with the life of different nationalities and ethnic groups living there." [3] Indeed, "If we can combine the knowledge and experience of the older generation, the qualities of foresight, with the enthusiasm, courage and dedication of our youth, we will certainly achieve the desired goals." [4] Indeed, the President of Uzbekistan Sh.M.Mirziyoev said to the youth of Uzbekistan on the occasion of Youth Day on June 29, 2018: "Today's rapidly changing world opens new horizons and opportunities for humanity and youth. , exposing them to a variety of evil behaviors that have never been seen before. Threats such as religious extremism, terrorism, drugs, human trafficking, illegal migration, "mass culture" are causing great suffering to many families and countries. His mother is killing them against her homeland. "[6] Also, the fifth direction of the Decree of the President of the Republic of Uzbekistan dated February 7, 2017 "On the Strategy of Actions for the Further Development of the Republic of Uzbekistan" , mutually beneficial and practical foreign policy priorities. One of the important activities in this direction is the formation of a tolerant social environment in society, especially among young people, through the development of tolerance skills, the formation of tolerant and resilient relationships. Also, one of the important tasks of the state is to ensure that national and ethnic and religious conflicts do not arise in society, to create an environment of harmony and cooperation. In this



regard, the formation of tolerant social relations through legislation and regulations, ensuring the Republic of Uzbekistan states: "The people of Uzbekistan, regardless of nationality, are citizens of the Republic of Uzbekistan" [7]. ensures respect for the languages, customs and traditions of all nations and peoples living in the territory of z, creates conditions for their development "[8]

Conclusion. In conclusion, in a globalized world, it is clear that it is impossible to raise a harmoniously developed generation without promoting a culture of tolerance and tolerance in society. In order to develop the qualities of tolerant thinking and tolerance in society, it is necessary to develop the qualities of tolerance in students from an early age in the education system, to be tolerant and tolerant of any opinions of others. it is necessary to develop mechanisms to teach others to be tolerant of their beliefs and views.

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CONTENT OF FORMATION OF STUDENT NATURAL SCIENCE ON THE BASIS OF THE INTERNATIONAL PROFESSIONAL ASSESSMENT PROGRAM

Melikuziyev Dadakuzi Jurakuziyevich
Lecturer of Kokand State
Pedagogical Institute named after Muqimi
[**melikuzievdadakuzi@gmail.com**](mailto:melikuzievdadakuzi@gmail.com)

Annotasiya: Ushbu maqolada PISA xalqaro baholash dasturi asosida o'quvchilarning tabiiy-ilmiy savodxonligini shakllantirish mazmuni, mazkur baholash



tadqiqotining amaliy yo‘naltirilganligini, tabiiy-ilmiy savodxonlik kompetensiyalari xususida fikr yuritilgan.

Tayanch so‘zlar: ta'lim islohotlari, PISA xalqaro baholash dasturi, tabiiy-ilmiy savodxonlik, kompetensiya, xorijiy tajriba.

Аннотация: В статье рассматривается содержание формирования естественнонаучной грамотности студентов на основе международной оценочной программы PISA, практическая направленность данного оценочного исследования, компетенция естественнонаучной грамотности.

Ключевые слова: реформа образования, международная программа оценки PISA, естественнонаучная грамотность, компетентность, зарубежный опыт.

Annotation: In this article discusses the content of the formation of students' natural science literacy on the basis of the international assessment program PISA, the practical orientation of this assessment research, the competence of natural science literacy.

Keywords: educational reforms, PISA international assessment program, natural science literacy, competence, foreign experience.

Introduction. In recent years, special attention is paying to the teaching of natural sciences in our country. In particular, improvement of the quality of education in physics, training of highly qualified teachers and researchers, provision of educational institutions with modern laboratories, textbooks and other teaching equipment, development of scientific potential of pedagogical organizations, effective organization of their activities, science and industry. It is planned to establish close dialogue and cooperation between the two countries.

There are some opinions in the society that knowledge is obsolete and useless, and this has an effect on students. Not all knowledge becomes obsolete, but rather serves as a foundation for new knowledge. The competency-based approach in schools, on the other hand, requires the application of knowledge without denying it, and the involvement in use-oriented competencies. The problematic aspect of this approach is that the training focuses mainly on the methodological aspect, leading to a departure from the content. Students' attention to teaching materials and textbooks is relatively low. The modern era requires the teacher to work more on methodology and content when working with a competent approach concept.

Research and methodology. In today's fast-paced world of education reform, every teacher who is up to date needs to be aware of international assessment research.

As a result of the ongoing reforms in our country, high economic growth rates are being achieved, and the demand for qualified, mature specialists in all areas is growing. The importance of the above requirements for the education system, as in developed countries, is one of the urgent tasks on the agenda to assess and monitor the development of education.

On the basis of international assessment programs, large-scale reforms are being carried out in order to fully support and encourage the creative ideas of students studying in the country. The PISA international assessment study is proof of this.

So what is PISA? It means determining the level of knowledge of 15-year-old students in reading, mathematics and natural sciences.

PISA is an international assessment program aimed at assessing students' reading, math and science literacy, based on the results of which is aimed at determining students' ability to apply knowledge and skills in real-life situations, thinking and communication in accordance with the requirements of curricula around the world. At the same time, it does not define, promote, or require general recognition for any curriculum.

The PISA study is conducted by the Organization for Economic Cooperation and Development (OECD). This international program was developed in 1997 and was first put into practice in 2000, and it is implemented once every 3 years. The main task of PISA is to provide member countries with information on education policy and support them in decision-making. The survey, conducted every three years, allows countries to provide timely information, including data and analysis to take into account the impact of policy decisions and relevant programs. At the same time, it allows countries to identify in their education system the goals they intend to achieve in the future during this period.

The main reason why the PISA survey is conducted among 15-year-old students is that in most member countries of the Organization for Economic Co-operation and Development (OECD), the final stage of the 15-year compulsory education is.

Discussion. Werner Sacher describes the practical orientation of PISA assessment research as follows:

1. Defining the direction of education policy.
2. Increasing innovative "literacy".
3. Students have a lifelong commitment to education.
4. Systematicity - continuity.
5. Requires teachers to consider setting assignments for students during the learning process.
6. The PISA assessment survey summarizes the results by groups, schools, social strata, gender, and state, and provides educational information for various segments of society.
7. The PISA assessment study is a macro-diagnostic test and exam status taken from both formal and academic sessions.
8. Research helps to determine the conceptual direction of developing students' mental capacity

PISA assignments are usually conducted at the beginning and end of the academic year or at the beginning and end of a chapter. The same task is applied twice. Assessment tasks do not perform the function of psychometric measurement. That is, at the beginning and end of the school year, at the beginning and end of a chapter, the basic and scientific competence of a student is not measured, but the general competence of all students in the class is generalized. By solving this task, students will be able to learn what they can learn in the learning process, what competencies they will have, and help them set their own goals. The development of students' natural-scientific literacy on the basis of these tasks will be a great help in identifying the necessary basic and scientific competencies. In this way, the teacher will have important information on lesson planning.

When developing PISA assignments, it is important to choose tasks that are realistic and observable in daily life. The purpose of the assignment is to provide students with a complete understanding of the student's approach to the task, the state of their existing knowledge, conceptual analysis of errors, and how to organize the topic with what methods in the learning process.

Let's look at literacy competencies in the example of competencies used to determine students' literacy in the natural sciences:

1. Competence to explain events scientifically.
2. Competence in designing and evaluating research.
3. Competence in the scientific interpretation of data and evidence.

What are the requirements for PISA assignment levels?

They are divided into three cognitive levels according to their intellectual and thinking ability to complete the task:

1. Lower level - one-step actions.
2. Intermediate - description of events.
3. High level - complex data analysis.

Natural science literacy is the ability to identify problems that can be solved scientifically in real-life events, and to draw conclusions based on observations and experiments. The main purpose of this section is to develop the ability to understand the world around us and the changes that occur in it as a result of human activity, and to make the necessary decisions accordingly.

The basis of this literacy is to be taught in our schools in the teaching of physics (along with elements of astronomy), biology, chemistry and geography.

Analysis and results. Below we show the stages of formation of scientific literacy of students on the basis of PISA tasks on the topic of "Electric current" in physics of 8th grade of secondary schools (Table 1):

Stages of formation of students' scientific literacy on the basis of PISA tasks on the topic "Power of electric current"

1- degree

An electricity inspector who visited Karim's home found that the electricity meter reading was 314.12 kW • h at the beginning of the month and 354.6 kW • h at the end of the month.

The following electrical appliances are used in Karim's apartment

№	Consumers	P, W	№	Consumers	P, W
1	Telephone	0,3-1	5	TV	50-300
2	Mobile radio	2-10	6	Washing machine	350-600
3	Refrigerator	110-160	7	Led lamp	12
4	Computer	40-200	8	Iron	500-2000

1. How did the electricity controller determine this number?
2. Why is the consumed electricity expressed in kW • h?

2-degree



An electricity inspector who visited Karim's home found that the electricity meter reading was 312.12 kW • h from the beginning of the month to 354.6 kW • h at the end of the month, and stated the amount of electricity payment Karim had used for a month.

The following electrical appliances are used in Karim's apartment

№	Consumers	P, W	№	Consumers	P, W
1	Telephone	0,3-1	5	TV	50-300
2	Mobile radio	2-10	6	Washing machine	350-600
3	Refrigerator	110-160	7	Led lamp	12
4	Computer	40-200	8	Iron	500-2000

1. What do you know about the power consumption of electricity consumers?
2. If the set price for each 1 kW • h of electricity used is 295 soums, how much will Karim pay?

3-degree

An electricity inspector who visited Karim's home found that the electricity meter reading was 312.12 kW • h at the beginning of the month and 354.6 kW • h at the end of the month. He then said the amount of payment for the electricity that Karim had been using for a month.

The following electrical appliances are used in Karim's apartment

№	Consumers	P, W	№	Consumers	P, W
1	Telephone	0,3-1	5	TV	50-300
2	Mobile radio	2-10	6	Washing machine	350-600
3	Refrigerator	110-160	7	LED lamp	7-12
4	Computer	40-200	8	Iron	500-2000

1. What do you know about the power of electricity in electricity consumers?
2. How do you calculate the electricity consumption in your apartment?
3. If a 12 W electric lamp burns for 6 hours every day, find the work done by the current flowing through that lamp in a month? Express the answer in kW • h.
4. If the set price for each 1 kW • h of electricity used is 295 soums, how much will Karim pay?
5. How much electricity did Karim use to watch 2.5 hours of TV a day?

Conclusion. In conclusion, increasing the competitiveness of education, the introduction of modern educational technologies in the education system, new methods of teaching and learning, focusing on increasing students' motivational interest in learning, are among the priorities of education. In particular, the increase in the number of private schools in the country focused on the exact and natural sciences - creates a healthy competition in the education system.

PISA technology facilitates the identification of pedagogical skills of teachers in the public education system, the selection of potential staff for the new education system of New Uzbekistan. This technology serves to identify students who are gifted in physics.



The development of these PISA assignments has been developed in some disciplines, but the development of PISA assignments in physics has not yet been developed.

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ASSESSMENT OF THE DIGITALIZATION OF THE PUBLIC GOVERNANCE SYSTEM

Abdullaev Farkhod Ozodovich
Director of the Urgench branch of the Academy
of Public Administration under
the Prezident of the Republic of Uzbekistan.

urganch@dba.uz

Ismailov Adhambek Bakhramovich
Graduate master at
Urgench state university,
Khorezm, Uzbekistan
ad.bakhramovich@gmail.com

Annotatsiya: Ushbu maqolada davlat boshqaruv tizimi samaradorligini oshirishda raqamli texnologiyalarning ahamiyati tahlil qilinadi. Shuningdek, maqolada bir qator xorij mamlakatlari ijtimoiy-iqtisodiy jarayonlarida raqamli texnologiyalardan qay tarzda foydalanishi o'rganilgan. Maqolaning muhim jihati bo'lib, unda davlat boshqaruvida raqamli texnologiyalardan foydalanishning samaradorligini baholash mexanizmi ishlab chiqilganligi hisoblanadi.

Kalit so'zlar: davlat boshqaruvi, raqamlashtirish, samaradorlik, axborot xavfsizligi, menejment.

Аннотация: В статье анализируется значение цифровых технологий в повышении эффективности системы государственного управления. В статье также изучен опыт зарубежных стран в использовании цифровых технологий в государственном управлении. Важным аспектом статьи является то, что в ней разработан механизм оценки эффективности использования цифровых технологий в государственном управлении.

Ключевые слова: государственное управление, цифровизация, эффективность, информационная безопасность, менеджмент.

Abstract: This article analyzes the importance of digital technologies in improving the efficiency of the public administration system. The article also examines how a number of foreign countries use digital technologies in management of socio-economic processes. An important aspect of the article is that it has developed a mechanism for evaluating the effectiveness of the use of digital technologies in public administration.

Key words: public administration, digitalization, efficiency, information security, management.

Introduction. In modern conditions, within the framework of the formation of the Information Society system, advanced functions of public administration are being implemented as a key factor in increasing the level of efficiency of all economic structure. The main components of electronic digital support of economic processes are being created in order to accelerate the flow of information data, which serves as

the basis for the resource provision of all management systems functioning within the framework of the activities of state and municipal bodies regulating socio-economic relations, subjects of the public sector of the economy, as well as enterprises and organizations.

As digital economy or internet economy constitutes 15 percent of the world's GDP now [6], digitalization is used in all economic and social activities, such as, public administration, business, and services, the digital transformation of market institutions occurs consistently in near future.

Literature Review. The term "public administration" was also used during the Timurid state empire. It was the great commander Amir Temur's management strategy that prioritized measures to optimize public administration [3].

Considering the results of Van Thiel's research, we can conclude that he replaced the concept of "public administration" with "public management" in connection with democratic reforms, which is expressed in the expansion of the functions and role of representatives of the public (in the form of participation in public administration public organizations and representatives of the business community) and the formation of mechanisms of public control over state power. Although the literal understanding of the meaning of the term "administration" as management makes it possible to consider the concepts of "public management" and "public administration" as similar in meaning [2].

One of the key characteristics of public administration bodies is the activity of providing a complex of public economic services to an unlimited number of citizens or certain people.

In turn, in accordance with D.McGregor's theory, the abilities of controlled subjects (for example, state and municipal employees) may differ in their imagination and ingenuity [4]. These signs can be considered within the framework of public administration as a manifestation of independent public and business initiatives.

In his article "Digital public governance: trends and risks", Sergey G.Kamolov writes about a number of advantages of using digital technologies in public administration. The author points out that there are potential threats to public administration systems, such as cyberattacks, and recommends that special protection be created to prevent hybrid offensive information and hacking campaigns [1].

Taking into account the considered scientific approaches to the content of public administration, the public administration system is an ordered set of federal, regional and local bodies of socio-economic regulation of the relevant economic processes, functioning through the use of modern information technologies in order to provide highly effective public services.

Research Methodology. The methodological basis of the study was the scientific works of local and foreign specialists in the field of the theory of the provision and functioning of public administration bodies, the formation of a digital economy, information and resource support of state and municipal administration, electronic and digital support of public-private interaction processes. In the course of the study, the author used methods of statistical and system analysis, methods of generalization, classification, systemic and structural-functional approaches, etc.

Analysis And Results. When building an electronic administration system, it is possible to refer to foreign experience in organizing the activities of state bodies in the system of electronic information processing of their interaction with the population and the private sector of the economy through the structure of "electronic government" (Table 1).

Table 1

Foreign experience in the use of digital technologies in the management of economic processes [5]

The state	Practical experience of using digital technologies
1	2
Turkey	Expansion of electronic technology infrastructure and programs for the development of information competence of citizens and private enterprises in partnership with government authorities. Public management support to attract investment in the development of human resources and standards for the development of the information technology sector.
Hungary	Electronic digital support of modernization processes in the provision of public services for citizens and private organizations.
Chile	Preparation of long-term projects in the public administration system for the development of digital tools for making management decisions through:
Kazakhstan	Formation of the "e-government" system in the form of expanding the activities of state administrative structures in the virtual space. Expansion of forms of electronic document management and electronic accounting of various data.
Belarus	Development of electronic administration tools through: - creation of a unified system of state electronic services with a continuous improvement in the level of their quality. - the use of the national automated information system (NAIS) as a basic component of the system for the provision of state electronic services. The tasks of the NAIS are: - constructive transformation of the ways of using state information resources with a situational approach to the identified socio-economic problems; - providing the elements of state electronic administration with optimal components of software, hardware and telecommunications infrastructure; - reduction to the minimum possible indicators of resource costs of interagency information interaction.

The content of Table 1 determines the variety of various activities in the process of forming a productive electronic administration, which uses a wide list of sources of origin of information resources. This is complemented by the need for technological improvement of the electronic infrastructure while building stable information contacts between the structural elements of state and municipal management.

The unity of strategic ways of forming an electronic administration system is ensured with close public-private cooperation on socio-economic issues.

This upgrade has the following features:

- expanding the ways of using effective information products and resources of the global Internet in organizing the functioning of various business structures;
- increasing the level of economic efficiency of the operation of virtual forms in the process of entrepreneurship and business cooperation, including in the organization

of GR-management to influence the work of state and municipal bodies in order to develop management decisions that meet the interests of private business;

- establishment of mutual correspondence of electronic functioning systems of state and municipal bodies in their cooperation with private companies on the basis of structured conditions of the electronic digital format of ongoing economic transactions.

The process of development of electronic administration is complemented by the need to radically modernize management technologies for effective management at all levels of regulation of socio-economic relations.

Socio-economic and information and communication conditions for the use of government electronic systems determine the principles for the implementation of official and managerial powers in the continuous exchange of necessary information in the development of complex managerial decisions in the structure of interdepartmental coordination. This happens through a special legal regulation of the procedure for the implementation of information and management relations, which takes place in the form of:

- development of a contract system for the placement and execution of government and municipal orders in the activities of private firms;

- strengthening public-private partnerships at various levels of public administration;

- formation of concession agreements for the operation of government information systems;

- prevention of the facts of unauthorized access to information data, which is a key factor in modern cybercrime;

- the necessary duplication of the most important information in electronic form, including in the form of paper documents.

In a general examination of the characteristics of government information systems, a list of the most important of them should be shown, taking into account the status and functions of special state bodies, through which they can be applied.

The conditions for the formation and use of the considered state information systems, it is possible to formulate an algorithm for the digitalization of the public administration structure, which includes the following stages:

- design of public administration in the context of digitalization;

- establishment of indicators and methods for assessing the effectiveness of the use of electronic digital technologies;

- the use of digital technologies in the process of providing public services;

- analysis and assessment of the results of the use of digital technologies from the standpoint of public administration quality criteria.

Based on our research analysis, the assessment of the digitalization of the public administration should be determined through four main factors or indicators separately (table 2):

- Provision of official website and interactive public services – 60%;

- Information systems, information resources and electronic document management – 16%;

- Information security – 20%;

- Organizational evaluation – 4%.

Table 2

Structure of “Rating system for evaluating the effectiveness of the development of information and communication technologies in the activities of public and economic administration, local government”

№	Indicators	Share of indicators
	Final rating, Including:	100%
	I. Provision of official website and interactive public services	60%
1.1.	Availability and use of the official website on the Internet	1%
1.2.	Compliance of the official website with the requirements of the legislation	5%
1.3.	Contents of the "Open Data" section	8%
1.4.	Opportunities for "electronic participation"	16%
1.5.	Compliance with the requirements for the provision of e-government services	30%
	II. Information systems, information resources and electronic document management	16%
2.1.	Information systems used in the framework of "e-government"	8%
2.2.	Operation of the interdepartmental electronic document management system	4%
2.3.	Databases that interact with information systems of other government agencies	4%
	III. Information security	20%
3.1.	Existence of action plans for the implementation of information security systems and tools in the coming years, approved by the sources of funding of the organization	3%
3.2.	Availability of organizational measures for information security and the status of their implementation	7%
3.3.	Existence and programs of implementation of measures to ensure information security and protection of employees	4%
3.4.	Availability and condition of technical means of information security	6%
	IV. Organizational evaluation	4%
4.1.	Availability of action plans for the introduction and development of information and communication technologies in the coming years, approved by the sources of funding of the organization	1%
4.2.	Existence of the program of measures with indication of schedules and dates of gradual transfer of the government services to an interactive form	1%
4.3.	Availability of a person responsible for the introduction and development of information and communication technologies among the management.	1%
4.4.	Existence of a specialized unit responsible for the introduction and development of information and communication technologies or an agreement on outsourcing of relevant services	1%

Source: created by the authors

Conclusion/Recommendations. As the digitalization happened in every types of governance, two types of principles of public administration transformation have been identified during the research:

- structural and functional:

1) decentralization and optimal distribution of functions and resources between different levels of public administration;

2) taking into account economic peculiarities when organizing and ensuring public administration of territories;

- information and communication:

1) technological efficiency and security of information communications, in accordance with the current legislation and developed projects for the formation and development of elements of the information society;

2) electronic digital modernization of the information technology infrastructure of the activities of state and municipal government structures;

3) maintaining the stability and continuity of information communications during the operation of electronic information services of public administration structures;

4) electronic and technological consistency of public administration functions.

In the process of digitization of the economy, it is important to increase the efficiency of the management system in socio-economic activities. Extensive use of digital technologies in the processes of each public administration system and systematic assessment of their usefulness will help to make optimal decisions and the correct organization of the management process in the future.

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ECONOMETRIC MODELS FOR ASSESSING ENVIRONMENTAL FACTORS AFFECTING THE COMPETITIVENESS OF THE REGION

Raximova Miyassar Rajabovna,
Senior Lecturer, Department of Economics
Urgench state university
rmiassar@gmail.com

Annotatsiya. Maqolada ekologik omillarni hisobga olgan holda mintaqaning raqobatbardoshligini oshirish uchun ekonometrik modellarni yaratish masalalari muhokama qilinadi. Xorazm viloyati misolida ekonometrik tahlil o'tkaziladi.

Kalit so'zlar: Mintaqa, strategiya, raqobatbardoshlikning ekologik omili, ekologik-iqtisodiy jihati, yalpi hududiy mahsulot, ekonometrik model.

Аннотация. В статье рассматриваются вопросы построения эконометрических моделей повышения конкурентоспособности региона с учетом факторов окружающей среды. На примере Хорезмской области проведен эконометрический анализ.

Ключевые слова: регион, стратегия, экологический фактор конкурентоспособности, эколого-экономический аспект, валовой региональный продукт, эконометрическая модель.

Abstract. The article discusses the issues of building econometric models for increasing the competitiveness of the region, taking into account environmental factors. On the example of the Khorezm region, an econometric analysis is carried out.

Key words: Region, strategy, competitiveness ecological factor, ecological-economic aspect, gross regional product, econometric model.

Introduction. The process of globalization, the formation of new regional centers in the form of large agglomerations, growth points and special economic zones leads to increased competition for attracting investments, highly skilled labor and promising infrastructure projects. Major regional centers account for 75% of world GDP, 58% of exports and 76% of investments [1]. This, in turn, encourages other regions and countries to pursue regional policies aimed at increasing their competitiveness and maintaining competitive advantages.

Therefore, the study of environmental factors affecting the state of regional competitiveness is emerging as a new and complex research subject of the regional economy. However, the theoretical and methodological basis for the study of regional competitiveness is not yet sufficiently systematized and it is mainly based on the concepts of regional production complexes, economic zoning, development and location of productive forces.

In the process of building a new Uzbekistan, special attention is paid to the development of the regions of our country. The strategy of actions for the further development of the Republic of Uzbekistan sets the task of "accelerating the development of comparative regions and cities by reducing the gap in the level of socio-economic development of regions through the modernization and diversification of the regional economy, primarily by increasing industrial and export potential" [2].

Research methodology. Along with economic growth in the regions, a number of problems arise, among which the negative impact on the environment plays an important role. In this regard, the main direction is the timely assessment and forecasting of the environmental consequences of increasing the competitiveness of the region, not only at the national but also at the local level. The environmental situation and public health are very important issues in the sustainable development of the region. Despite the emphasis on maintaining eco-intensive indicators in the sector, the levels of certain types of pollution are increasing from year to year. This situation not only has a negative impact on improving the living standards of the population, but also leads to a decrease in the competitiveness of the region. To assess the relationship between economic growth and the level of environmental pollution in the sustainable development of the region, models are used that present the results of the analysis of the decoupling factor and the analysis of the environmental Kuznets curve. The concept of "Decoupling", which is an interaction in the economic and environmental direction of sustainable development of the economic system of the region, is understood as a combination of economic growth and harmful effects on the environment and the consumption of natural resources [3]. To apply the decoupling effect, the growth rate of the environmental load should tend to decrease compared to the rate of economic growth during this period. Based on a number of studies by foreign authors, the decoupling factor is assessed as the ratio of the level of environmental load to GRP at the beginning and end of the study period [4]. The results obtained are evaluated in units: if the value of the coefficient is less than one for the studied period, this means the presence of decoupling, if the value is more than one, this means that there is a correlation between the indicators, respectively. Decoupling factor (D_t) is determined by the method of the Organization for Economic Cooperation and Development as described above, but the specified ratio is lost from one unit [5]:

$$D_t = 1 - \frac{AE_t}{Q_t} \bigg/ \frac{AE_{t-1}}{Q_{t-1}} \quad (2.2.6)$$

where, AE- an indicator that reflects the harmful effects on the environment (adverse effect), Q – indicator reflecting the development of the economic system (quantity) (GDP, GRP, production volume, etc.).

In the above case, if the value of D_t is zero or negative, the decapling effect is unlikely to occur. Accordingly, a positive D_t value indicates decoupling. In this case, it is known that the closer the value of the determined coefficient is to one unit, the less pressure the economy has on the environment. The decoupling factor, which is based on simple calculations and has sufficient logic in the assessment of economic and environmental policy, is widely recognized and used both individually and in combination with other methods.

This study also uses environmental Kuznets curve (EKC) analysis to econometrically model the relationships between regional economic growth and environmental damage, which are elements of this system, to analyze the sustainable development of a regional economic system. In this regard, three different types of (EKC) models, namely the linear equation, the second and third order polynomial equations, were considered:

$$P = b_0 + b_1Q + b_2Q^2 + b_3Q^3 \quad (1)$$

where: P – environmental indicator (pollution), Q – an indicator (quantity) that reflects the development of the region's economy (GRP, production volume, etc.), b_0, b_1, b_2, b_3 - parameters of the regression equation.

It is also recommended to use the following modification model to test the (EKC) hypothesis:

$$\ln(E/P) = \beta_i + \varphi_t + b_1 \ln(Q/P)_{it} + b_2 \ln(Q/P)_{it}^2 + \varepsilon_{it} \quad (2)$$

where: E – emission of harmful substances, P – population, i,t – indices representing object and time, b_0, b_1 - parameters of the regression equation, β_i, φ_t - individual and time effects, ε_{it} - residual component.

The analyzes considered the release of harmful substances into the environment from stationary and mobile sources as a general indicator of environmental pollution (Table 1).

Table 1

The amount of harmful substances emitted from stationary and mobile sources in Khorezm region in 2005-2019

Years	Stationary sources and greenhouse gas emissions from transport (thousand tons)	The value of GRP in current prices (billion soums)	The value of GRP in current prices (billion soums)
2005	29.746	595.2	1453.9
2006	38.859	803.0	1477.8
2007	52.983	1 040.1	1504.2
2008	56.294	1 255.3	1530.8
2009	43.12	1 534.0	1561.6
2010	58.048	2 058.0	1601.1
2011	49.033	2 624.6	1629.1
2012	50.408	3 326.8	1653.8
2013	54.196	4 129.6	1684.1
2014	52.688	5 061.0	1715.6
2015	48.317	6 167.7	1746.9
2016	50.262	6 778.8	1776.7
2017	55.454	11 457.2	1804.7
2018	59.396	15 154.2	1835.5
2019	61.228	19212.2	1861.2

Based on these data, the decoupling effect was calculated (Figure 1).

Figure 1

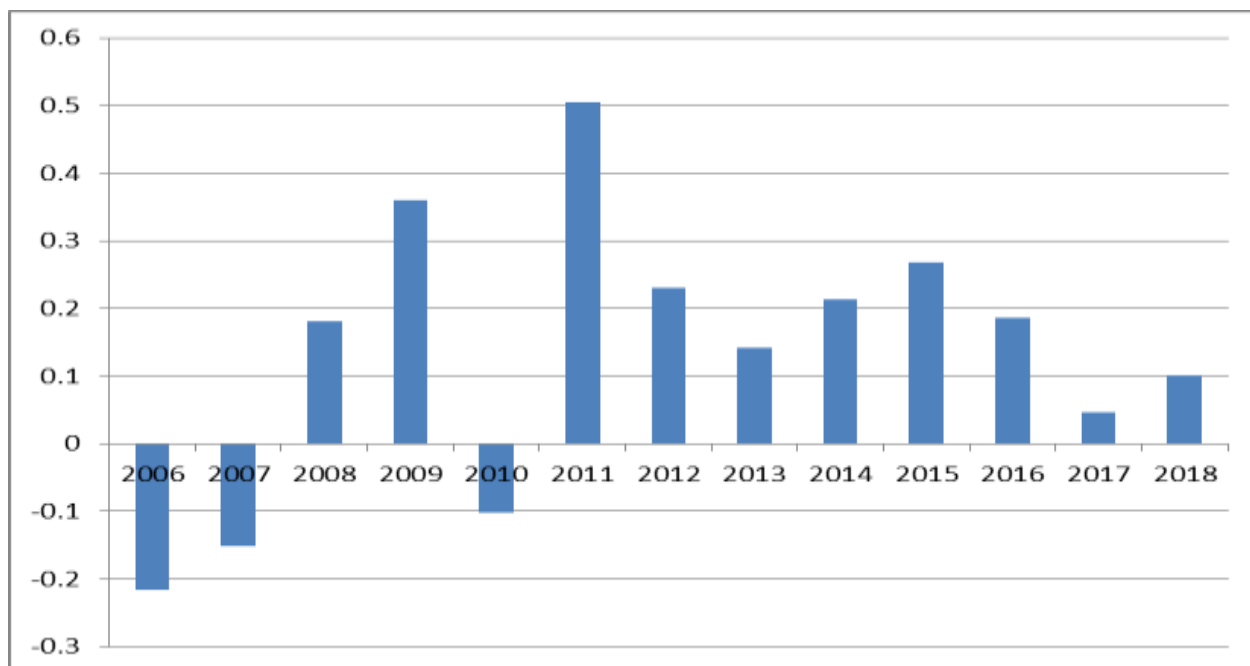


Figure 1. Dynamics of economic growth and decoupling coefficient of harmful substances emitted into the atmosphere from stationary and mobile sources in Khorezm region in 2006-2019.

Analysis and results. In 2006, 2007, and 2010, when the value of the decoupling coefficient was negative, it can be seen that the harmful effects on the environment decreased compared to the previous year. In addition, the analysis revealed that the environmental load was high in 2008 and from 2012 to 2019. Compared to other years, 2017 saw the highest level of environmental pollution. It can be seen from the calculations in Figure 1 that the value of the decoupling efficiency coefficient in 2009 and 2011 is positive compared to the analyzed years.

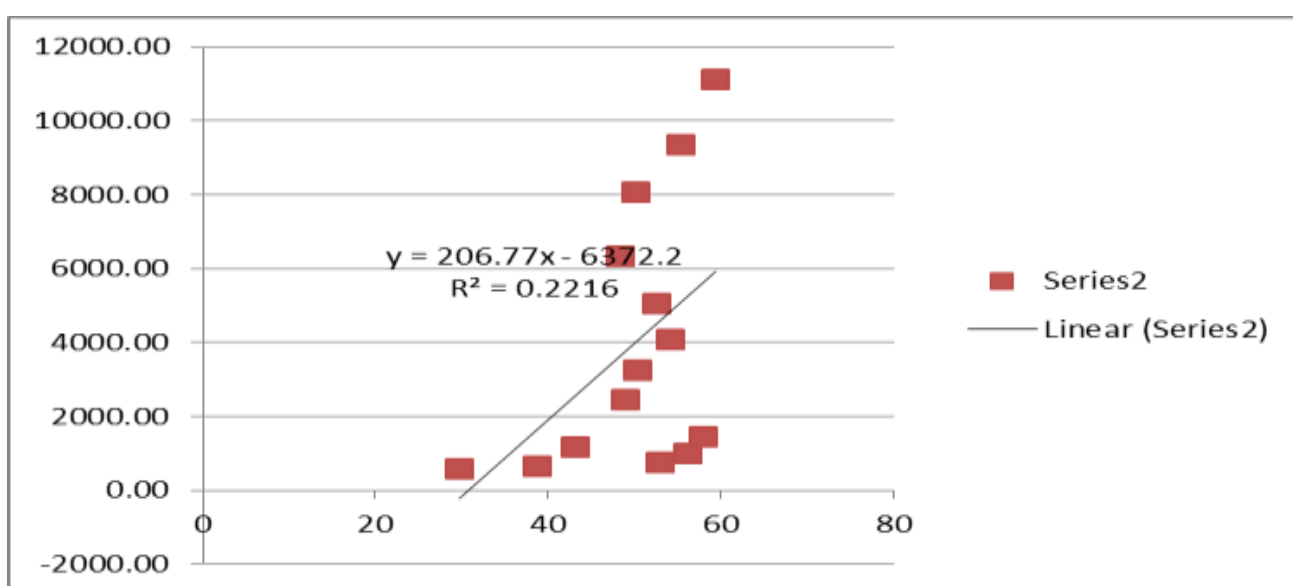


Figure 2. The change in the relationship between GMP and environmental pollution of the environmental Kuznets curve in terms of linear function.

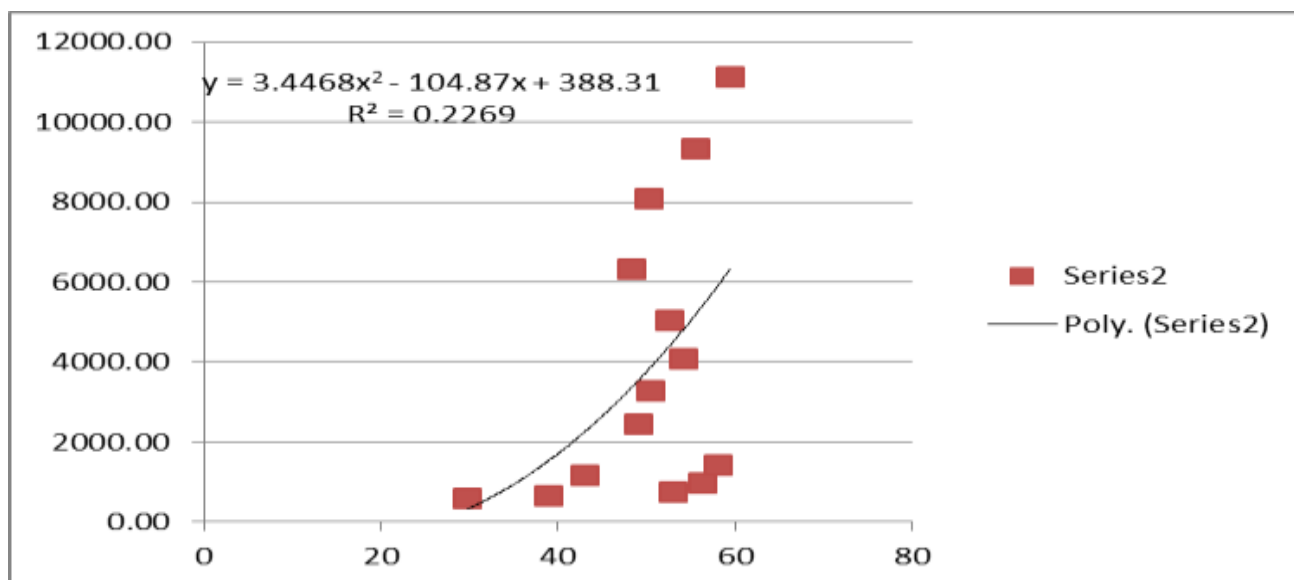


Figure 3. The change in the relationship between the GRP and environmental pollution of the EKC on the second-order polynomial function.

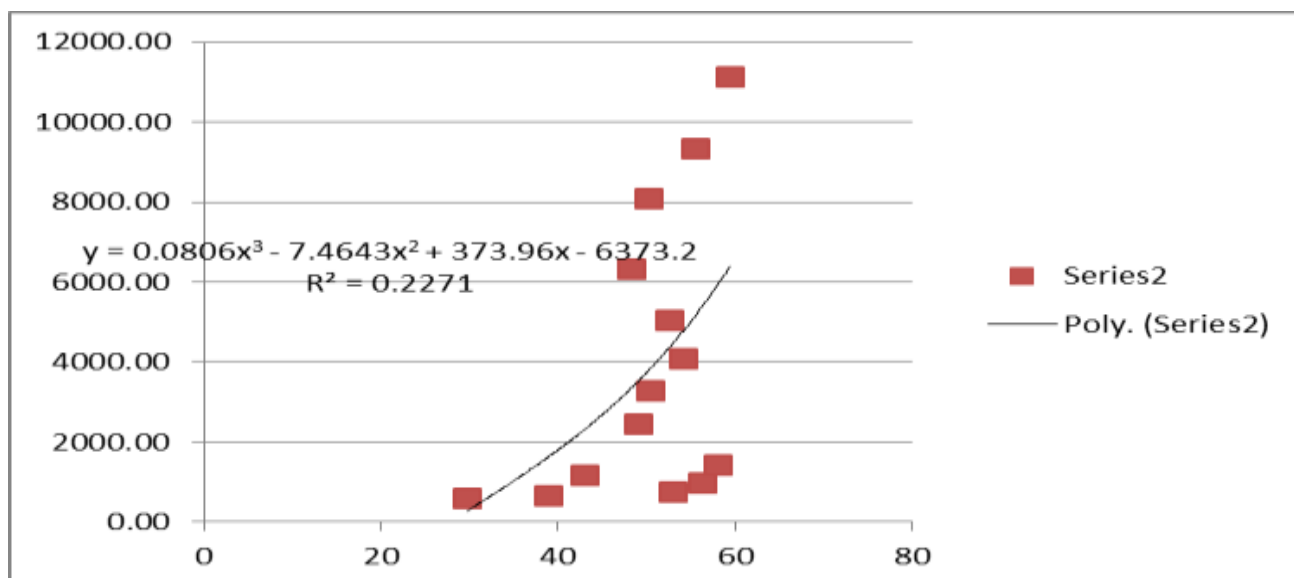


Figure 4. The change in the relationship between GRP and environmental pollution of the EKC on the third-order polynomial function.

The analyzes shown in Figures 2, 3, and 4 were performed according to formula (1). Based on these analyzes, the following conclusions can be drawn:

- Figure 2 shows the regression equation based on the linear function, and the share of GRP in the follow-up of the environmental indicator is 22.16%, and the share of other factors is 77.84%.

- Figure 3 shows the regression equation based on the second-order polynomial function, and the share of GRP in the follow-up of the environmental indicator is 22.69%, and the share of other factors is 77.31%.

- Figure 4 shows the regression equation based on the second-order polynomial function, and the share of GRP in the follow-up of the environmental indicator is 22.71%, and the share of other factors is 77.29%.

The results of the analysis of the regional economy based on the Kuznets

ecological curve show that the relationship between the level of environmental pollution and GRP growth in Khorezm region is very low, and the share of other factors not included in the model is very high.

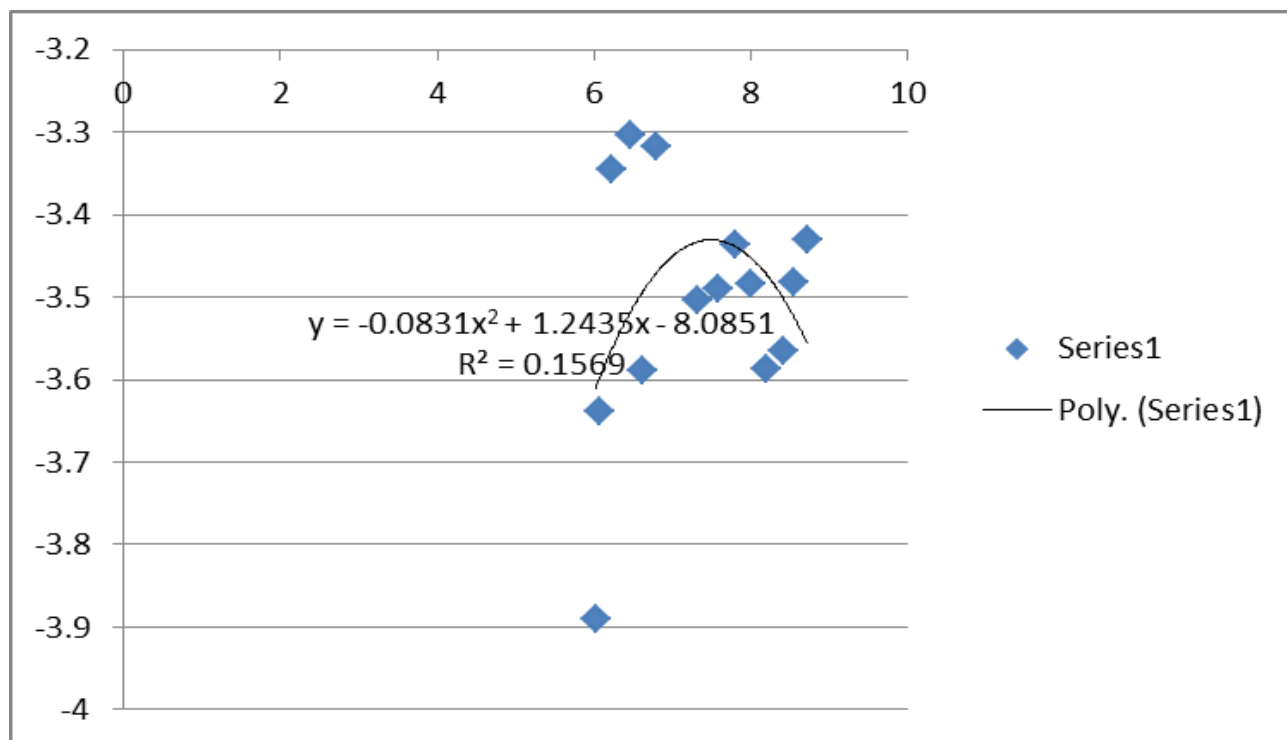


Figure 5. The second-order polynomial function of the relationship between environmental pollution (Ln(E/P)) and GRP (Ln(E/P)) relative to population.

According to formula (2), the situation in Figure 5 occurred when the Environmental Kuznets curve relative to the population was expressed by a quadratic function. Based on this, it can be seen that in the Khorezm region the dependence of hazardous substances from stationary and mobile sources on GRP, that is, the coefficient of determination of the population, is 15.7%, and the share of factors not included in the model is 84.3%. This, in turn, means that an increase in GRP should be achieved by replacing the production of environmentally friendly goods and services with environmentally friendly technologies. In addition, in environmental studies, it is advisable to analyze the proportion of factors not included in the model, except for GRP, and also to reduce the influence of these factors.

Conclusions. The formation of an innovative economy in the region, the organization of production processes in the value chain, the establishment of the production of environmentally friendly agricultural products, and the maintenance of a minimum level of environmental load on the environment will serve as a key factor in increasing the competitiveness of the region.

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**DEVELOPMENT OF MECHANISMS FOR ATTRACTING INVESTMENT
IN THE PROMOTION OF EXPORTS AND THE DEVELOPMENT OF
FOREIGN ECONOMIC RELATIONS**

**Rajapov Kamoladdin Erkaevich,
Ph.D. Associate Professor of the
Department of Economics of
Urgench State University**

**Erkaeva Bibirobiya Kamoladdin qizi,
Year 4 student of Tashkent State
University of Economics, group MR-25
Faculty of International Tourism**

**Erkabaev Faxriddin Kamoladdin o'g'li,
Year 1 student of Tashkent
University of Information Technologies
Faculty of Economics and Management in ICT
radjapov_k@mail.ru**

Abstract. The article displays the development of various mechanisms for creating a favorable investment climate and attracting investments, which contribute to the promotion of exports and the development of foreign trade activities in the country. Recommendations were also given on the development of investment activities, the creation of a favorable investment climate, the correct organization of investments and the use of marketing strategies in them.

Key words: Investment, investment climate, liberalization, reform, investment marketing, external economy.

Аннотация. В статье показана разработка различных механизмов создания благоприятного инвестиционного климата и привлечения инвестиций, способствующих продвижению экспорта и развитию внешнеэкономической

деятельности в стране. Также были даны рекомендации по развитию инвестиционной деятельности, созданию благоприятного инвестиционного климата, правильной организации инвестиций и использованию в них маркетинговых стратегий.

Ключевые слова: инвестиции, инвестиционный климат, либерализация, реформа, инвестиционный маркетинг, внешняя экономика.

Annotatsiya. Maqolada mamlakatda eksportni rag'batlantirish va tashqi iqtisodiy faoliyatni rivojlantirishga hissa qo'shadigan qulay sarmoyaviy muhitni yaratish va investitsiyalarni jalb qilishning turli mexanizmlari ishlab chiqilgan. Shuningdek, investitsiya faoliyatini rivojlantirish, qulay sarmoyaviy muhitni yaratish, investitsiyalarni to'g'ri tashkil etish va ularda marketing strategiyalaridan foydalanish bo'yicha tavsiyalar berildi.

Kalit so'zlar: investitsiyalar, investitsiya muhiti, erkinlashtirish, islohotlar, investitsion marketing, tashqi iqtisod.

Introduction. The integration of developing countries with economies in transition into the international trading system is an important component of their global development strategies, where trade should contribute to the achievement of certain economic and social goals. They view trade development strategies with foreign direct investment as an essential component of national economic diversification and restructuring. The point is that trade development is a catalyst for both national and foreign investment, leading to capacity building and improving the competitive ability of national products in the global market.

And investments, in turn, represent tangible and intangible benefits and rights to them, including rights to intellectual property objects, as well as investments on a risk-bearing basis in objects of the social, entrepreneurial, scientific spheres and other activities in profit-making purposes, which may include:

- funds, including cash (including foreign currency), targeted bank deposits, shares, stocks, promissory notes and other securities;
- personal and immovable property (buildings, structures, equipment, machines and other material values);
- intellectual property rights, including patented (know-how) technical, technological, commercial and other knowledge, formalized in the form of technical documentation, skills and production experience necessary to organize a particular type of production, as well as other values not prohibited by the legislation of the Republic of Uzbekistan.

Literature overview. Representatives of the classical school of economic theory - A. Smith, D. Ricardo, J. Mill, J.B. Seyem, J. Lauderdale, T. Malthusov, N. Senior expanded the scope of investment and conducted a study of their role in the essence of industrial production, and then in the non-production sphere.

The founder of classical economic theory, Adam Smith - argued that to ensure economic progress needs to maximize the rate of net investment. In his work "Research on the nature and causes of the wealth of peoples" the author establishes a link between the processes of capital increase at the national level and the increase in the wealth of the nation: "When we compared ... the state of a people in two different periods and found that the finished product of its land and labor increases in the second period in

comparison with the previous one, that his land is better cultivated, the manufactories are more numerous and more prosperous, and his trade is more extensive, then we can be sure that capital has increased in the interval between these two periods ... ". Impact of investments on economic growth, according to his concept, is manifested in the fact that a change in the amount of capital towards an increase or decrease leads to a similar change in the real wealth and income of all residents of the country. A. Smith interpreted capital in two ways: first, as the property and money of an individual, bringing him income (profit); secondly, as factors of production that create wealth in social scale.

An active role in regional strategic development belongs to the investment policy in a market economy, which includes the main elements as the choice of sources and methods of financing investments; determination of the determination of terms of implementation; selection of the authorities responsible for the implementation of investment policy; creation of the necessary regulatory framework for the functioning of the investment market; creation of a favorable investment climate.

By the term the investment climate, we mean, the environment in which investment processes take place. The investment climate is being formed under the influence of political, economic, legal, social and other factors that determine the conditions for investment activities in the region and predetermine the degree of investment risk. Investment climate assessments range from favorable to unfavorable. A favorable climate is considered to be conducive to the activity of investors, stimulating the inflow of capital. An unfavorable climate increases the risk for investors, leading to capital flight and diminishing investment activity.

Research methodology. In the study monographic, economic analysis, comparison, logical analysis, abstraction, induction, deduction, SWOT-analysis was used. So, methods for assessing competitiveness national economy can be built on the basis of statistical indicators, expert assessments, and ranks.

Analysis and results. Uzbekistan is taking measures and carrying out reforms to create a favorable investment climate, which can serve to increase foreign direct investment and develop foreign trade relations. At the institutional level, new departments have been created at the Ministry of Investments and Foreign Trade of Uzbekistan, in particular, the Agency for attracting foreign investments of Uzbekistan, which will provide informational and legal support to foreign investors.

It is also planned that foreign investors will be served by a "single window", and the investment map will provide potential investors with information on the structure of production in each region, required investments and specific projects. Attracting foreign investment is focused through the Action Strategy for the five priority areas of development of the Republic of Uzbekistan aimed for 2017–2021.

Each region has appointed responsible officials for attracting investments and executing investment projects. Important economic reforms to improve the investment climate include a moratorium on company scrutiny and simplification of business registration procedures, as well as the removal of the requirement to exchange certain shares of export earnings in hard currency at an artificially low official exchange rate. The government also reduced the tax burden on businesses and simplified taxation by

unifying and eliminating some payments. It can currently issue residence permits for 10 years to foreigners investing at least US \$ 3 million.

Finally, the government also created a business ombudsman office and passed the Anti-Corruption Law to improve the government transparency. The Investment Program for the next two years was approved according to the Decree of the President of the Republic of Uzbekistan "On measures to implement the Investment Program of the Republic of Uzbekistan for 2020–2022", № PP-4563 dated January 9, 2020.

It should be mentioned that a new system of formation and implementation of the state program for a three-year period has been introduced in the republic since 2020. According to the it, the cost of engineering-communication networks of projects worth more than \$50 million, in which the share of foreign investors is at least 50%, will now be financed from the state budget.

At the same time, the investment project must also meet certain requirements, in particular: on economic efficiency, the presence of a conclusion of the Agency for Urbanization on the feasibility of the project on the selected land plot. A comprehensive examination of project documents will be carried out by the Center for Comprehensive Examination of Projects and Import Contracts under the Ministry of Economy and Industry. It indicates:

- consolidated forecast parameters for the development of capital investments in 2020–2022, as well as forecast parameters for the development and attraction of investments and loans in 2020–2022, which envisage the growth of investments in the amount of UZS 850.5 trillion, including USD 35.5 billion of foreign investment;

- targeted program for the commissioning of extensive production facilities and capacities in 2020, providing for the creation of 206 new production capacities and more than 31 thousand jobs.

Also approved:

- ✓ a targeted program of investment projects to be implemented in 2020 with the involvement of foreign direct investment and loans, as well as international loans under the state guarantee of the Republic of Uzbekistan;

- ✓ a list of attractive investment projects to be developed in 2020;

- ✓ a consolidated targeted program for the development of investments and loans in 2020, as well as forecast indicators of its quarterly performance.

In addition to the changes being carried out in our country, in creating a favorable investment climate, a key role play:

first, the liberalization of the economy, aimed at further strengthening macroeconomic stability and maintaining high economic growth rates, increasing its competitiveness, modernizing and intensive development of agriculture, continuing institutional and structural reforms to reduce the presence of the state in the economy, further strengthening the protection of rights and the role of private ownership, stimulating the development of small business and private entrepreneurship, comprehensive and balanced socio-economic development of regions, districts and cities, attracting foreign investment in the economy and regions of the country by improving the investment climate actively. In particular, the liberalization of the metal industry and the reduction of monopoly in this sphere which serves to attract investment in this industry.

Second, investment marketing, which is understood as the search for investment opportunities associated with the satisfaction of new and discontent demands, the formation of new needs, as well as with the search for opportunities that arise in connection with changes in the volume and structure of demand. The subject of investment marketing is the analysis of investment activities, the disclosure of the potential of each investment area, a clear rationale for decision-making in the development and implementation of investment projects and programs. Investment marketing is able to study more deeply the process of forming portfolio investments and their use in the investment process, for example, in real estate financing, mortgages.

Conclusion. The setting of strategic and operational goals for the selected target segments determines the priority areas for the distribution of enterprise resources. The direction of investment in marketing activities is determined by corporate strategic goals. Investment marketing strategies are an integral part of a global investment strategy that identifies the means and methods to provide an advantage over competitors, as well as the allocation of resources necessary to achieve marketing goals. Investment marketing strategies are mainly aimed at increasing the controlled market share based on the use of key marketing factors. They are the result of the processes of strategic business planning, which, act as the aggregate movement of investments of various forms and levels in combination with investment processes.

In general, as S.Mirziyoyev says: "Investments should be targeted and cost-effective. Funds must be directed depending on the potential of the districts, on what kind of enterprises the region needs". The country needs to create a favorable investment climate by simplifying the tax system, reducing monopoly and proper distribution of funds. In addition, investment marketing plays an important role in achieving the goal of an investment project.

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SMALL BUSINESS: INDICATORS AND CONCLUSIONS.

Holmirzaev Abdulhamid Xapizovich.,
senior lecturer, Namangan
Institute of Engineering and Technology
abdulhamidxolmirzaev1976@gmail.com

Annotatsiya. Mazkur maqolada, milliy iqtisodiyotimizda kichik biznesni ahamiyati va kambag'allikni qisqartirishda o'rni, rivojlangan mamlakatlardagi ko'rsatkichlar, aholi jon boshiga to'g'ri keladigan kichik biznes korxonalarini nazariy asoslari yoritilgan. Shu bilan birga kichik biznes va xususiy tadbirkorlikni ahamiyati, tashkil etish va u orqali kambag'allikni qisqartirishga oid takliflar berilgan.

Kalit so'zlar: kichik biznes va xususiy tadbirkorlik, kichik biznes sub'ektlari soni, kambag'allik tushunchasi, aholini jon boshiga nisbatan to'g'ri keladigan ko'rsatkichlari, aholi bandligi, daromadini ko'paytirish.

Аннотация. В данной статье рассматривается значение малого бизнеса в нашей национальной экономике и его роль в сокращении бедности, показатели в развитых странах, теоретические основы малого бизнеса на душу населения. В то же время были высказаны предложения о значении малого бизнеса и частного предпринимательства, его организации и через него сокращения бедности.

Ключевые слова: малый бизнес и частное предпринимательство, количество субъектов малого бизнеса, понятие бедности, соответствующие показатели численности населения относительно начала жизни, занятость, увеличение доходов.

Abstract. This article examines the importance of small business in our national economy and its role in reducing poverty, indicators in developed countries and the theoretical foundations of small business per capita. At the same time, suggestions were given about the importance of small business and private entrepreneurship, its organization and through it reducing poverty.

Keywords: Small business and private entrepreneurship, the number of small business entities, the concept of poverty, the corresponding indicators of the number of population, employment, income increase.

Introduction. Since the early years of independence, great attention has been paid to the development of small business in our country. Small business is playing a unique role in the steady growth of the national economy and the employment of a growing number of able-bodied people and reducing the existing level of poverty. The small

and private entrepreneur is becoming an important factor not only in the production of gross domestic product, but also in increasing the welfare and income of the population, having a positive impact on solving the problem of unemployment and reducing poverty [9].

The Action Strategy for Further Development of the Republic of Uzbekistan for 2017-2021 states that small business and private entrepreneurship are important factor of the creation of the national economy, the formation of a middle class, the creation of a competitive environment and sustainable economic growth.”[1].

In his Address to the Oliy Majlis on January 24, 2020, the head of our state said, “It is no secret that the majority of the population in the regions, especially in rural areas, does not have a sufficient source of income. As in any country, we have low-income groups. According to various estimates, they make up about 12 to 15 percent. We are not talking about small numbers, but about 4-5 million people”, he said [2].

Literature overview. Small business and private entrepreneurship are important factors in increasing incomes and reducing unemployment, which is the cause of poverty in the country. Since the first years of independence, the great attention has been paid to the development of small business in our country. Small business is playing a unique role in the steady growth of the national economy and the employment of a growing number of able-bodied people [7].

Flexible forms of employment in small business and private entrepreneurship - part-time employment, division of labor, flexible work schedule, flexible and virtual workplace is an effective way to provide decent employment to the economically active population, which depends on the economic situation, market conditions This will help to change the direction of production, the number and composition of employees in the short term ”[3].

Research methodology. In the study monographic, economic analysis, comparison, logical analysis, abstraction, induction, deduction, SWOT- analysis was used. So, methods for assessing competitiveness can be built on the basis of statistical indicators, expert assessments, and ranks.

Analysis and results. In order to ensure employment, increase family incomes and reduce poverty in our country, it is important to study the indicators of small business and private entrepreneurship per capita. Let's look at the main indicators of the development of small business in the economies of developed countries (Table 1)

Table 1

Key indicators of small business development in different countries

Countries	Number of small businesses (in thousand)	Number of small businesses per 1,000 people	General employment, in%	The share of small business in gross domestic product of the country in%
Great Britain	2630	46,00	49,0	50-53
Germany	2290	37,00	46,0	50-54
Italy	3920	68,00	73,0	57-60
France	1980	35,00	54,0	55-62



USA	19300	74,20	54.0	50-52
Japan	6450	49,60	78,0	52-55
Russia	836,2	5,65	9,6	10-11

As can be seen from the table, small businesses and private entrepreneurship account for 50–67% of the gross domestic product in developed countries. The share of small business in gross domestic product is 50-52% in the United States, 63-67% in the European Union and 52-55% in Japan.

Solving the problem of small business and private entrepreneurship will also play an important role in reducing poverty in our national economy. Japan (78 percent) and Italy (71 percent), the classic countries for small business, have the highest rates here. If we study the indicators of small business and private entrepreneurship per thousand people, we can see that the United States (74 enterprises) owns the highest rate in this indicator. In the United States, small business and private entrepreneurship account for 99 percent of all businesses. The majority of businesses are small businesses based on family labor. In 80% of small enterprises, the number of employed people does not exceed 10 people.

Italy (68 companies) and Japan (49.6 companies) are next in terms of these indicators. [4]

If we study the number of small businesses in the country in 2011-2020, there were 205,184, 206,589, 213,643, 221,140, 225,998, 225,560, 242,397, 276,237, 353,921 and 436,981, respectively. (Table 2)

Table 2

Changes in the number of small businesses (except for registered small businesses, farmers and farms)

№	Years	Number of small business factories	A change from last year	
			Absolute(+ ; -)	Relative, %
1	2011 year	205184	x	x
2	2012 year	206589	1405	100,7
3	2013 year	213643	7054	103,4
4	2014 year	221140	7497	103,5
5	2015 year	225998	4858	102,2
6	2016 year	225560	-438	99,8
7	2017 year	242379	16819	107,5
8	2018 year	276237	33858	114,0
9	2019 year	353921	77684	128,1
10	2020 year	436981	83060	123,5

The absolute differences of small enterprises compared to previous years The changes in 2011-2017 were in the range of 2000-15000 compared to previous years, increased to 38797 in 2018, 80456 in 2019 and 84048 in 2020. In relative terms, the highest share is in 2019 compared to 23.7 percent, in 2020 - 20.0 percent, in 2018 - 12.9 percent and in 2017 - 5.2 percent. In 2011-2016, the change was observed in the range of 0.7-2.7 percent compared to previous years.

Table 3 below provides information on small businesses (excluding registered small businesses, farmers and farms) per 1,000 people in the Republic and Namanagan region.

Table 3

The number of small businesses per 1,000 people (except for registered small businesses, farmers and farms)

Years	In the Republic			In Namangan region		
	Number of the population, in thousand	Number of small businesses	Number of small businesses per 1000 people, pieces	Number of the population, in thousand	Number of small businesses	Number of small businesses per 1000 people, pieces
2011 year	29555	205184	6,9	2421	14105	5,8
2012 year	29993	206589	6,9	2459	14475	5,9
2013 year	30493	213643	7,0	2504	14447	5,8
2014 year	31022	221140	7,1	2554	15112	5,9
2015 year	31575	225998	7,1	2603	15731	6,0
2016 year	32120	225560	7,0	2652	16055	6,0
2017 year	32657	242379	7,4	2700	16928	6,3
2018 year	33255	276237	8,3	2753	17944	6,5
2019 year	33905	353921	10,4	2811	22034	7,8
2020 year	34559	436981	12,6	2867	27317	9,5

Based on the above analytical data, we can say that the number of small businesses (excluding registered small businesses, farmers and farms) per 1,000 people in the country and Namangan region has increased compared to previous periods. Although these data do not correspond to the indicators of developed countries, we can positively assess the existence of an upward trend over the past periods.

In this regard, the positive results of economic reforms in the country have an impact on the convergence of the above indicators with those of developed countries. In order to better understand the data, the following diagram shows the change in the number of small businesses (excluding registered small businesses, farmers and farms) per 1,000 people in the country and its territorial region Namangan region. (Figure 1)

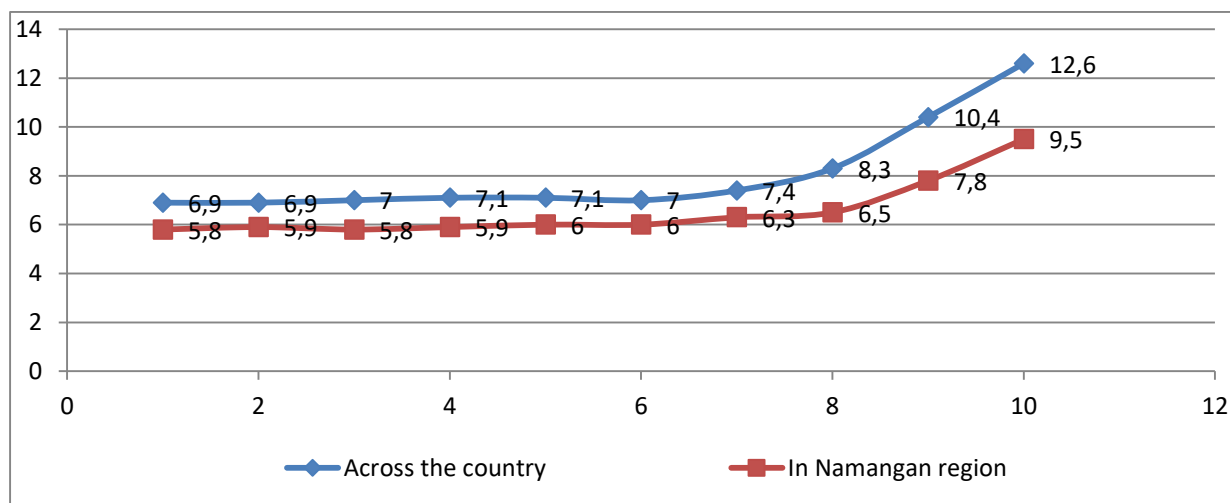


Figure 1. Changes in the number of small businesses per 1,000 people in Namangan region.

If we look at the change in the number of small businesses (excluding registered small businesses, farmers and farms) per 1,000 people in the country, compared to 2010, in 2020 this figure increased by 54.8% or 5.7.

In Namangan region, we can see that the number of small businesses per 1,000 people (excluding registered small businesses, farmers and farms) is lower than the national average. If we look at the change in this indicator in the years under study, it was higher than the national average, in 2020 it increased by 61.0% or 3.7 compared to 2010.

If we take into account the change in the number of small businesses per 1,000 people (excluding registered small businesses, farmers and farms) over the years, in 2017-2020 in the country increased from 7.4 to 12.6 and in the region from 5.8 to 9.5. achieved. This is the result of the reforms carried out in the last years of the study period in the country to organize and support small business and private entrepreneurship.

The organization of small business and private entrepreneurship in the country helps to provide employment [6]. This, in turn, will ensure that the population has jobs and adequate income. In our view, it is important to focus on job creation and income generation as a factor in helping to reduce poverty.

“The flexible labor market is based on the use of flexible forms of employment. Based on the principles of the concept of decent work, it was argued that the creation of virtual jobs in small businesses for non-competitive segments of the population is an effective and efficient means of employment. This method is fully in line with the principles of labor program of the international division of labour, humanizes labor activities, allows the employee to independently plan their work and leisure time, and creates many other conveniences [8].

Flexible forms of employment in small business and private entrepreneurship - part-time employment, division of labor, flexible work schedule, flexible and virtual workplace is an effective way to provide decent employment to the economically active population, which depends on the economic situation, market conditions This will help to change the direction of production, the number and composition of employees in the short term”[3].

Small business and private entrepreneurship are also important in addressing poverty reduction, poverty eradication, lifting the needy out of poverty, and creating effective mechanisms to prevent the growth of the number of poor families.

Conclusions. We consider it is expedient to develop the following areas for the establishment of small business and poverty reduction in our country:

- organization of the number of small business and private entrepreneurship in proportion to the population, approaching the indicators of developed countries;
- Ensuring employment by creating new jobs through the establishment of small businesses and private entrepreneurship;
- formation, training, retraining, vocational training of skills and abilities of the population that cannot meet a certain range of minimum needs for life;
- carrying out reforms in the organization and development of entrepreneurship;
- stimulation and involvement of self-employment projects;
- granting benefits from social services.



Improving the welfare of the population in Uzbekistan is of strategic importance, especially in addressing the issues of poverty reduction, the creation of effective mechanisms to prevent the growth of the number of poor families.

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UDK 338.48

THE ROLE OF BONDS MARKET IN FINANCING JOINT STOCK COMPANIES

Aliakbar Naurizbaev

Senior Researcher,

Karakalpak State University

aliakbarmaurizbaev@gmail.com

Xulosa. Korporativ obligatsiyalar - tadbirkorlik sub'ektlari chiqaradigan qarz qimmatli qog'ozlari - bu korxonalar o'z aksiyadorlik kapitali, bank ssudasi va boshqa manbalar bilan bir qatorda, o'z faoliyatini va kengayishini moliyalashtirishning bir necha usullaridan biridir. Ushbu maqola obligatsiyalar bozorining ahamiyatini o'rganadi, xalqaro obligatsiyalar bozorini tahlil qiladi va tahlilga ko'ra ba'zi xulosalarni ishlab chiqadi.

Kalit so'zlar: obligatsiya, obligatsiyalar bozori, aksiyadorlik jamiyati

Аннотация. Корпоративные облигации - переводные долговые ценные бумаги, выпущенные предприятиями, - являются одним из нескольких методов, с помощью которых предприятия финансируют свою деятельность и расширение, наряду с акционерным капиталом, банковским кредитованием и другими источниками. В данной статье исследуется важность рынка облигаций,

анализируется международный рынок облигаций и делаются некоторые выводы на основе анализа.

Ключевые слова: облигация, рынок облигаций, акционерное общество.

Abstract. Corporate bonds - transferable debt securities issued by businesses - are one of several methods by which businesses fund their operations and expansion, alongside equity share capital, bank lending, and other sources. This paper studies the importance of bond market, analyzes the international bond market and develops some conclusions according to the analysis.

Keywords: bond, bond market, joint stock company

Introduction. The term «capital market» refers to a location where long-term supply of funds is available, as well as where those funds are procured. That is, the capital market is the source of long-term funds of all types, including equity, preferred stock, and debt securities. That is, the capital market trades capital market securities such as Treasury notes or bonds, municipal bonds, corporate bonds, and mortgage-backed securities, as well as equity securities such as common stock and preferred stock. Personal and institutional savings are converted to investment through the capital market. As a result, the capital market is developed in collaboration with savers and investors.

When capital is supplied in a manner consistent with the needs of industrial enterprises, it is referred to as an ideal capital market.

Additionally, it should be well-organized, transparent, and efficient in order to be an ideal one. A perfectly functioning capital market should exhibit the following characteristics:

- i) Sufficient individual and institutional investors;
- ii) The presence of numerous competitors and auxiliary organizations, such as stock exchanges, investment banks, and broker firms.
- iii) Increased liquidity as a result of sufficient transactions in the indirect market.
- iv) Expected transparency and reasonableness in dealings and contracts
- v) Appropriate supervisory organization, such as the stock exchange commission, to oversee the capital market's operation
- vi) Transactions involving various types of securities, such as stock, equity, preferred stock, bond, and other securities.
- vii) To provide investors and savers with a clear understanding of the capital market's operation and administration through the presence of skilled entrepreneurs and professionals.

Corporate bonds have historically been a popular way for joint stock companies to raise capital for operations and debt financing, particularly in the long run. It is also a popular investment channel for investors seeking stable returns through holding bonds to maturity or high yield through secondary market bond trading (Tendulkar & Hancock, 2014). The development of bond markets is critical for the economic system's efficiency, in addition to providing additional opportunities for investors and deepening financial markets (Herring & Chatusripitak, 2007). The existence of a functioning bond market is critical for reducing financial sector fragility and providing joint stock companies with an alternative source of cheap capital (Yoshitomi & Shirai, 2001). As evidenced by the Asian financial crisis of 1997-1998, one of the primary

causes was cited as the economy's excessive reliance on the banking system, which was highly regulated and thus susceptible to efficiency loss as well as increased systematic risk. Additionally, a healthy bond market will help to mitigate currency and maturity mismatches when long-term assets are financed by long-term liabilities; it will improve risk pricing tools due to reduced information asymmetry; it will enable efficient asset management, and it will strengthen the country's position in international capital markets (Plummer & Click, 2005). In terms of macroeconomic policy, a well-developed bond market not only provides useful market signals to policymakers, but also serves as a financing mechanism for fiscal deficits (Kahn, 2005). Sharma (2001) examined the corporate bond markets in Southeast Asia and concluded that corporate sector and banking reforms, as well as the enforcement of legal processes and increased business transparency, were necessary to increase the market's attractiveness. Additionally, market infrastructure should be strengthened and regulations governing bond issuance and operations should be improved.

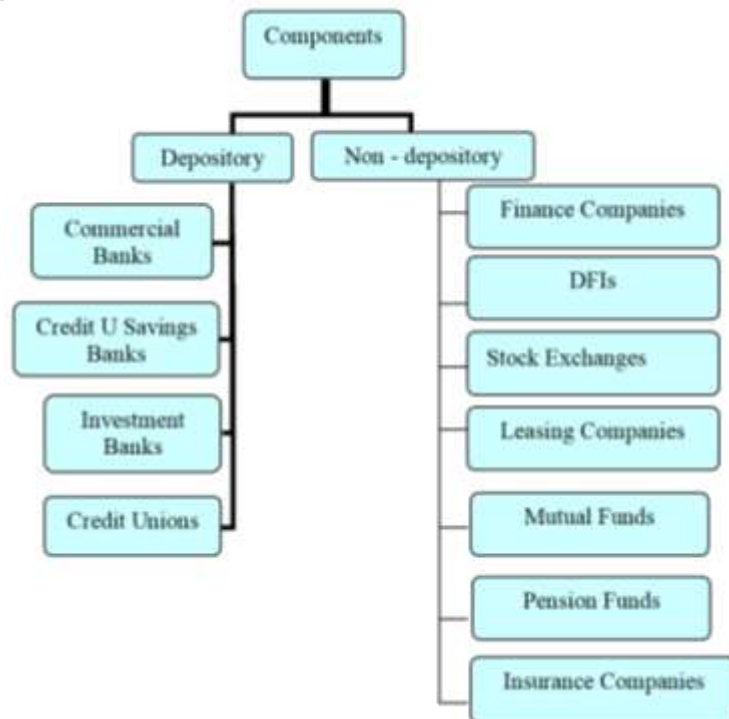


Figure 1 Various Components of Capital Market

Source: Eugene F. Brigham, Joel F. Houston, Fundamentals of Financial Management, 2016

Because the capital market is formed in collaboration with investors and savers, the capital market's primary components are as follows: i) Saving banks; ii) Investment banks; iii) Finance companies; iv) Development Financial Institutions (DFI); v) Commercial banks; vii) Leasing companies; viii) Credit units; ix) Mutual funds; x) Insurance companies. The various components of the capital market can be classified as depositors and non-depository financial institutions, as illustrated in Figure 1.

Individuals with savings to invest, merchant banks, commercial banks, and non-bank financial intermediaries such as insurance companies, finance houses, unit trusts, investment trusts, venture capital, leasing finance, mutual funds, and building societies all contribute to the capital market.

Additionally, there are issuing houses that do not provide capital but rather underwrite companies' shares and debentures and assist them in selling new issues of shares and debentures. Joint stock companies seek funds to finance working and fixed capital assets and inventories, while local, state, and federal governments, improvement trusts, and port trusts seek funds to finance a variety of expenditures and assets.

The capital market operates via the stock exchange. A stock exchange is a market where shares, stocks, bonds, securities, and debentures can be bought and sold. It is not just a market for older securities and shares; it is also a market for newly issued securities and shares. Indeed, the capital market is intrinsically linked to the supply and demand for new capital, and the stock exchange facilitates these transactions.

Capital Markets' Importance or Functions:

The capital market is critical in mobilizing savings and channeling them into productive investments for the development of commerce and industry. As such, the capital market contributes to the country's capital formation and economic growth. The following section discusses the capital market's significance.

The capital market is critical in connecting savers and investors. Investors are lenders of funds, whereas savers are borrowers. The term refers to savers who do not spend all of their income. The surplus units are referred to as «surplus units,» while the borrowers are referred to as «deficit units.» The capital market is the mechanism by which surplus and deficit units are transmitted. It acts as a conduit for surplus units to lend their excess funds to deficit units.

Joint stock companies typically finance their growth and development through a variety of different sources of funding. Some are self-financing with retained cash. External sources of funding include long and short term bank loans, syndicated loans made by a group of banks and possibly institutional investors, trade finance, short term (less than one year) capital market debt, corporate bonds, and other forms of hybrid capital.

The position of corporate bonds in a joint stock company's capital structure is determined by the terms of the issue. Secured debt is typically repaid from the proceeds of the security's sale prior to unsecured debt, and both are repaid prior to equity in the event of the issuer's insolvency.

Corporate bonds provide both issuers and investors with predictable cash flows: payment of capital at issue, regular interest payments, and capital return at maturity. Secondary market prices fluctuate in response to prevailing interest rate expectations and the issuer's creditworthiness. Bond financing is typically less expensive and riskier for businesses than equity financing. Because dividend payments are contingent on future profitability, dividend expectations drive market valuations, and investors demand higher returns to compensate.

Joint stock companies typically choose between bank and bond debt financing based on their size, the stage of market development, and the availability and relative costs of various forms of finance. Typically, SMEs seek funding from banks or tailored lenders, or from the syndicated loan market. As they expand, they may issue bonds, initially in their domestic bond market, and then in international markets if their needs exceed the domestic market's investor capacity or if the international nature of their

business necessitates more sophisticated risk management of foreign exchange or other risks. The stages of this progression may vary by country, depending on the maturity of their bond markets. Certain emerging markets continue to be heavily reliant on bank financing.

Analysis and results. As of August 2020, ICMA estimates that the global bond markets will total approximately \$128.3 trillion in terms of USD equivalent notional outstanding. This total includes \$87.5 trillion in SSA bonds (68 percent) and \$40.9 trillion in corporate bonds (32 percent).

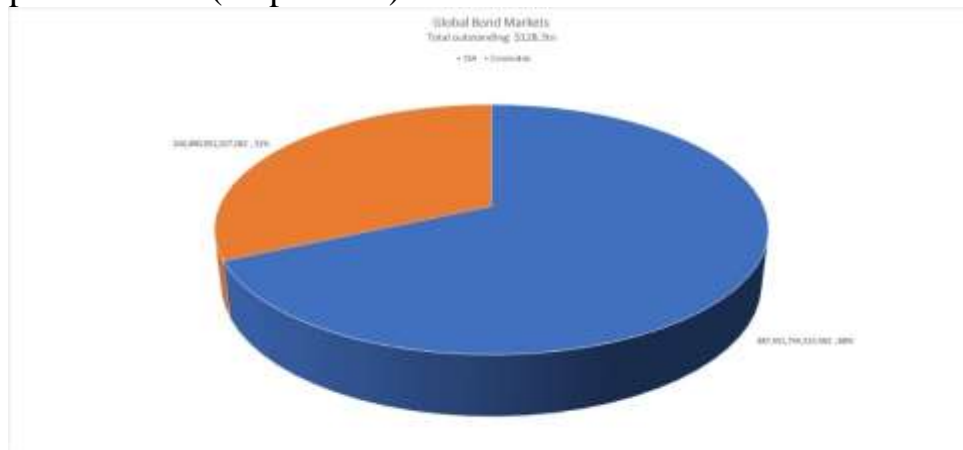


Figure 2. Global Bond Markets

Source: ICMA analysis using Bloomberg Data

In terms of country of incorporation, the US (\$10.9 trillion) and China (\$7.4 trillion) dominate the global corporate bond markets. Together, they account for 45 percent of the global corporate bond market. Financial institutions issue 53% (\$21.5tn) of all outstanding corporate bonds.

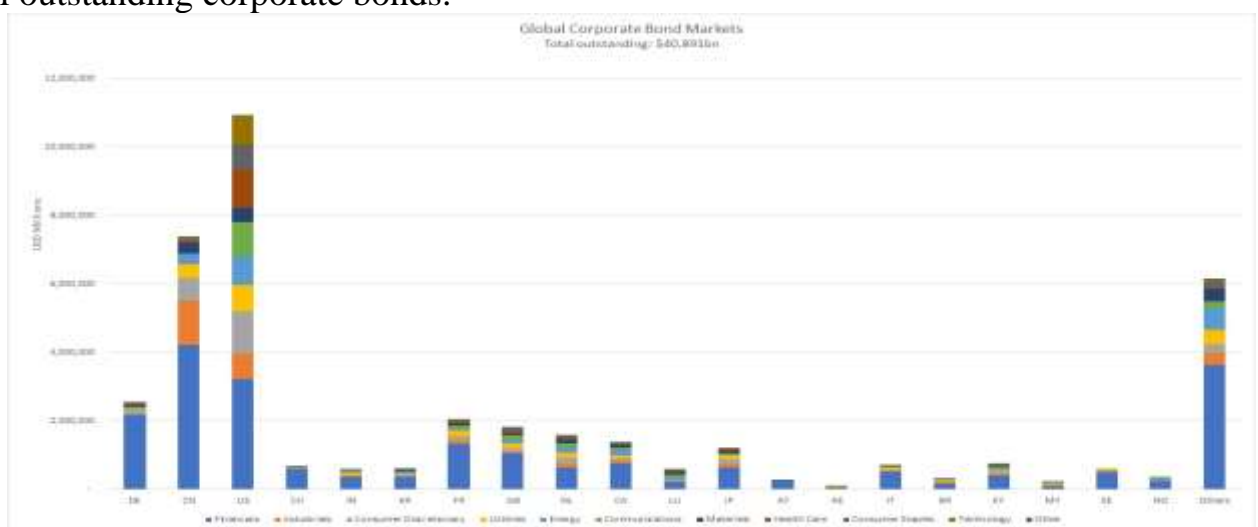


Figure 3 Global Corporate Bond Markets

Source: ICMA analysis using Bloomberg Data

It can be seen that Denmark, China and the US have big bond market, therefore they outnumber other countries in terms of corporate bond issuance.

Conclusions. Corporate bond markets benefit issuers by providing secure, stable, and flexible financing for enterprise, innovation, technological development, economic growth, trade, employment, and wealth creation. Typically, investors (typically insurance companies or pension funds tasked with financing long-term cash flow

commitments on behalf of retail investors) buy to hold to maturity. The secondary market has a much lower turnover rate than the equity market.

Corporate bonds compete with alternative sources of capital, such as equity or commercial bank lenders, driving down companies' funding costs. The cost of issuance must continue to be reduced. However, because of the disintermediation between issuers and investors, as well as the intense competition among underwriters and brokers who provide support services, corporate bond markets help issuers reduce their cost of capital. This enables the most efficient use of investor funds to benefit corporate enterprise.

Bond financing reduces companies' reliance on banks, whose ability to lend is occasionally tested – for example, in the years following the 2007/8 financial crisis, as a result of reformed prudential regulation, and as a result of banks' need to deleverage their balance sheets in response to the Third Basel Accord. Deleveraging could have a disproportionately large effect on the real economy, particularly in areas where banks have been the primary source of debt financing.

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SOFTWARE MODULES OF "COMPLEX-ANALYTICAL INFORMATION SYSTEM OF SCIENTIFIC TITLES", SYSTEM ARCHITECTURE AND INTEGRATION OPPORTUNITIES

Zaynidinov Hakimjon Nasiridinovich,
doctor of technical sciences, professor, head of
department "Information Technologies" at Tashkent
University of Information Technologies named after
Muhammad al-Khwarizmi, tet2001@rambler.ru

Makhmanov Orif Kudratovich,
PhD on technical sciences, Associate Professor of
the department "Multimedia Technologies" at Tashkent
University of Information Technologies named after
Muhammad al-Khwarizmi, E-mail:
orif.mahmanov@gmail.com

Аннотация. Ушбу мақолада олий малакали илмий ва илмий педагог кадрлар аттестацияси соҳасидаги илмий унвонларга оид электрон хужжат алмашинуви ва уларнинг аттестация жараёнини рақамлаштириш бўйича «Илмий унвонлар комплекс-таҳлилий ахборот тизими»нинг ишлаб чиқилиши ҳамда тизимни ташкил этувчи модуллари, уларнинг вазифаси келтириб ўтилган. Шунингдек, ахборот тизими орқали илмий унвон бўйича аттестация ишларини тақдим қилиш жараёни, уни кўриб чиқиш жараёнларининг бажарилиш алгоритми, тизим архитектураси, унинг электрон ҳукумат доирасидаги бошқа ахборот тизимлари билан интеграциялашуви, тизимни жорий қилиш орқали эришилган натижалар тўғрисида маълумотлар берилган.

Калит сўзлар: ахборот тизими, аттестация жараёни, рақамлаштириш, илмий унвон, профессор, доцент, катта илмий ходим, ахборот хавфсизлиги, статистика, таҳлил, мониторинг, электронлаштириш, алгоритм, электрон ҳукумат, интеграция.

Аннотация: В статье описывается разработка «Комплексно-аналитической информационной системы научных званий» по электронному документообороту и оцифровке процесса аттестации научных званий в области аттестации научных и научно-педагогических кадров высшей квалификации, а также модулей, составляющих систему, их функций. Также представлены данные о процессе подачи аттестационной работы на ученое звание через информационную систему, алгоритме его реализации, архитектуре системы, ее интеграции с другими информационными системами в электронном правительстве, результатах, достигнутых благодаря внедрению системы.

Ключевые слова: информационная система, процесс аттестации, оцифровка, ученое звание, профессор, доцент, старший научный сотрудник,



информационная безопасность, статистика, анализ, мониторинг, электронный, алгоритм, электронное правительство, интеграция.

Abstract: This article outlines the development of "Complex-analytical information system of scientific titles" on electronic document exchange and digitization of the attestation process of scientific titles in the field of attestation of highly qualified scientific and scientific-pedagogical personnel, as well as modules that make up the system, their functions. The data on the process of submitting a certification work for an academic title through the information system, the algorithm for its implementation, the architecture of the system, its integration with other information systems in e-government, the results achieved through the introduction of the system are presented.

Keywords: information system, attestation process, digitization, scientific title, professor, associate professor, senior researcher, information security, statistics, analysis, monitoring, electronic, algorithm, e-government, integration.

Introduction. Currently, Uzbekistan is consistently working to improve and improve the quality of postgraduate education, taking into account the goals and objectives of the innovative development of the country and the importance of science in its social and economic development.

Simultaneously, the digitalization of postgraduate education remains an important issue in the effective organization of the process of training and attestation of scientific potential, the widespread use of digital technologies in this process, ensuring transparency and openness in activities [1]:

The relevant tasks related to the digitization of the attestation area have been identified in the Action Strategy of the President of the Republic of Uzbekistan on the development of the digital economy and the introduction of e-government, including his Address to the Oliy Majlis on January 24, 2020, the decree of the President of the Republic of Uzbekistan dated March 2, 2020, No. RP-5953 "On the state program for the Year of Science, Enlightenment and Digital Economy" of the Action Strategy of Five priorities of the Republic of Uzbekistan for 2017-2021", resolution No. PD-4699 dated April 28, 2020 "On measures for the widespread introduction of the digital economy and e-government" and decree of the President of the Republic of Uzbekistan dated October 5, 2020, No RP-6079 "On approval of the Strategy" Digital Uzbekistan - 2030 "and measures for its effective implementation". It serves to ensure openness and transparency of activities through the digitalization of the attestation process with the widespread introduction of modern information technologies, to create the most convenient, optimal, and least time-consuming opportunities for information exchange [2, 3].

In this regard, the application of modern IT technologies in the field of postgraduate education will guarantee the digitization of the attestation process, ensuring openness and transparency.

Main body. According to the best international experience, the world attaches great importance to the implementation of processes such as the provision, reception, systematization, and processing of information through information and communication technologies. This, in turn, is one of the key factors in ensuring the level of competitiveness in the context of globalization, creating the most convenient,

optimal, and least time-consuming way to exchange information by standardizing and digitizing all information-related processes.

In this regard, the introduction of the "Complex-analytical information system of scientific titles" in the process of attestation of scientific titles, on the one hand, the widespread introduction of the digital economy, on the other hand, eliminating and optimizing the fragmentation of systems in the information space; serves as an important technological basis for improving the quality and efficiency of activities based on speed [4].

There are the following types of users in the system: administrator, scientific secretary of the institution council, the responsible officer of the monitoring department, SAC (Supreme attestation commission) management, scientific examination department, chief scientific secretary, scientific secretary of the expert council, chairman of the expert council.

Functions of the system. The tasks of the "Complex-analytical information system of scientific titles" are as follows [4]:

- electronic submission of documents of applicant for scientific titles (professor, associate professor, senior researcher);
- electronic review of the process of normative-technical and scientific examination of documents received for scientific titles;
- electronicization of the process of consideration of attestation cases on scientific titles in the disciplinary commission;
- carrying out the process of consideration of attestation works on scientific titles in electronic form by the expert council;
- carrying out the process of approval of attestation works on scientific titles in electronic form;
- to offer intelligent solutions that generate automated data to help decision-makers while reviewing attestations for scientific titles.

Methodology. *The modules, functions, and characteristics that formulate the system.* The system includes "Module for submission of attestation documents for candidates for scientific titles", "Module for acceptance/distribution of attestation works for scientific titles", "Module for approval of attestation works for scientific titles", "Module for regulatory and technical expertise of attestation works for scientific titles, and introduction to the expert council", "Module for the organization of work of the disciplinary commission on attestation of scientific titles", "Module for organizing the work of the disciplinary commission on attestation of scientific titles", "Module for the conclusions of the expert council on attestation of scientific titles", "Expert council meeting module for attestation of scientific titles", system administrator module, search module, reporting module, archiving module and other additional modules [7] (Figure 1).

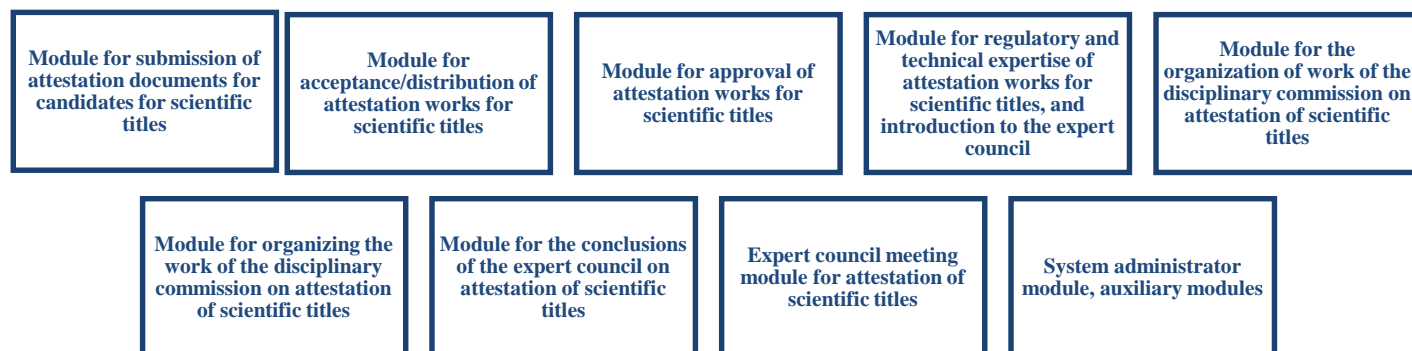


Fig. 1. Basic software modules of "Complex-analytical information system of scientific titles"

"Submission of attestation documents for candidates for scientific titles" module.

Attestation works on scientific titles (professors, associate professors, senior researchers) are submitted by the scientific secretary of the HEI / SRI Council.

The attestation case of the applicant is sent to the SAC through this module within a certain period from the date of the decision of the HEI / SRI Council to award the scientific title. Attestation works on scientific titles are submitted, accepted, considered through this electronic system.

"Acceptance/distribution of attestation work on scientific titles" module.

Acceptance/distribution of attestation work on scientific titles are carried out by the responsible officer of the monitoring department.

This module deals with the reception, summarization, accounting of attestation documents on scientific titles (professors, associate professors, senior researchers) received by the SAC, distribution of attestation work to the relevant specialists of the scientific examination department of the SAC, introduction of daily attestation work to the SAC chairman.

"Approval of attestation works on scientific titles" module.

Approval is carried out by the management of the SAC for sending the attestation work on scientific titles to the responsible executors.

Approval of the documents of the attestation work on the scientific titles (professor, associate professor, senior researcher) received in this module is carried out for consideration by the relevant specialists of the scientific expertise department of the SAC.

"Regulatory and technical expertise of attestation works on scientific titles, submission to the rules committee, expert council" module. The department of scientific expertise of the SAC carries out a normative and technical expertise of attestation works on scientific titles, their inclusion in the disciplinary commission, expert council.

After receiving the documents of the attestation work on the scientific titles received in this module (professor, associate professor, senior researcher), they are subject to normative and technical examination, submission to the disciplinary commission, submission to the expert council.

"Organization of the work of the disciplinary commission on attestation of scientific titles" module. The work of the disciplinary commission on attestation of scientific titles is organized by the Secretary-General.

Attestation work on the scientific title is carried out by the disciplinary committee in accordance with the established procedure after carrying out a normative and technical expertise.

"Organization of the work of the disciplinary commission on attestation of scientific titles" module. The conclusions of the expert council on the attestation of scientific titles are formed by the scientific secretary of the expert council.

The attestation case on the scientific title is considered at the meeting of the expert council after passing the normative and technical examination, the order commission.

"Forming the conclusions of the expert council on the attestation of scientific titles" module. The Chairman of the Expert Council shall hold a meeting of the Expert Council on the attestation of scientific titles.

The attestation case on the scientific title is considered and discussed at the meeting of the expert council of the disciplinary committee in the order of normative and technical expertise. It is recommended to approve the scientific title in the Presidium of the SAC.

System administrator module. This module deals with the control of the system, registration of educational institutions and scientific organizations, the formation and updating of the list of disciplines, specialties, granting access to the scientific secretaries of the Scientific Council, management of system users.

Additional modules (auxiliary data generation module, system translation module, search module, report module, archiving module). Additional modules serve to ensure the integrity of the system [7]:

a) "Auxiliary data" module. This module has the ability to enter, edit, delete auxiliary references (classifiers) required for the system. The following auxiliary directories are formed: list of countries, list of regions, positions in nations, educational institutions and scientific organizations, etc .;

b) "System translations" module. This module stores the keywords required for the language of the user interface and their translations. If a new word is added to the user interface by the system administrator, it is translated into the appropriate language (Uzbek-Latin, Uzbek-Cyrillic, Russian, English);

c) "Search" module. In this module, search operations are performed by filtering data in the user interfaces of the system or entering a keyword.

The filter parameters of the search take into account: type of scientific title, specialty code, applicant full name, the structure that submitted the work (HEI / SRI);

g) "Report" module. In this module, there is an opportunity to generate reports on various sections of scientific titles: statistics on those awarded for scientific titles in the field of science, statistics on those nominated for scientific titles in the field of specialization, statistics on those approved for scientific titles in HEI / SRI.

d) "Archiving" module. In this module, there is an opportunity to archive information on scientific titles: Attestation work on scientific titles, conclusions of the attestation work on scientific titles in the review process.

The algorithm for the submission of attestation work on the scientific title in this system, the implementation of the review process is shown in Figure 2.

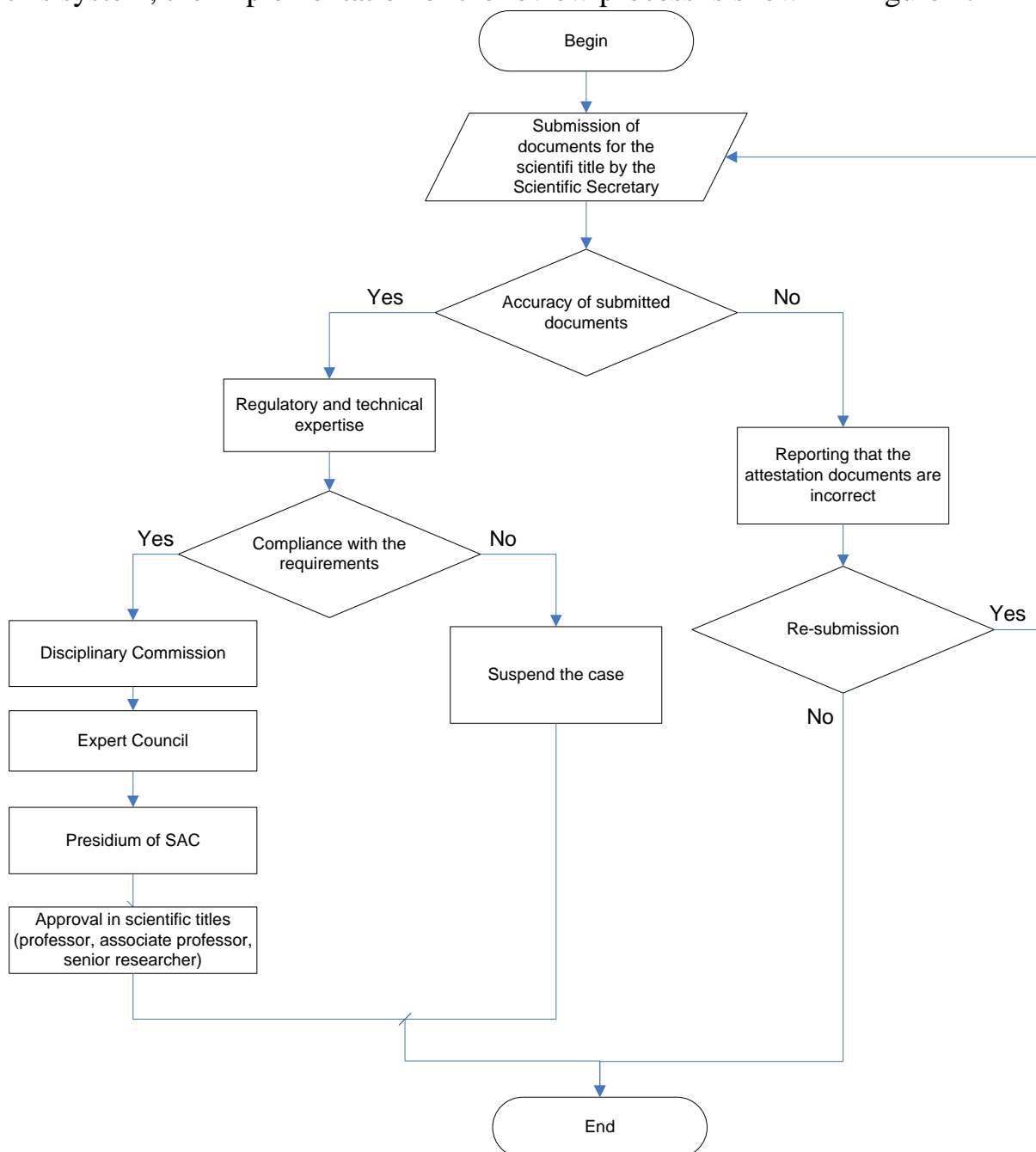


Fig. 2. Algorithm for the submission of attestation work on the academic title and the implementation of the review process

The client-server architecture of data processing in the "Complex-analytical information system of scientific titles" is shown in Figure 3 and consists of layers of

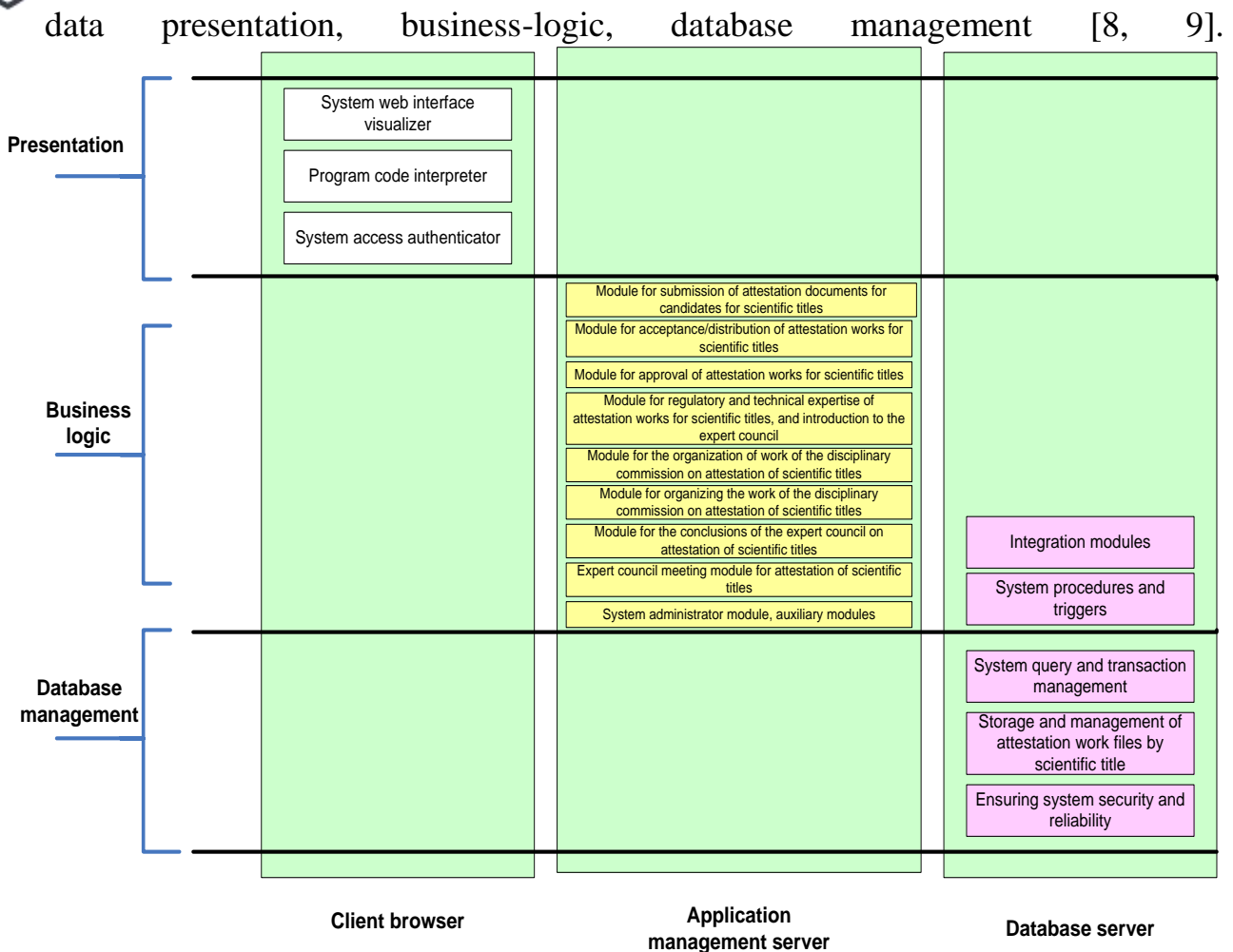


Fig. 3. Client-server architecture of data processing in "Complex-analytical information system of scientific titles"

The "Complex-analytical information system of scientific titles" and its integration modules are developed on the basis of MVC technologies, which provide information exchange of information systems with other programs and software systems (see Figure 4).

The data of each software module is transmitted and received in JSON format, which is a standard data exchange format, through API (Application Programming Interface) integration modules. Data exchange between other programs and software systems is provided through the following integration modules:

- *Single e-government identification system*. One of the important components of the e-government system is the Unified Identification System, i.e. ONE ID. OneID - a single information system for the identification of users of the system "E-government", designed to facilitate the use of various information systems and resources of state and economic authorities, local authorities and other organizations);

- *E-government database of individuals*. When using data from central databases, the identification of individuals can be carried out only through a single information system for the identification of users of the system "E-government".

- *Software and hardware complex "Single electronic information-analytical system of the state civil service"*. This software and hardware complex provides

integration of the relevant agencies with the system and databases in order to collect the necessary information through a single system, as well as the integration of data for digitization to ensure the full operation of this software and hardware complex.

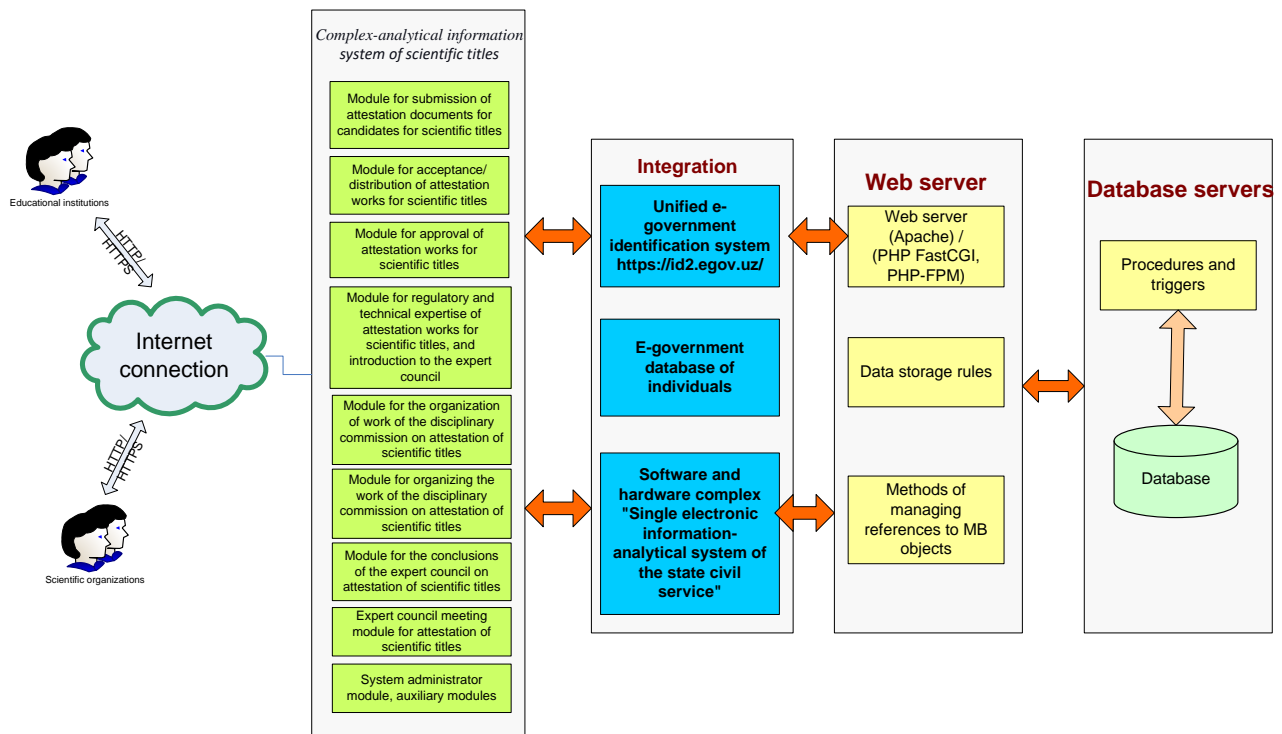


Fig. 4. Integration of the "Complex-analytical information system of scientific titles" with other information systems in the field of e-government

Information security of the system. Necessary protection measures have been taken at all modules and stages of operation of the system to ensure information security. The following priorities of information security are taken into account in the development and implementation of the system [10, 11]:

- integrity, reliability, the relevance of information, protection from harmful external influences, and protection from illegal entry and alteration;
- protection of information from unauthorized access and copiers.

Login is protected by a login and password, and the system administrator can change the rights granted to each user who connects to the system at any time. When using a password to log in, the following password requirements are set:

- use uppercase and lowercase letters while writing the password (for example, a-Z, A-Z);
- the use of numbers and symbols when writing a password in addition to letters (for example, 0-9, ! @ # \$ % ^ & *);
- The length of the password must be at least eight letters.

The number of attempts to log in is limited, and if the number of attempts increases, the system will be blocked for a certain short period. The rights of users in the system are determined by their role in the system. It is envisaged that all actions of users in the system will be automatically recorded in the relevant audit logs [12].

Requirements for functions performed by the system. The general requirements for the functions performed by the system are the formation of an authenticated system



users, the use of a multilingual user interface, a flexible information structure for storing metadata and full texts of electronic documents, formation of the title of the dissertation and its database, the availability of ways to integrate into information systems within e-government, the implementation of data analysis following the requirements [5, 6].

Results. As a result of large-scale scientific-organizational, program-technical measures to digitize the process of attestation of highly qualified scientific and scientific-pedagogical personnel, from January 1, 2021 100% of the "Integrated-analytical information system of scientific titles" within the "Electronic SAC" system was introduced .

As a result of digitization of the attestation process of highly qualified scientific and scientific-pedagogical personnel in 2021, including:

a total of 8,400 electronically received, including 950 attestation papers and 7,450 other documents, the registration time was reduced by 100%;

normative-technical and scientific expertise of attestation works on scientific titles was carried out electronically and the time of their consideration was reduced, the process was optimized;

paper consumption was saved by an average of 2 tons;

the cost of a business trip to bring documents from educational institutions and scientific organizations located in the regions is at least 178 mln. soums were saved;

The subject-to-subject meeting in the process of submitting/receiving documents for the scientific title has been reduced by 100%.

Conclusion. The "Complex-Analytical Information System of Scientific Titles" has been developed, which consists of 15 software modules for the digitization of the field for the attestation of scientific titles. Expert conclusion of the Ministry of Information Technologies and Communications of the Republic of Uzbekistan No. EZ-07-8 / 8126 was obtained for the document of the terms of reference for the development of the system. Letter No. 01-16-02 /1723 was received from the State Unitary Enterprise "Cyber Security Center" to ensure the information security of the system. Based on the results of the examination, it was noted that the terms of reference of the information system comply with the requirements of regulatory legal acts of the Republic of Uzbekistan in the field of information and communication technologies.

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EPISTEMOLOGICAL ANALYSIS OF THE CONCEPT OF INFORMATION CULTURE

Boynazarov Odiljon Fayzullaevich
Samarkand State University
Independent researcher

odiljon.boynazarov@univ-silkroad.uz

Annotasiya: Ushbu maqolada informasion madaniyatning ijtimoiy mohiyati, informasion jarayonlarning shakllari va namoyon bo'lishi, kelib chiqishi, genezisi va ilmiy ahamiyati epistemologik talqin qilingan. Olamning keng ko'lamli o'zgarishlariga

sabab bo'layotgan omillardan biri informatsiyalarning tarqalishi, eng muhimi axborotlarning tog'ri yetkazib berilishi va talqin qilinishi to'g'risi ushbu maqolada tahlil qilingan. Insonlar orasida axborotni qabul qilish va uni tarqatish, undan foydalanish madaniyatini shakllantirish hamda rivojlantirish haqida izlanishlar olib borilgan. Ommaviy axborot vositalarining informatsiya ulashishdagi o'rni va ahamiyati ko'rsatib o'tilgan. Ijtimoiy tarmoqlar, internet saytlari va bosma axborot vositalarining jamiyat hayotiga axborot madaniyatining kirib kelishida ko'rsatayotgan ta'siri o'rganilgan. Insonlarning axborot olishga ehtiyojidan kelib chiqib mass media vositalarini takomillashtirish va axborot madaniyatini ammoviy tarzda targ'ib qilish bugungi tadqiqot ishimizning mazmunini tashkil qiladi.

Kalit so'zlar: informatsiya, ommaviy axborot vositalari, mass media, axborot madaniyati, internet saytlari, ijtimoiy tarmoqlar, geopolitika.

Аннотация: В данной статье дается эпистемологическая интерпретация социальной сущности информационной культуры, форм и проявлений информационных процессов, происхождения, генезиса и научного значения. В этой статье анализируется, что одним из факторов, способствующих широкомасштабным изменениям во Вселенной, является распространение информации, а самое главное, правильность передачи и интерпретации информации. Проводились исследования по формированию и развитию культуры восприятия и распространения информации, ее использования среди людей. Указано место и значение средств массовой информации в обмене информацией. Изучено влияние социальных сетей, интернет-сайтов и печатных СМИ на проникновение информационной культуры в жизнь общества. Совершенствование средств массовой информации и популяризация информационной культуры, основанной на потребностях людей в получении информации, составляют содержание нашей сегодняшней исследовательской работы.

Ключевые слова: информация, СМИ, масс-медиа, информационная культура, интернет-сайты, социальные сети, geopolitika.

Absract: In this article, epistemological interpretation of the social essence of information culture, forms and manifestations of information processes, origin, Genesis and scientific significance is made. This article analyzes that one of the factors contributing to large-scale changes in the Universe is the spread of information, and most importantly, the correct transmission and interpretation of information. Research has been carried out on the adoption and dissemination of information among people, the formation and development of the culture of its use. The role and importance of mass media vosti in information sharing has been highlighted. The impact of social networks, internet sites and print media on the penetration of information culture into the life of society has been studied. Due to the need for people to acquire information, the improvement of mass media and the promotion of information culture in an ammo way constitute the content of our research work today.

Key words: information, mass media, mass media, information culture, websites, social networks, geopolitics.

Introduction: Today, it is clear that the struggle for the human heart and mind is becoming more intense than ever. There is a change in the ideological landscape of

the world, the harmonization of geopolitical goals and ideological policies, the growing importance of ideological principles in the countries that have gained independence, and the globalization of ideological processes. Different ways of influencing people are being explored. Today, the Republic is taking comprehensive measures to develop science and innovation technologies, train highly qualified scientific and scientific-technical personnel, and integrate scientific research with education and production. By expanding the IT industry, meeting people's needs for innovation in a matter of seconds is paying off. But in this regard, we must not forget the quality in pursuit of the result. The practical application of the law of dialectics "the transition from quantitative to qualitative change" in society is aimed at preventing such problems. In the words of the President: "At the same time, we must not forget one fact: various debates and disputes in the media are based primarily on the principles of fairness and impartiality, within the rule of law and ethics, personal prejudice and false reputation. It should not turn around, it should avoid insulting the person and dignity, and there should be no place for such negative situations in our media" [1].

Literature review: In this study, more Russian, Uzbek and foreign philosophers, psychologists used scientific works.

Research Methodology: the study used the methods of critique-reflection, objectivity, systematic approach, diachronic and synchronous approach, innovative approach, analysis and synthesis, analogy, generalization, comparative analysis, historicity and logic unit of scientific knowledge.

Analysis and results: According to Bekzod Khodjayev, the concept of "information culture" is based on two fundamental concepts: information and culture [2: 40b]. Therefore, there are different views on the "cultural" and "information" approaches to the interpretation of this concept. Cultural approach The existence of man in a society informed by the information culture within As a method of activity, the organization of the process of formation of human culture is considered to be In the context of the information Approach, the demand for information as a set of knowledge of all information activities aimed at satisfaction considered.

What is information that can change the world and people? Scientists have answered this question as follows. For example, N. Wiener "Information is the expression of the content obtained from it in the process of adaptation to the external world" [3]. (Here information is expressed as a reflection of the external world (epistemological aspect) and adaptation (adaptation to it)), L. Popov: "Information is the elimination of uncertainty in the process of communication and communication" [4]. (This definition focuses on the philosophical and psychological aspects of information (communication, communication).) R. Ashby: "Information - the norm of structures, novelty, originality" [5], L.G.Switch: "The concept of information has many meanings, but in the general philosophical, metalinguistic sense is a set of potential, widely covered realities" [6]. The simplest classical definition of information is information.

From the above definitions, it is clear that the globalization in society is leading to the spread of information. It is necessary to form an information culture in the members of the society in order to prevent the negative impact of the information on the psyche of the people.

Due to globalization, people have the opportunity to instantly receive and own information that interests them. Commenting on the content of this process, the First President of Uzbekistan I.A.Karimov said: Today, the movement in the modern information space is so intense, so fast, that now, as before, yes, this event took place far away from us, it can not be ignored that it has nothing to do with us. A people or a nation in such a state of affairs will be hundreds of years behind in development". [7]

The rapid spread of information is a key factor in the development of information technology. That is, we live in a time when the flow of information is accelerating and the world is able to change the mood, psyche, goals and aspirations of the people, as well as the whole way of thinking of mankind. We all know that ideological influence in the virtual world is becoming a very powerful weapon. We need to explain that the various socio-political, spiritual and educational forces in it serve the interests of the hegemon states, and the role of the Internet in capturing the minds of young people is great. In particular, if we look at history, "... if the violent and aggressive forces of the world want to subjugate a nation or a country, first and foremost, it seeks to disarm it, to deprive it of its greatest wealth, its national values, history and spirituality. "[8:11]

We make sure once again that it was not in vain.

Having the right information is the greatest wealth, the ability to distinguish between necessary and unnecessary information is the greatest wealth, the ability to disseminate the necessary information based on one's own scenario, or the ability to remain silent about it in a timely manner.

In the 21st century, the sphere of influence of information technologies, telecommunications and mass media, which are the mediators in finding the owner of information in a matter of seconds, is boundless. In the current situation in Uzbekistan, where the state guarantees equal rights and equal legal protection of all forms of property, the media can be divided into several types in terms of ownership, as well as the form of ownership:

1. Mass media, the founder of which is a state organization - ("Khalq so'zi", "Narodnoe slovo", "Pravda Vostoka" newspapers, etc.);
2. Mass media, the founder of which is a commercial organization ("ECO" newspaper, etc.);
3. Mass media, the founder of which is a non-governmental non-profit organization ("Mahalla", "Hurriyat" newspapers, "Ijliyyat Fikir", "Human Rights" magazine, etc.);
4. Mass media founded by political parties and movements ("O'zbekiston ovozi", "Golos Uzbekistana", "Fidokor", "Adolat", "Milliy Tiklanish", "XXI asr" newspapers, "Muloqot" magazine, "Birlik" newspaper tribes);
5. Mass media, the founder of which is the mass media ("Mohiyat", "Darakchi" newspapers, etc.);
6. Mass media founded by individuals (Novosti Uzbekistana newspaper);
7. Public, founded by a regional and international non-governmental organization mass media (Central Asian Culture newspaper);
8. Mass media, the founder of which is a legal entity and an individual (Turkiston-Press non-governmental news agency-closed joint-stock company) [9:10].

Globalization in the field of information and communications. Today, it is one of the most dynamic global processes. After World War II, Albert Einstein said,

“Humanity experienced an atomic bomb in 1945, but at the end of the century it will have another important explosion - the information explosion” [10]. Information attacks and weapons are deliberately targeted. D. Lovtsov, a Russian expert, says: “The concept of information weapons includes a certain system of special disinformation technologies that have a destructive negative impact on the mentality, culture, spirituality, religion and information-technological, military infrastructure of a nation”.

Experts say that the impact of information has the following purposes: disorientation, misinformation, destabilization, repression. and others. They are based on weakening and destroying the opponent.

Conclusions:

First: in today's world of "information attacks", the formation and development of information culture in the minds of people is an urgent issue to protect human consciousness and thinking.

Second: We need to prevent an unhealthy environment for some members of society due to the widespread development of the media and the Internet.

Third: it is necessary to manage the behavior of young people in a positive way through the formation of an information culture, to expand the scope of measures to prevent deviations.

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THE EFFECT OF MICROWAVE ENERGY ON THE PROTEIN COMPLEX OF WHEAT GRAIN

Tuychiyeva Dilrabo Mamirjonovna

PhD III-course

Andijan machine building institute

Andijan, Uzbekistan

4741601@mail.ru

Annotatsiya. Hozirgi kunda g'alla saqlash ishlab chiqarish korxonalarini dezinfeksiya qilish choralari-tadbirlari dolzarb hisoblanadi. Donni dezinfeksiya qilish - ishlab chiqarishni jarayonini to'liq to'xtatishni talab qiladigan murakkab, qimmat jarayondir. Shu sababli, o'ta yuqori chastotali mikroto'lqinlar, elektr maydonlar va ishlab chiqarishni to'xtatishni talab qilmaydigan boshqa fizik usullardan foydalanish samarali hisoblanadi.

Kalit so'zlar: mikroto'lqin, zararkunandalar, quvvat, bugdoy, namlik, kleykovina.

Аннотация. На сегодняшний день актуальным является мероприятия по дезинсекции предприятий по хранению зерна. Дезинсекция зерна сложный, дорогостоящий процесс, который требует полной остановки производства. Поэтому значительный интерес представляют методы с использованием СВЧ - излучений, электрических полей и других физических методов, не требующих остановки производства.

Ключевые слова: микроволны, вредители, мощность, пшеница, влажность, клейковина.

Abstract. Today, measures for disinsection of grain storage enterprises are relevant. Disinsection of grain is a complex, expensive process that requires a complete stop of production. Therefore, methods using microwave radiation, electric fields and other physical methods that do not require stopping production are of considerable interest.

Key words: microwave, pests, power, wheat, humidity, gluten.

Introduction. The production, processing and storage of grain plays an important role in the economy of any state and the life of society. Grain is the main raw material for the production of flour, compound feed, cereals on which, without exaggeration, the entire industry depends. With the acquisition of independence, the Republic has consistently pursued a course of achieving grain independence, reviving the production of sugar and other food products. In connection with the ongoing agrarian reform in the Republic, there have been significant changes in the structure of sown areas for grain crops and adjusted accordingly for cotton [1].

Providing the grain processing industry with high quality raw materials is a very serious task. The most important condition for obtaining high-quality grain is the fulfillment of technological requirements for each individual operation, and this requires the organization of on-farm control. This is the only way to achieve the rise of agriculture, improve the quality of grain and the productivity of all industries, as well as meet international standards. [2].

Today, measures for disinsection of grain storage enterprises are relevant. Disinsection of grain is a complex, expensive process that requires a complete stop of production. Therefore, methods using microwave radiation, electric fields and other physical methods that do not require stopping production are of considerable interest.

These methods are one of the most promising, environmentally friendly, operating continuously and allowing to reduce the cost of pest control while increasing its effectiveness. [3].

Literature review. Currently, microwave technology (microwave) technology is becoming an integral part of industrial production. Microwave technologies are understood as a set of conversion processes, in which one of the main elements is an electromagnetic field in the frequency range from 1 kHz to 300 GHz. Microwave energies are focused on electricity and therefore are environmentally friendly. They have unique capabilities for organizing a fully automated software-controlled technological cycle. [4].

One of the methods of disinfection of food grain and products of its processing is the treatment with the energy of an electromagnetic field of ultrahigh frequency (EMF microwave). When using this method, it is possible to create environmentally friendly, energy-saving technologies for processing grain and obtaining high-quality food products. Previous studies on food processing make it possible to select the modes of processing flour with high-frequency currents in order to destroy microorganisms, while not causing changes in the physicochemical properties of protein, starch, enzyme activity [5].

Professor N.V.Zuglenka was developed a method for disinfecting seeds of agricultural crops, food grains. Microwave heating is a progressive and efficient way of processing raw materials [6,7,8,9].

Research Methodology. There are various methods to ensure the quantitative and qualitative preservation of grain reserves. When disinfecting grain, the physical method is widely used. Therefore, the microwave method, which is one of the most environmentally friendly, operating continuously and allowing to reduce the amount to a minimum, is of considerable interest. In the dissertation work, standard methods were used.

Analysis and results. In the research, the task was set to identify the most acceptable technological parameters for processing raw materials from microwave and microwave fields. The task included the determination of the optimal parameters of the duration of exposure time, power value, the amount of gluten and the IDC (measurement of gluten deformation), at which the studied raw material was subjected to processing. Wheat of the 2nd class was used as the initial object. [10].

Consequently, in studies aimed at identifying the most acceptable value of the supplied power, two weighed samples of raw materials were weighed for each experiment. One sample was processed in a microwave field apparatus, the second served as a control.

The action of microwave for disinfection of grain exhibits heat treatment, which in turn leads to protein denaturation. Heating breaks hydrogen bonds and disrupts the interaction of hydrophobic groups. During thermal disinfection, the denaturation

process occurs depending on the moisture content of the grain, temperature and duration of exposure.

When the minimum and average values of exposure and power are combined, a low temperature of 28-540 C is created. The first signs of denaturation are observed, which are manifested in the form of a change in the extensibility of gluten. The extensibility increases, and its parameters acquire a value corresponding to another quality group. In this case, the IDK (gluten deformation meter) is higher than 95, instead of 80. The grain belongs to the III quality group. Gluten is characterized as unsatisfactory weak. Such flour is not suitable for bakery production, but in confectionery production it is precisely such flour that is needed..

When the temperature rises to 610C, which is caused by a combination of average operating parameters, a further denaturation process is observed, the viability slightly decreases.

When heated to a temperature of 710C and above, it becomes crumbly and often does not wash off at all.

The results of studies on the influence of the magnitude of power, time, gluten and IDC are shown in the table 1.

Table 1. Influence of the duration of microwave exposure on the effectiveness of disinfection at a power of 150 watts.

№	Mode of action		Grain heating temperature t, 0C	Gluten	
	Duration of time, s	Specific power WnYa \ dm³		Quantity gluten free, %	IDK indicator
1	40	180	28	25	80,5
2	80		42	25	80,1
3	120		49	23	80
4	160		54	23	75
5	Control		61	25	80

The method for determining the content of wet gluten is defined in accordance with GOST 13586.1-68 standard. Crude gluten is a plastic-elastic substance composed of gliadin and glutenin. The essence of the method is as follows:

A dough is prepared from a sample of wheat; the gluten substance is released by washing the dough; excess moisture is removed; raw gluten is weighed.

The effect of thermal disinfection with microwave energy changes the quality and quantity of the gluten complex (Table 1).

The destruction of the gluten complex occurs at a temperature of 750 C and above, which corresponds to modes 5-7 has a slight deterioration. Due to the porosity, the volume of baked goods is reduced. And the porosity, in turn, depends on the gas-holding capacity of the protein-proteolytic complex. Under the influence of the modes of options 3-4 (temperature 49-540C), the gluten is weakened. These modes are recommended. When processing grain with an IDC of 0-15 units. (unsatisfactory

strong quality group), IDK indicator from 20-40 units. (satisfactory strong quality group) in the production of mills for the confectionery industry, where wheat with an IDC of 45-75 units is used. good, in the production of grinding, IDK is used with an indicator of 80-100 units. (satisfactory strong quality group). The mode of options 1-2 (heating to a temperature of 28-420C), on the contrary, strengthens the gluten. Decontamination modes affect the technological properties of grain, causing various changes in the quality of gluten. Thus, depending on the purpose of using the batch of flour produced, the IDC indicator can be adjusted in accordance with the quality group (Table 1.2).

Table 1.2 Determination of the quality of gluten on the device IDK-1.

Deformation capacity, units.	Quality group	Characteristics of gluten
0-15	III	Unsatisfactory strong
20-40	II	Satisfactory strong
45-75	I	Good
80-100	II	Satisfactory weak
105 and higher	III	Unsatisfactory weak

Conclusion/ Recommendation.

1). As a result of the studies carried out, the effect of disinfecting regimes on the protein-gluten complex of grain, it was found that the specified parameters cause changes in the quality of gluten..

2). By adjusting the IDK index of grain by the action of microwave energy, it is possible to produce flour with certain technological qualities.

3). The influence of microwave radiation on the main parameters of grain, which determines the production of food products from it, that meet safety and quality requirements in accordance with the current standard, has been established.

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COMPOSITION, BENEFITS AND DISADVANTAGES OF DECORATIVE BRICKS PRODUCED BY HYPER-COMPRESSION METHOD

Pulatov Madaminjon Muhammadjon ogli
Andijan institute of economics and construction
Assistant of the department of Applied mathematics
mpulatov10@mayil.ru

Annotatsiya. Maqolada O'zbekiston qurilish materiallari bozorida energiya tejamkor xom-ashyolarga talab katta bo'lganligini inobatga olib, iqtisodiy va resurstejamkor mahalliy chiqindilar asosida giperzichlash usuli bilan ishlab chiqariladigan pardozbop g'ishtlarning foydali jihatlari yoritilgan.

Kalit so'zlar : pardozbop g'isht, resurstejamkor, giperpres, keramika, sement, oxaktosh, dekorativ.

Аннотация. Учитывая высокий спрос на энергоэффективное сырье на узбекском рынке строительных материалов, в статье подчеркиваются преимущества декоративного кирпича, производимого методом гиперпрессования на основе экономичных и ресурсосберегающих местных отходов.

Ключевые слова: декоративный кирпич, ресурсосберегающий, гиперпресс, керамический, цемент, известняк, декоративный.

Annotation. Given the high demand for energy-efficient raw materials in the Uzbek building materials market, the article highlights the benefits of decorative bricks produced by hyper-compression based on economical and resource-efficient local waste.

Key words: decorative brick, resource-saving, hyperpress, ceramic, cement, dolomite, decorative.

Introduction. Hyperpressed brick is a piece of high-strength building material produced from a cement-limestone mixture by the semi-dry hyperpressing method, which is then hardened in a steam chamber or in a simple heated room; mainly designed to cover a variety of structures.

Composition and production technology of hyperpress bricks The composition of the mixture for the production of hyperpress bricks includes 8-15% high quality cement, 2-7% iron oxide pigments for coloring and 85-92% of the main raw materials:

- limestone shell rock;

- Elbow, dolomite, marble, marl;
- Screening from crushed stone production;
- Combating the production of ceramic bricks;
- Various wastes: from rock mining and cutting, coal, copper and iron ore beneficiation;
- Furnace slag and many other materials.

Literature review. Hyper pressing is a method of forming a product from a wet mixture of cast mineral materials under very high pressure. The compressive effect causes the particles to interact so strongly that there is not only adhesion but also adhesion at the molecular level between them, i.e. harmony is the attraction that exists between the molecules within a substance under normal conditions, but each substances that are not between different molecules.[3]

Research Methodology. In fact, the particles are welded together, and this happens without the use of high temperatures, such as burning clay bricks or welding metals. This is why semi-dry hyperpressing is also called cold welding. The result is an artificial material that is as close as possible to natural stone in terms of texture, strength, cold and moisture resistance.[1]

Analysis and results. Molded products are dried in a steaming chamber (8-10 hours at a temperature of 40-70 °C) or in a warehouse where the bricks are baked in 3-5 days. This allows you to get 50-70 percent of the brand strength, after which the bricks are rusted when needed (imitating decorative chips) and sent to the construction site. Hyper-pressed brick receives its final strength in the wall within 30 days, provided that the temperature is above zero.



The uniqueness of the technology is to obtain high-precision conformity of the finished product to the design dimensions. The deflection may not exceed 0.5 mm (typically in the range of 0.2–0.5), which is higher than the performance of the most “accurate” sand-lime brick among wall elements of ± 2 mm.[2]

There is no specially developed state standard for hyperpressed bricks, so manufacturers specify the technical characteristics of products obtained as a result of hyperpressing, as well as standards for clay bricks (in terms of size and purpose):

- TU 5741-021-00284753-99 "Hyperpressed building materials"
- GOST 530-2007 "Ceramic bricks and stones. General characteristics"

Classification

Hyperpress bricks have similar properties to the other two types of bricks - ceramic and silicate:

- by appointment - personal and face (smooth or poke and / or embroidered with a spoon);
- by design - full body and hollow (perforated and grooved);
- Shape - regular parallelepiped shape (sharp or rounded corners) and curly.

Information. Each pair of identical brick faces has its own name: bed - the largest (running) planes; spoons - medium-sized edges (they remain visible from the inside and outside on the finished wall); buttocks are the last faces of the brick.



Shaped or shaped bricks can also be separated according to their purpose: some perform a purely decorative function, others combine it with practicality - cornices, corners, etc., "created only on one or two faces.[6]

Conclusion. The use of building (ordinary) bricks is justified due to the much higher cost in the construction of earthquake-resistant buildings. Basically, the products obtained by double-sided hyper-pressing method serve as an excellent coating material, which, in addition to the decorative effect, strengthens the structure, protects it from high humidity and other adverse effects.

Brick resolution $L \times W \times T$, mm:

- Single (1NF) $250 \times 120 \times 65$
- Narrow (0,6NF) $250 \times 60 \times 65$

Compounds with lengths and thicknesses of 230 and 65 mm are not less than widths of 107, 100, 56 or 50 mm.





Features

- Power from 100 to 300-400 kg / cm²
- Double-sided hyper pressing is not lower than M100, and using M500 cement - provides the same strength of grades in the range M250-M300.[5]
- Volume weight 1900-2200 kg / m³
- Thermal conductivity 0.43-1.09 W / (m • ° C)
- Frost resistance up to 300 cycles
- Prices from F30 to F300.
- Water absorption rate 3-7%
- Fire resistance group NG (non-flammable)
- fully serviceable and hollow, rubles / piece, respectively:
 - o Basic costs are approximately 30-32 and 21-26
 - o Narrow- 12-17 and 14.8-16.5
 - o Curly 32-44
- Although there are offers starting from 12 rubles. For 1NF.
- The maximum number of floors in a building is not limited

Advantages of hyperpress bricks

- Resistant to aggressive environments and climates;
- Strengths over most ceramic and silicate products;
- ensures fast laying of perfectly smooth surfaces, saves on lime and labor costs;
- Durable cracks and breaks in terms of service life (up to 200 years) and aesthetics;
- Responsible for any mechanical work on the construction site;
- adhesive strength with cement mortar is 75-100% higher than ceramics;
- The strength of the wall in the cement solution is 50-70% of the ceramics bonded with the same solution;[4]
- Ability to perform wall work at any time of the year;
- Availability of raw materials and environmental safety.

shortcomings

- The relatively high price narrows the scope of use of hyperpress bricks with all their strengths, perfect precision geometry, variety of colors and textures;
- The need to dry the brick before laying the maximum possible time;
- A sufficiently large load on the foundation when using solid brick.

Due to the benefits of decorative bricks, it should be noted that today such bricks are more energy efficient and cost-effective.

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THE RESULTS OF PRELIMINARY STUDIES AND THE CHOICE OF THE DIRECTION OF RESEARCH TO IMPROVE THE UXK UNIT FOR CLEANING RAW COTTON FROM MACHINE COLLECTION

Usmankulov Alisher Kadirkulovich
Professor of department
"Processing of textile products"
of the Jizzakh Polytechnic Institute
ilxom.abbazov.86@mail.ru

Salomov Abubakir Akhmadkulovich
Assistant of the Department
"Processing of textile products"
of the Jizzakh Polytechnic Institute
salomovabubakir07@gmail.com

Abbazov Ilkhom Zapirovich
Associate Professor of
"Natural fiber and fabric processing"
Jizzakh Polytechnic Institute
ilxom.abbazov.86@mail.ru

Egamberdiev Fazliddin Otakulovich
Senior teacher of the Department
"Natural fiber and fabric processing"
of the Jizzakh Polytechnic Institute
fazliddin.123456789@mail.ru

Kazakova Dilafruz Erkinovna
Associate Professor of
"Processing of textile products"
of the Jizzakh Polytechnic Institute
Kazakova_dilafruz@mail.ru

Annotasiya. Maqolada paxta xom ashyosini tozalashning mavjud texnologiyasi va texnikasini holatini tahlil qilish natijalari, UXK agregatini takomillashtirish bo'yicha keyingi tadqiqotlar yo'nalishini tanlash maqsadida mashinada paxta yig'ish sifati va mavjud UXK agregatini paxta tozalash sifatini aniqlash bo'yicha dastlabki tadqiqotlar natijalari keltirilgan.

Kalit so'zlar: agregat, tozalash, takomillashtirish, texnologiya, mashinada, tozalash, ifloslik, resurslarni tejash.

Аннотация. В статье приводятся результаты аналитического обзора состояния существующих технологий очистки хлопка-сырца и техники, результаты предварительных исследований по определению качества хлопка машинного сбора и качества очистки хлопка машинного сбора существующего

агрегата УХК с целью выбора направления дальнейших исследований по усовершенствованию агрегата УХК.

Ключевые слова: агрегат, очистка, совершенствование, технология, машинная, уборка, засоренность, ресурсосберегающих.

Annotation. The article presents the results of an analytical review of the state of existing raw cotton cleaning technologies and equipment, the results of preliminary studies to determine the quality of machine-picked cotton and the quality of machine-picked cotton cleaning of the existing UXK unit in order to choose the direction of further research on improving the UXK unit.

Keywords: unit, cleaning, improvement, technology, machine, cleaning, clogging, resource-saving

Introduction. The world community recognizes that today Uzbekistan is implementing comprehensive measures aimed at creating conditions for a radical increase in the efficiency of the cotton industry [1; - p.1]. Reforms are being successfully carried out to improve the technique and technologies for processing raw cotton and cotton seeds, including by attracting foreign direct investment.

In the main cotton producing countries in the world, including the United States, China, India, Pakistan and other countries, extensive research is being carried out to solve existing technological problems associated with drying, refining and ginning cotton, creating new generation technological equipment with high efficiency. In particular, high-performance, energy-saving technologies are being developed that preserve the natural quality indicators of fiber and new equipment for cleaning cotton from weeds.

The large-scale introduction of new economic systems in the republic, in particular the creation of cotton-textile clusters, sets a number of requirements for ginning enterprises that produce cotton fiber, such as flexibility in production management, efficiency, rational use of resources and maximum preservation of natural quality indicators of cotton fiber during its processing ... This confirms the urgent need to improve the quality and reduce the cost of fiber, which can only be achieved through the development of resource-saving, modern technologies and techniques, taking into account the achievements and experience of cotton-producing countries. In this regard, in the cotton ginning industry of the republic, a special place is occupied by research on the creation, improvement and implementation of efficient energy and resource-saving technologies for the primary processing of raw cotton. In particular, these are: the creation of an automated control system for the frequency of cleaning raw cotton from weeds, innovative research and development of new methods and directions of cleaning technology, including technological flow lines for cleaning raw cotton [2].

With the predominant transition in the republic to machine picking of raw cotton, special requirements are imposed on the quality of its cleaning. By 2026, Uzbekistan plans to completely switch to mechanized cotton picking. To implement these plans, the Cabinet of Ministers of the Republic will develop a preferential program for the sale of equipment on lease. The implementation of the project will begin in four regions: Tashkent, Jizzakh, Kashkadarya and Sirdarya. For farmers from these regions, the Ministry of Finance will cover the cost of technical equipment in the amount of

30%. From 2023, the mechanized method will be extended to the rest of the country [3].

Machine-picked raw cotton (especially under unfavorable weather conditions) has high humidity and contamination with green impurities, “which sharply complicates the tasks of the cotton ginning industry”. On the one hand, it is necessary to ensure the timely acceptance and safety of such raw materials arriving in a very short time, on the other hand, to build the technological process of the cotton plant so that its products meet all the requirements of consumers [3].

Analysis of the literature on the subject. Research organizations are working to improve the cleaning effect of raw cotton cleaners.

A number of combined cotton-cleaning units have been created, combining the cleaning of raw cotton simultaneously from small and large trash impurities. One of the variants of the cotton ginning unit (Fig. 1) was developed by scientists of the Central Scientific Research Institute of the Cotton Industry (CSRICI) [4].

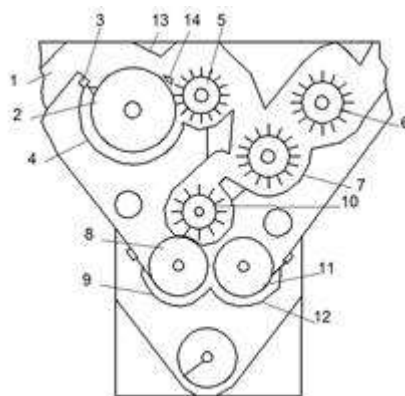


Figure 1. Unit for cleaning raw cotton, designed by CSRICI

These cleaners can be docked together to form raw cotton cleaning flow lines. The reason that this design has not received widespread use in industry is the complexity of its maintenance and prevention. In the course of further research, a combined axial cotton cleaner was created [5; -p.168].

This design of the combined cleaner (Fig. 2) also did not find widespread use, since it is rather cumbersome and frequent downhole situations (especially when processing wet raw cotton) did not allow its implementation at ginning plants.

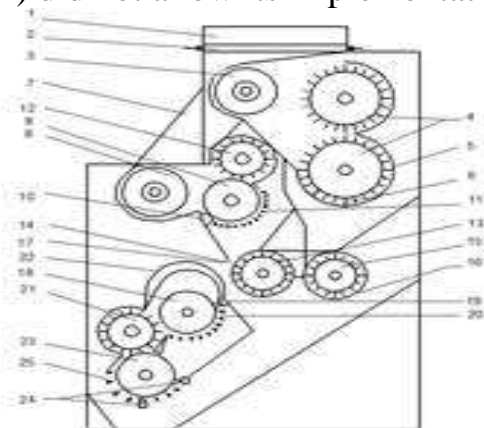
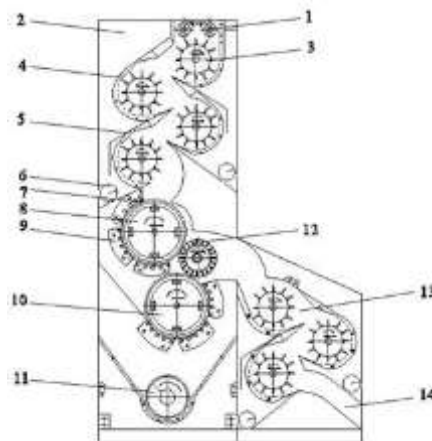


Figure 2 Schematic of an axial cotton cleaner

In the course of practical research, a cotton-cleaning unit has been developed [6, 7-p.72-77] with vertical sections for cleaning from fine and coarse litter, which consists

of a feeder 1, under which, in the vertical plane, in the course of the process, a section for cleaning cotton from fine litter 2 with peg drums 3 and mesh surfaces 4, on which a litter visor 5 is installed.

Under the cleaning section 2 there is a section for cleaning cotton from coarse debris, containing a lapping brush 6, a main saw drum 7 with a grate 8 and a regeneration saw drum 9, a removable brush drum 10 and a weed auger 11. The cleaning sections are interconnected by a branch pipe through which the cotton is re-fed to the section for cleaning from small trash impurities 13. After cleaning from small trash impurities, cotton is fed through the unloading shaft 14 to the subsequent technological process of cotton processing (Fig. 3).



1 - feeder; 2 - section for cleaning cotton from fine litter; 3 - peg drum; 4 - mesh surface; 5 - visor for litter; 6 - weed auger; 7 - lapping brush; 8 - saw drum; 9 - grate; 10 - regeneration drum; 11 - weed auger; 12 - brush drum; 13 - section for cleaning cotton from small trash impurities; 14 - unloading shaft.

Figure 3. Diagram of a vertical ginning unit

In operation, cotton from feeder 1 is fed to the section for cleaning from fine litter 2, where it is cleaned on peg drums 3 with mesh surfaces 4. Installation of adjacent drums 4 with a displacement in the horizontal plane and the opposite direction of their rotation will increase the angle of coverage by the mesh surface 4 to 210° the peeling drum 3, which will lead to a sharp increase in the cleaning effect, and the zigzag movement of the cotton flow will ensure high reliability of the unit in operation. At the same time, the guiding shield of the mesh surface in the cotton impact zone is made stepwise.

This eliminates the return of cotton during cleaning to the upper drum, prevents the bottom hole situation and ensures a uniform flow of the cleaning process. Further, cotton is fed through the branch pipe to the section for cleaning cotton from coarse litter, where the lapping brush 7 attaches the cotton to the saw drum 8 and when the cotton hits the grate 9, large trash impurities are released. The volatiles released into trash impurities are re-cleaned by the regeneration drum 10.

The unit can significantly reduce energy consumption in the process of cleaning raw cotton when cleaning high varieties.

However, this unit has significant drawbacks: it has a very complex design, several screws are used for waste together, only the cleaning of raw cotton from fine

litter is enhanced. Therefore, the authors recommend using it only when cleaning high grades of cotton, we cannot call it a full-fledged cleaning unit, all the more impossible its use for cleaning machine-pick cotton with high contamination.

Research methodology. Determination of the quality of raw cotton machine collection is currently carried out by modern methods. The main indicators - moisture and contamination of raw cotton was determined using laboratory equipment VXS and paintwork materials [8]. When sampling cotton, the requirements of existing standards were met. [9, 10].

Analysis and results. We conducted studies of the effect of machine harvesting on the moisture and weediness of the harvested cotton, carried out in the 2020 season in the conditions of cotton growing farms in Dustlik district of Jizzakh region. Harvesting in the field was carried out in three options, with the opening of bolls 60%, 70% and 80% of the total number of bolls in cotton. The results of the data obtained are shown in Table 1.

Table 1

Influence of machine harvesting of cotton on the quality of harvested raw cotton

Indicators	S-6524		
	Productivity by types of collection, kg / ha	Moisture content of raw cotton,%	Infestation of raw cotton
1 option			
When opening 50-60%	25	9	13
With additional disclosure 20-30%	7	10,0	16,0
2 Option			
At 70% disclosure	27	10	12
With additional disclosure 20-25%	5	10	14
3 Option			
When opening 80% and above	29	10	11
With additional disclosure 10-15%	3	10	14

It was determined that raw cotton harvested by machines of all variants of experiments in terms of quality indicators corresponds to the third class of the first industrial grade (Table 1).

At the cotton ginning factories, currently, for the purification of raw cotton, a unit for purification of raw cotton, combined grade UXK, is used, which is designed to purify raw cotton of medium staple varieties from coarse and fine litter (Fig.4) [11].

1-2-3-sections for cleaning cotton from large litter, 4- sections for cleaning cotton from small litter

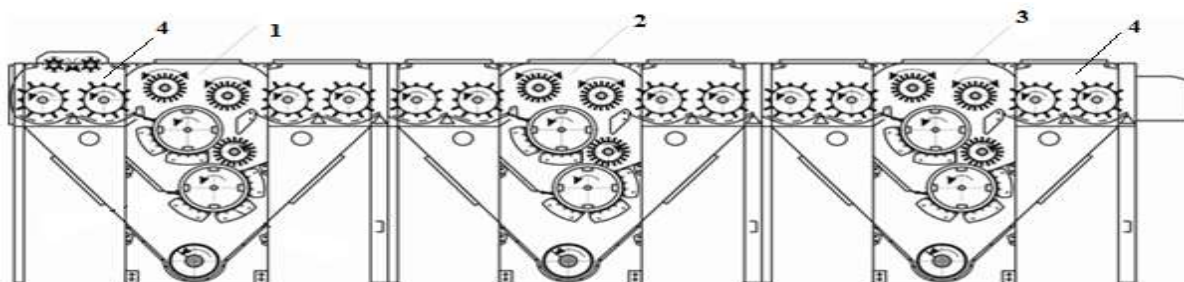


Figure 4 Scheme of a cotton ginning unit UXK

Preliminary studies of the UKHC unit on machine harvesting in the Jizzakh region showed that they do not provide high-quality cleaning of cotton to obtain the highest grade fiber. In the research, we used machine-picked raw cotton of the 2020 season of the selection variety C-6524 of the first industrial grade with a moisture content of 10% and a weediness of 11%. When processing such cotton under the conditions of the Dustlik ginnery using the UXK unit for cleaning raw cotton, the average contamination of cleaned cotton (from the gin tray) was obtained in the range of 1.4-1.6%, which does not meet the requirements of the current technological regulations [12] In addition, it was determined that large litter remains in large quantities in the cleaned raw cotton. By weighing the cleaned cotton from the gin tray on a laboratory paintwork machine, it was found that large litter is in the range of 60-65%, and the rest belongs to small litter.

Conclusion. The analysis of the literature and preliminary studies made it possible to identify unresolved problems in the cleaning of machine-picked raw cotton with high contamination. Proceeding from this, we have chosen the direction of research to improve the cleaning unit of the UXK for cleaning cotton from machine collection, for example, increasing the frequency of cleaning cotton from large trash impurities.

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THE ROLE OF HEALTHY SOCIAL COMPETITION IN DETERMINING YOUNG LIFESTYLE

Abdurahmonov Umidjon Usmonovich

Samarkand state university

Independent researcher

hope_umid@list.ru

Annotatsiya. Ushbu maqolada yoshlarning munosib turmush tarzini belgilashlarida sogʻlom sotsial raqobatning oʻrni haqida soʻz yuritilgan. Shuningdek, kelajagimiz egalari boʻlgan yoshlarimizning qonuniy huquq va manfaatlarini taʼminlash, ularning orzu-intilishlari, qobiliyat va salohiyatini roʻyobga chiqarishda olib borilayotgan davlat siyosati tahlil qilingan.

Kalit soʻzlar: yoshlar, sogʻlom sotsial raqobat, madaniyat, modernizatsiya, voyaga yetmaganlar, raqobatbardosh kadrlar, mehnat bozori.

Аннотация. В этой статье обсуждается роль здоровой социальной конкуренции в определении достойного образа жизни для молодых людей. В нем также анализируется государственная политика, направленная на обеспечение законных прав и интересов наших молодых людей, которые являются хозяевами нашего будущего, а также реализации их мечтаний, стремлений, способностей и потенциала.

Ключевые слова: молодежь, здоровая социальная конкуренция, культура, модернизация, несовершеннолетние, конкурентоспособный персонал, рынок труда.

Annotation. This article discusses the role of healthy social competition in determining a decent lifestyle for young people. It also analyzes the state policy pursued to ensure the legitimate rights and interests of our young people, who are the owners of our future, and the realization of their dreams, aspirations, abilities and potential.

Key words: youth, healthy social competition, culture, modernization, minors, competitive personnel, labor market.

Introduction. From the first years of independence, our country has been focused on educating a healthy and harmoniously developed generation, realizing the creative and intellectual potential of young people, creating the necessary conditions and opportunities for training competitive personnel in the modern labor market. measures were taken. In our country, systematic work is being carried out to bring up the younger generation, to create all the necessary conditions for them to take an independent step in life. Five important initiatives, including the broad involvement of young people in culture, arts, physical culture and sports, raising their literacy in information technology, promoting reading among young people, employment of women is being done. At the same time, ensuring the employment of young people through the formation of modern entrepreneurial skills and the creation of new jobs, effective organization of juvenile delinquency and crime prevention, prevention of family



divorces, the idea of strong patriotism in the younger generation and a number of problems remain in the formation of a firm civil position.

Literature review. We all know that in recent years, the attitude to the youth of our country has completely changed. On the basis of the state youth policy, reforms are being carried out consistently and effectively to ensure the legitimate interests of young people and to realize their aspirations. All conditions are being created for the youth of Uzbekistan to master the knowledge and professions and become mature specialists and patriots.[5]

We have witnessed the creation of a completely new system of work with young people in our country, the growing social activism of our sons and daughters, a growing sense of belonging to the Motherland and the people, the worthy participation of our younger generation in building a modern, democratic Uzbekistan.

Ensuring the legitimate rights and interests of our young people, who are the owners of our future, the realization of their dreams, aspirations, abilities and potential is one of the most important and priority areas of public policy, and great work is being done in this direction.

Research Methodology. On this basis, significant work is being done to strengthen the civic position and activism of our young generation, to educate them to think independently, to acquire modern knowledge and skills, to compete in the international arena. Most importantly, the task of constant communication with young people, ensuring their employment, finding their place in life, becoming worthy members of society, improving working and living conditions is becoming a criterion of our daily activities. Practical proof of this can be seen in many examples. In particular, the creation of new jobs for young people, the provision of loans to young entrepreneurs, especially girls, to engage in handicrafts, their professional training and development, support for farming, education of our children, their health. Important steps are being taken to improve the organization of leisure time.[6]

Analysis and results. It is noteworthy that in just one year, on the recommendation of the Youth Union of Uzbekistan, about 4,300 young people were given soft loans by banks worth 216 billion soums, and more than 184,300 children were employed.

In our country, it has become a positive tradition for the heads of central and local authorities, the corps of deputies, the judiciary to hold open dialogue with young people. In such dialogues and meetings, many of the problems facing young people are addressed on the spot, and they are provided with practical assistance, qualified advice and referrals.

Today, in order to renew and modernize our country, to develop it on an innovative basis, to carry out the multifaceted and complex tasks set before us, we need to be modern and creative-minded, able to take responsibility in any situation. We entrust important tasks in the management of the state and society to young, patriotic young people with high intellectual potential.[1]

In this regard, many young people in the ranks of the Youth Union of Uzbekistan, who are undergoing a school of experience and skills for young, promising personnel, with modern knowledge and skills, leadership potential, work in ministries and



departments, large companies and banks. His appointment to positions of responsibility in the youth associations gives a new spirit and meaning to our lives.

Today, within the framework of the Action Strategy, our young men and women are active in the implementation of such large-scale programs as "Youth - the builder of the future", "Prosperous village", "Prosperous neighborhood", "Smart city" that participation will no doubt delight us all.

I believe that such a huge creative process will play an invaluable role in revealing the projects and initiatives put forward by our youth, in shaping them as dedicated leaders and specialists, real people and citizens.

We have established the "Mard Oglon" state prize and the "Kelajak Bunyodkori" Medal for our courageous young people who set an example for others with their hard work, initiative and spiritual qualities in creating a new image of our dear Motherland. and it is a great pleasure for all of us to have the first winners of these awards among you today.

Over the past year, 266 of our boys and girls have won national and 80 international science Olympiads, 12 of our athletes have won world and 93 Asian championships, and more than 150 have won international competitions. we accept it as the first result of our noble deeds.

In the spirit of national and universal values, great changes are taking place in the field of education so that our youth can grow up healthy and harmonious in all respects. In particular, a modern system of preschool education is being created. In the system of higher education, new, modern educational institutions, including branches of prestigious foreign universities, are being established and radically improved.[6]

The establishment of Temurbek military lyceums, Muhammad Khorezmi and Mirzo Ulugbek schools, creative schools named after our famous writers in our country serves to bring up our children as a generation worthy of our great ancestors.

In particular, the creation of an effective system of state-sponsored education and training of talented young people in the world's leading universities and research centers is an important task before us.

The issue of social protection of young people and young families is also becoming one of the most important and priority areas. In this regard, it should be noted that the program of construction of Youth Homes is being implemented in order to support young families who are actively involved in the socio-political life of the country, to improve their housing and living conditions.

To pay more attention to the life problems of our youth, to increase the number of modern jobs that suit them, to support their noble aspirations and initiatives, innovative ideas, to improve the social and living conditions of our young generation. will remain the most basic, decisive task of all levels of government.

We all see and observe that today's rapidly changing world is opening up new horizons and opportunities for humanity and young people, as well as exposing them to various unprecedented dangers.

Threats such as religious extremism, terrorism, drugs, human trafficking, illegal migration, and "mass culture" are causing great suffering to many families and countries. His mother is killing them against her homeland.[2]



That is why parents, teachers, educators, the public, the community have become more vigilant and aware of this issue, and as our great enlightened ancestor Abdurauf Fitrat said, this world is truly a battlefield, a healthy body, a sharp mind. and we need to work on the basis of enlightenment against ignorance, with a deep understanding that good morality is becoming a weapon of this struggle.

Due to the qualities of tolerance, forgiveness and nobility of our people, it is important for our country to forgive and return to a peaceful life the young people who knowingly committed crimes, strayed from the right path and sincerely regretted their actions. attention is being paid. It should be noted that the return of hundreds of young people - citizens of Uzbekistan to their parents and families - as a result of such practical work is an important step towards strengthening a healthy social environment, the principles of humanity in our society.[4]

At the same time, we believe that it is very important for the youth of Uzbekistan to keep pace with the times and establish effective dialogue, friendship and cooperation with their peers in countries around the world. Indeed, Uzbekistan is a country of active and enterprising youth, with more than 60% of the population being young. Of course, this requires a great deal of attention and care, which imposes a great responsibility on our state. Therefore, the issue of development of our young people as aspiring, well-rounded, educated and talented people is approached by the state in a unique, modern way, in further ensuring the rights and freedoms of young people, their opportunities and interests. The organizational and legal framework for protection is being improved in line with the times.

Conclusion. This care and attention paid to our youth is bearing fruit today. Today, the bulk of Uzbekistan's labor force is young. As the head of our state said, "If we can combine the knowledge and experience of the older generation, the qualities of foresight with the enthusiasm, courage and dedication of our youth, we will surely achieve our goals."[3]

In a very short period of time, such virtues as devotion, courage, activism and creativity have been instilled in the consciousness of our compatriots, in the daily life. Today, every young person lives with the noble goal of contributing to the development of our country. is doing. This new spirit of entrepreneurship is deeply rooted in the essence of all problems and issues, the process of positive solutions, taking into account the views of young people, is gaining special recognition. Of course, the current state youth policy in our country and its effective results are of great interest to the world community.

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INTELLECT AND COGNITIVE PROCESS

Sultanova Gulnoza Sabirovna
(PhD) associate professor of the department
of philosophy and national idea
Samarkand State University
Samarkand, Uzbekistan
[e-mail: sgulnoza33@mail.ru](mailto:sgulnoza33@mail.ru)

Annotasiya: Ushbu maqolada epistemologiyada intellekt va kognitiv jarayon muammosi dialektik yondashuv asosida falsafiy tadqiq qilingan. Intellektning ijtimoiy mohiyati, kognitiv jarayonlarning shakllari va namoyon bo'lishi, kelib chiqishi, genezisi va ilmiy ahamiyati epistemologik talqin qilingan.

Kalit so'zlar: intellekt, kognitiv jarayon, kognitivlik, bilish, adaptasiya, epistemologiya, xotira, diqqat, tafakkur.

Аннотация: В данной статье проблема интеллекта и когнитивного процесса в эпистемологии была философски изучена на основе диалектического подхода. Эпистемологическая интерпретация социальной сущности интеллекта, форм и проявлений когнитивных процессов, происхождения, генезиса и научного значения.

Ключевые слова: интеллект, когнитивный процесс, познавательность, познание, адаптация, эпистемология, память, внимание, мышление.

Abstract: In this paper, the problem of intelligence and cognitive process in epistemology has been philosophically studied on the basis of a dialectical approach. The epistemological interpretation of the social essence of intelligence, forms and manifestations of cognitive processes, origin, Genesis and scientific significance.

Keywords: intellect, cognitive process, cognitiveness, cognition, adoration, epistemology, memory, attention, contemplation.

Introduction: After the independence of our republic, the purpose of educating the generation was laid on the scale of the day. Therefore, strategic tasks are being carried out in our country, which are of great importance in terms of increasing the cognitive abilities of young people. In particular, special attention is paid to the development of the concept of "youth of Uzbekistan-2025" [1], which serves to create organizational, legal and socio-spiritual conditions for raising the potential of young people, ensuring their perfection in all respects. In the history of philosophy, the problem of intellect has always been in the spotlight of scientists and philosophers. Intellect has not only entered into the scope of the study of the problems of philosophy gnoseological, epistemological, but also such disciplines as anthropology, psychology, pedagogy, cybernetics, Informatics, physiology. Human practical and intellectual activity is connected with intellect. Intellect is a complex mental crayon, embodying in itself cognitive (cognition, perception, perception) and constructive (creation, creativity) processes.

In many sources, the concepts of intelligence and thought are distorted. Intellect-manifests the qualities of the psyche, such as perception, perception, understanding,

ingenuity. Intellect is the ability to adapt to this environment, to solve mental issues.

Literature review: In this study, more russian, uzbek and foreign philosophers, psychologists used scientific works.

Research Methodology: the study used the methods of critique-reflection, objectivity, systematic approach, diachronic and synchronous approach, innovative approach, analysis and synthesis, analogy, generalization, comparative analysis, historicity and logic unit of scientific knowledge.

Analysis and results: Intellect (Latin: intelletus – understanding, cognition, intelligence) is a relatively stable system of mental acts, operas and abilities that determines the cognitive style of a person's mental abilities and the cognitive abilities of some higher animals [2. 281-283]. It follows that cognitive behavior is not only inherent in man, but also manifested in some animals, in particular primates. In many respects philosophers call intellect a world of rational thought. The landscapes of the universe created by man belong to intellect[3. 167]. Some researchers understand intellect as the justification for the intelligent labor activity of man at various levels, or the act of the universe for rational management of his activities, or the rule of the universe [4. 93].

With the development of intelligence in young children, the following qualities develop:

- * ability to adapt (adapt) ;
- ability to study and learn;
- ability to understand the abstract;
- manage reality, set goals, build and plan strategies to achieve the goal.

Intellectual is a person with a highly developed intellect and analytical mindset, representing mental labor. Of course, this is done through cognitive processes.

Knowledge is a set of scientific, practical information, concepts about the state of being or about certain (scientific, cultural, educational, spiritual, military, etc.) spheres. Hence, intellect as a philosophical category has a broad meaning. Intellect some cases of polymorphism constitute another group of its meanings. Buda is manifested in such mental cases as doubt, depression, guilt, joy, arousal, confidence, melancholy, desire. Similar situations are often manifested in the appearance of a person from mental, unconscious or physical factors. Intellect the attributes of orientation are indicated in its subject, purpose, essence, means, forms, conditions, etc. Intellect is always expressed in the perception of life. Against this background, it is necessary to distinguish between the orientation of intellect to from heaven. Intellect can be directed to both the botanic world of human life and its apparent World. When intelligence is directed to the world of botany, it is recorded in self-observation, self-awareness, self-analysis, self-perception, self-assessment, self-management, etc.

As a result of the conditions inherent in each person's knowledge of the universe, any abilities will be formed. This ability to know is expressed in individual mental and physical characteristics that characterize the individual's ability to perform certain activities and the conditions of the subject in which he is able to perform his work[5.150].

Studies conducted by philosophers and psychologists have data on the presence of a dialectic connectionadorlik, an inalienable link between intelligence and the

cognitive process. Since cognitive processes are a mental phenomenon aimed at human cognition.

* ***Perception as a cognitive process:*** cognitive perception allows us to organize and understand the world around us through the stimuli we receive from the senses. All this information is taken and our brain creates new knowledge.

* ***Attention as a cognitive process:*** attention is a process of cognition, from which it is understood that it is possible to concentrate attention on a particular stimulus or activity in order to be more aware of it. Attention is the most important task, it is always necessary for us. In addition, carefully using cognition processes are regulated. On the basis of perception (attention responds to external influences coming to the senses), this process is studied and complex reasoning.

* ***Memory as a cognitive process:*** memory is a cognitive function that allows coding, storing and restoring previously received information. Memory is the basic process in learning information and also form our own. There are many types and classifications of memory, in particular, short-term memory, the ability to temporarily store information in the head (for example, to remember the phone number on paper up toganga) and long-term memory, that is, we have knowledge and memories that store information for a long time. Long-term memory, in turn, is divided into a declarative, which includes knowledge acquired through speech and education (for example, knowledge, which the Spanish Civil War ended in 1939-th year) and knowledge acquired through personal life experience (for example, cookies, memories that your grandmother cooked for you in the village); as well as prosessual memory - memory for actions (for example, driving a car or walking It also has audial (auditory) memory, contextual memory, memory for names, recognition memory.

* ***Contemplation as a cognitive process:*** contemplation (thinking) is the most important cognitive process. It allows you to combine all the information obtained and establish a relationship between the data that make up it. For this, thinking, synthesis and problem-solving, that is, executive functions, are used.

And contemplation is the activity of a person's cognition. In psychology, thought is understood as a combination of mental operations, such as the formation of attention, perception, perception and judgment.

* ***Speech as a cognitive process:*** speech is the ability to express our feelings and thoughts in words. With the help of this tool, we receive, collect and transmit information about ourselves and the world around us. Speech and thinking develop parallelically, are closely related to each other and have a significant impact on each other.

Sh.Kushakov's opinion, passing through the process of semantic transformation in speech and cognitive activity, meanings converge and dictates the origin of a new meaning[6.32].

* ***Learning as a cognitive process of learning:*** a process that allows you to add new information to existing knowledge. With education, we mean its variety, education is all the knowledge we receive in school and during socialization, ranging from Holocaust (toothbrush or gait). Piaje and other researchers define cognitive education as the process through which information enters the cognitive system and changes it.

Cognitive processes can be natural and artificial, conscious or unconscious, in general, they are processes that occur very often and often, but we are not aware of them. For example, when we walk along the street and see a red traffic light, we begin a cognitive process, as a result of which we decide (in the tribe of crossing or not crossing the road).

Cognitive system and cognitive structure is a system of cognition developed in one's mind as a result of the formation, upbringing, teaching, observation and reflection of a person's character in the environment[7]. On the basis of this system, goals are set and decisions are made on how to behave in a particular situation, how to avoid cognitive dissonance. The basis of the cognitive system is the interaction of thought, consciousness, memory and language; the carrier of such a system is the human brain[8.180-197].

The cognitive system may include the following defining characteristics:

manifestation-verisational through the language system;

effective-quick and effective solution to practical problems;

algorithmization- is a sequence-based approach;

mastering - mastering the system as a result of the study;

adaptation. So it turns out that all cognitive systems have a constructive character.

The accumulation of reality, that is, the accumulated knowledge of the truth expressed in certain character systems inherent in a particular culture or ethnic group, is told to concepts that combine universal ideas about the world inherent to all mankind, based on the rational and cultural characteristics of an ethnic group speaking a particular language [9.26-29].

It should be noted that the formation of goals and decisions depends not only on the content of knowledge and newly obtained information, but also on the physical and mental state of a person and other factors. In particular, it depends to some extent on the form of presentation of newly received information.

Artificial cognitive systems are also different, that is, they are specific to machines with artificial intelligence signs that have the function of cognition, non-biological systems are understood, which in turn is "the ability to connect events in a timely manner, the construction of an interactive space-time model of events".[10]

Conclusion:

From the interpretation of the problem of cognition and intellect, such conclusions are drawn:

First, socio-historical progress shows that cognitive activity of individuals in society always leads to the formation and development of intellect. Scientific research has proved that intelligence is the process and result of constructive cognitive activity.

Secondly, the intellectual and cognitive process manifests itself as a congruent form of transferring a person from one generation to another in order to acquire knowledge, process them, store them in memory and transmit them, to realize their valuable goals, to communicate and exchange experience, as well as to ensure succession.

Thirdly, the cognitive process and intellect synthesize the possibilities of constructive creativity, which are carried out during the social, professional and spiritual activity of a person.

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WAYS AND POSSIBILITIES OF TAKING RUST CLEANING AND INHIBITING MEANS FOR THE CONSTRUCTIVE TYPE OF EQUIPMENT USED IN THE PRODUCTION PROCESS.

Jumaniyazov Maksud Jabbiyevich
Doctor of technical sciences, prof.,
Urgench State University
ximtex@rambler.ru

Sapaeva Surayyo Gofurjanovna
master's student,
Urgench State University
surayyo@urdu.uz

Annotasiya: Mahalliy xomashyolar va sanoat chiqindilari asosida zangni tozalovchi vositalarning yangi avlodini olish bo'yicha ilmiy-tadqiqot ishlari olib borildi. Eng yaxshi natijaga fosfat va limon kislotalari, $K_2Cr_2O_7$, $ZnSO_4$ tarkibga kiritish orqali erishildi. Yaratilgan optimal vositaning zangni tozalash samaradorligi yuqoriligi (97,7%) ilmiy asoslandi. Olingan tarkiblar IK-spektroskopik tahlillar qilindi.

Kalit so'zlar: zanglash, ingibitor, metall, limon kislotasi, IK - spektroskopiya, himoya samaradorligi.

Аннотация. Проведены исследования по получению нового поколения средств для удаления ржавчины на основе местного сырья и промышленных отходов. Наилучший результат был достигнут при добавлении фосфатной и лимонной кислот, $K_2Cr_2O_7$, $ZnSO_4$. Научно обоснована высокая эффективность очистки ржавчины (97,7%) созданного оптимального состава. Полученные составы проанализированы методом ИК-спектроскопии.

Ключевые слова: Коррозия, ингибитор, металл, лимонная кислота, ИК-спектроскопия, эффективность защиты.

Annotation – Research has been conducted to obtain a new generation of rust cleaning products based on local raw materials and industrial waste. The best result was achieved with the addition of phosphate and citric acids, $K_2Cr_2O_7$, $ZnSO_4$. The high efficiency of rust removal of the created optimal content (97.7%) has been scientifically substantiated. The resulting compositions were analyzed by IR spectroscopy.

Keywords: corrosion, inhibitor, metal, citric acid, IR spectroscopy, protection efficiency.

Introduction. Improving the efficiency of reliable and long-term maintenance of all objects of metallurgical systems, enhancing their resistance to aggressive environmental effects has always been important tasks. It is known from world experience that metals often deteriorate before the service life, specified in the project. Moreover, the reliability and durability of these structures are determined only by the effectiveness of the applied protective equipment.

Even though today there is a lot of research on the prevention of metal corrosion in various sectors of the economy of industrialized countries, this issue remains one of the unsolved problems.

Numerous scientific studies have been carried out to create cleaning compositions from corrosion residues formed on the surface of steel samples. Most of them were synthesized based on phosphoric acid, furfuryl alcohol, hydrolyzed lignin, and urotropine [1-2]. The second side of the matter is that the concentration of phosphoric acid in the solution must be optimal for the formation of phosphate shells. In cases of high concentrations of phosphoric acid, in addition to rust removal, metal melting is also observed [3-4].

The effectiveness of cleaning a metal surface with phosphoric acid from atmospheric corrosion has been studied in many scientific studies. Protective layers of water-insoluble phosphates form mainly on metal surfaces. The protective characteristics of samples of carbon steel with a phosphate coating have been measured. The tests were carried out in the temperature range 20–75 °C, the ratio of the sample area to the solution volume was 0.5–3.0 dm² / dm³, and optimal compositions of phosphating solutions were developed, in which it was impossible to completely carry out the tests to immediately clean the rusted surfaces [5-7].

This article presents the results of research on taking a new generation of rust cleaners that quickly clean a rusty surface in various aggressive environments and are devoid of the listed disadvantages. Phosphate and citric acids, salts K₂Cr₂O₇, ZnSO₄ served as raw materials in this scientific work [8-10].

Initially, the effectiveness of rust removal was studied at various ratios of phosphate and citric acid. In initial studies, 2.0-5.0% citric acid was added to the composition and tested at 25 °C for 24 hours on 50x50x5 mm stainless steel plates of various grades. The results of the study are presented in table 1 below.

The table shows that 96.09% efficiency was achieved by adding 2% citric acid to 20% phosphoric acid concentration and cleaning the surface in 25°C however when phosphoric acid concentration increased to 25% by adding 5% citric acid the efficiency rose to 97.7%.

1-table

RESULTS OF STUDIES OF PHOSPHATIC AND CITRIC ACIDS IN DIFFERENT RATIOS

№	H ₃ P O ₄ , %	C ₆ H ₈ O ₇ , %	Temperature, °C	Weight of metal under corrosion	Processing time, hours.	Metal surface mass after processing	Purification efficiency, %
1	20	2	25	3,00	24	2,59	96,09
		4	25	3,19	24	2,63	97,05
		5	25	2,91	24	1,98	97,2
2	25	2	25	2,98	24	2,39	96,5
		4	25	2,75	24	2,43	97,3
		5	25	2,61	24	1,75	97,7

To ensure that the resulting composition forms anti-corrosion coatings on the cleaned surface at the same time as washing rust, we have carried out tests by adding

potassium dichromate and zinc sulfate to this composition. The studies were carried out at room temperature (25 °C) for 24 h in a 3% NaCl solution. The results are shown in Table 2.

2-table

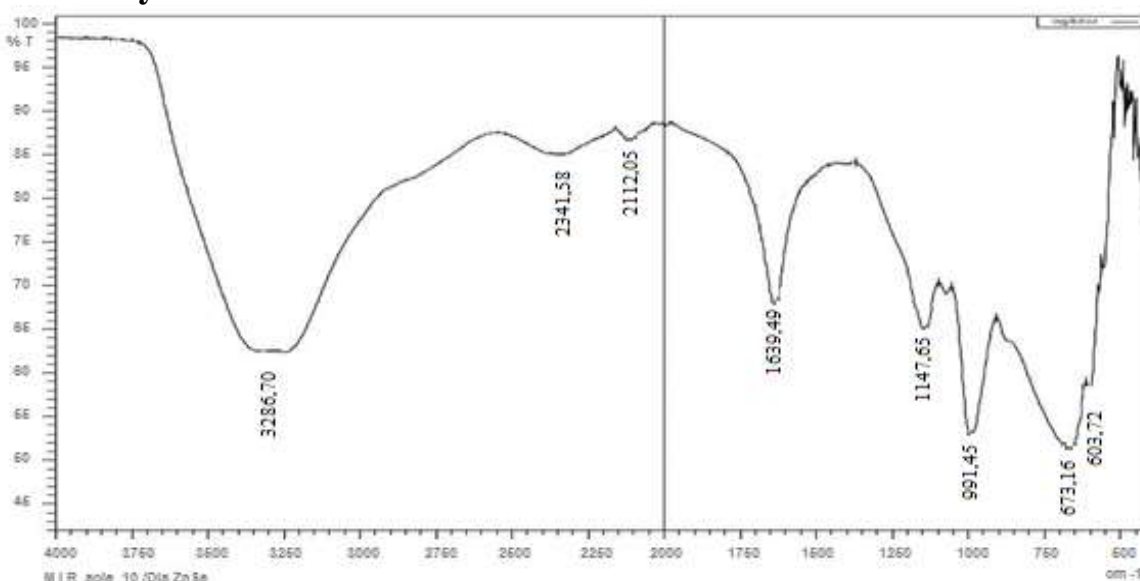
RESULTS OF DETERMINING THE MECHANISM OF INHIBITION BY THE INFLUENCE OF ZINC SULFATE IN THE CONTENT

№	H_3PO_4 , %	$C_6H_8O_7$, %	$K_2Cr_2O_7$, %	$ZnSO_4$, %	Weight of metal under corrosion, g	Metal mass after processing	Protection efficiency, %
1	20	2	1,0	-	3,46	3,49	93,32
		4	1,5	-	3,06	3,04	94,5
		5	2,0	-	3,17	3,16	95,0
2	20	2	-	1,0	3,25	3,28	90,4
		4	-	1,5	3,19	3,17	90,5
		5	-	2,0	3,39	3,35	91,3
3	20	2	1,0	1,0	2,14	2,11	96,3
		4	1,5	1,5	2,02	2,00	96,6
		5	2,0	2,0	2,37	2,33	96,8
4	25	2	1,0	-	2,19	2,17	94,03
		4	1,5	-	2,56	2,51	94,07
		5	2,0	-	2,63	2,59	95,06
5	25	2	-	1,0	2,29	2,13	91,2
		4	-	1,5	2,23	2,20	91,8
		5	-	2,0	2,42	2,37	92,6
6	25	2	1,0	1,0	2,81	2,54	95,8
		4	1,5	1,5	2,34	2,21	96,08
		5	2,0	2,0	2,20	2,09	96,3

According to the results of the above table, the greatest protective efficiency was observed in the composition of 20.0% phosphoric acid, 2.0% citric acid, 2.0% potassium dichromate, 2.0% zinc sulfate, that is, 96.8% of the achieved protective effect. Basing on the results of this study, it was determined that the optimal composition is a mixture of 20.0% phosphoric acid, 2.0% citric acid, 2.0% potassium dichromate, 2.0% zinc sulfate.

It is seen from studies that potassium bichromate and zinc sulfates, which are used in cleaning the surfaces with rust, enhance the anti-corrosion effect of washed surfaces. It should be noted that efficiency indicator was higher than when using each separately, there was synergy.

1- picture IR analysis of inhibitor substance



The IR spectroscopic analysis of the obtained optimal content was carried out. The structure of their atomic electron shells, the structure of spectral lines, absorption bands, stretching and bending vibrations of atomic groups in the vibration spectrum have been determined. The results are shown in Picture 1.

3-table

IR SPECTROSCOPY RESULTS

Atomic groups	Absorption in the vibrational spectrum of atomic groups arrangement of stripes V, cm^{-1}		Composite formula
	Valence vibration	Deformational vibrations	
SO_4^{2-}	603,72	599,86	ZnSO_4
PO_4^{3-}	1147,65	991,41	H_3PO_4
$\text{Cr}_2\text{O}_7^{2-}$	1111,51	-	$\text{K}_2\text{Cr}_2\text{O}_7$
$\text{C}=\text{O}$	673,16	-	$\text{C}_6\text{H}_8\text{O}_7$ citric acid
-C-OH	3286,70	1639,49	$\text{C}_6\text{H}_8\text{O}_7$ citric acid

According to the results of IR spectroscopic analysis, stretching vibrations of the SO_4^{2-} ion in the region of 603.72 cm^{-1} were observed, which is associated with the added substance ZnSO_4 to the inhibitor. The ionic group PO_4^{3-} , belonging to orthophosphate acid, is in the region of 1147.65 cm^{-1} and 991.41 cm^{-1} , the $\text{Cr}_2\text{O}_7^{2-}$ ion belonging to potassium dichromate is in the region of 1111.51 cm^{-1} , and the Atoms group is $\text{C}=\text{O}$, belonging to citric acid are 673.16 cm^{-1} in the region of cm^{-1} , while the group of atoms -C-OH shows stretching and deformation vibrations in the regions of 3286.70 and 1639.49 cm^{-1} , respectively.

In conclusion, the main intensity peaks observed in the IR spectrum of the modifier material are in the region of 991.41 cm^{-1} in the PO_4^{3-} bond of the N_3RO_4 substance, in the region of 673.16 cm^{-1} in the $\text{C}=\text{O}$ atomic group of citric acid and 3286 in the group -C-OH atoms. 70 and 1639.49 cm^{-1} correspond to stretching and



deformation vibrations in the regions. This, in turn, indicates that phosphate and citric acid are the main constituents of the inhibitory substance and its predominance in the context of chemical action.

The physical and mechanical parameters of the instant rust and inhibitor removal were determined, the results are presented in the table below.

4-table

Physical and mechanical peculiarities of rust cleaners

Name of indicators	Standart
1. Appearance	A homogeneous fluid
2. Color	From light green to brown
3. Smell	No
4. Mass fraction of phosphoric acid, (at the expense of P_2O_5), %	20,0-22,0
5. Mass fraction of water, %	61,5-72,5
6. Mass fraction of citric acid, %	2-5
7. Mass fraction of potassium bichromate, %	1,0 – 2,0
8. Mass fraction of zinc sulfate, %	1,0 – 2,0
9. Concentration indicator of hydrogen ions (pH)	2,3-2,5
10. Crystallization temperature, not low, °C	-20,0
11. Solidity, kg/m^3	1180,00 – 1190,00
12. Emission, g/m^2 , max	85,0
13. Strength of adhesion to metal in shear (adhesion), MPa, minimum	4,0
14. Impact resistance, n·m, min	1,9
15. Flexibility, mm, max	7,0
16. Electrolytic conductivity., $\Omega \cdot cm^2$, min	1 · 10 ¹⁰
17. Protective efficiency, %, min	
- from general corrosion	99,6
- from sulfide corrosion under influence	95,0
18. Complete duration, hours, max	12
19. Applicable climate range	Not limited
20. Resistance to atmospheric conditions	Durable
21. Resistance to variable temperatures	Durable
22. Expected lifespan, 6 mm thick, days, at least	1000,0
23. The duration of the full formation of the protective layer, hours, no more	12

Created means for cleaning from rust are intended for chemical cleaning and protection from corrosion residues of surfaces of various corrosion products and corroded metals. Under the action of this tool, an anti-corrosion coating of the metal surface is formed, which is resistant to prolonged exposure to hydrogen sulfide, acidic, alkaline, water-salt and other abrasive environments.



Conclusion

1.The optimal composition of a new type of anti-rust detergent based on phosphate and citric acid has been found. According to it, the purification efficiency of the composition of 20.0% phosphoric acid and 2.0% citric acid was 97.2%.

2.Studies have shown that when the components of the composition are used together, namely potassium dichromate and zinc sulfates, in comparison with the use of separate anticorrosive agents, their inhibitory power is several times higher, that is, the phenomenon of synergy is observed. It was found that the optimal composition is 20.0% phosphoric acid, 2.0% citric acid, 2.0% potassium dichromate, 2.0% zinc sulfate.

3. The rust-washing properties of this composition were tested in sulfuric acid, hydrochloric acid, salt water and ordinary water at a temperature of 10°C for 24 hours on a 50x50x5 mm stainless steel plate and found to fully meet the requirements of GOST.

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