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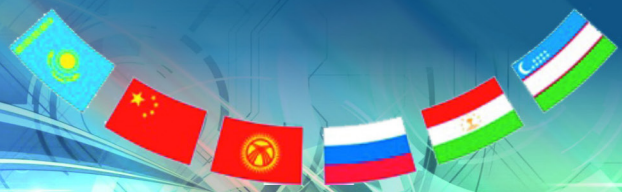
SCIENTIFIC RESEARCH OF THE SCO COUNTRIES: SYNERGY AND INTEGRATION

上合组织国家的科学研究：协同和一体化

International Conference



Beijing, China 2019

上合组织国家的科学研究：协同和一体化
国际会议

参与者的英文报告

International Conference
“Scientific research of the SCO countries: synergy and integration”

Part 1: Participants’ reports in English

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这些会议文集结合了会议的材料 – 研究论文和科学工作者的论文报告。 它考察了职业化人格的技术和社会学问题。一些文章涉及人格职业化研究问题的理论和方法论方法和原则。

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These Conference Proceedings combine materials of the conference – research papers and thesis reports of scientific workers. They examines tecnical and sociological issues of research issues. Some articles deal with theoretical and methodological approaches and principles of research questions of personality professionalization.

Authors are responsible for the accuracy of cited publications, facts, figures, quotations, statistics, proper names and other information.

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CONTENT

ECONOMICS

Foreword

We thank all participants of our conference "Scientific research of the SCO countries: synergy and integration" for the interest shown, for your speeches and reports. Such a wide range of participants, representing all the countries that are members of the Shanghai Cooperation Organization, speaks about the necessity and importance of this event. The reports of the participants cover a wide range of topical scientific problems and our joint interaction will contribute to the further development of both theoretical and applied modern scientific research by scientists from different countries. The result of the conference was the participation of 83 authors from 7 countries (China, Russia, Uzbekistan, Kazakhstan, Azerbaijan, Tajikistan, Kyrgyzstan).

This conference was a result of the serious interest of the world academic community, the state authorities of China and the Chinese Communist Party to preserve and strengthen international cooperation in the field of science. We also thank our Russian partner Infinity Publishing House for assistance in organizing the conference, preparing and publishing the conference proceedings in Chinese Part and English Part.

I hope that the collection of this conference will be useful to a wide range of readers. It will help to consider issues, that would interest the public, under a new point of view. It will also allow to find contacts among scientists of common interests.

Fan Fukuan,
Chairman of the organizing committee of the conference
"Scientific research of the SCO countries: synergy and integration"
Full Professor, Doctor of Economic Sciences,
member of the Chinese Academy of Sciences

前言

我们感谢所有参加本次会议的“上海合作组织国家的科学研究：协同作用和整合”，感谢您的演讲和报告。代表所有上海合作组织成员国的广泛参与者都谈到此次活动的必要性和重要性。参与者的报告涵盖了广泛的主题性科学问题，我们的联合互动将有助于不同国家的科学家进一步发展理论和应用的现代科学研究。会议结果是来自7个国家（中国，俄罗斯，乌兹别克斯坦，哈萨克斯坦，阿塞拜疆，塔吉克斯坦，吉尔吉斯斯坦）的83位作者的参与。

这次会议的召开，是学术界，中国国家权力机关和中国共产党对维护和加强科学领域国际合作的高度重视的结果。我们还要感谢我们的俄罗斯合作伙伴无限出版社协助组织会议，准备和发布中英文会议文集。

我希望会议的收集对广大读者有用，将有助于在新的观点下为读者提供有趣的问题，并且还将允许在共同利益的科学家中寻找联系。

范福宽，
教授，经济科学博士，中国科学院院士，会议组委会主席“上合组织国家科学研究：协同与融合”

市政府业务流程参与者的财产管理文化
CULTURE OF PROPERTY MANAGEMENT OF PARTICIPANTS IN BUSINESS PROCESSES OF MUNICIPAL GOVERNMENT

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注解。 本文论述了市政府业务流程的改进以及负责小企业服务发展的单位的新职能。

关键词：管理的社会文化方面，财产，管理文化，业务流程。

Annotation. *The article deals with the improvement of business processes of municipal government and the new functions of the units responsible for the development of small business services.*

Keywords*: socio-cultural aspects of management, property, management culture, business process.*

The significant effect of small business as a market instrument has long been noted abroad. The phenomenon of its influence on the economic, social and technological development of the country and the ability to stabilize the processes occurring in these areas are constantly paid close attention. A special role for small business is assigned to the development of the service sector, which acts as a kind of indicator for assessing the level of development of the economy of any country, region and municipality. The solution to the problem of managing the development of the economic base of a municipality is associated with an increase in the economic and organizational culture of all participants in business processes in the small business of services, as well as municipal officials. However, the development of economic culture is associated not so much with the creation of a theoretical concept, as with the practical development of a culture of property management of all promising forms at the current moment. This is due to the fact that the relevance of private property is reduced due to its negative impact on the behavior of not only entrepreneurs, but of the entire population, which is now forming a society of unrestrained consumption, destroying both nature and man.

Thus, in particular for the service sector, the economy of a socially oriented society, which is mixed from different forms of ownership, becomes more productive. At the municipal level, this will require some expansion of powers and units responsible for the development of the economic base of local self-government based on the development of an innovative entrepreneurial infrastructure of the services sector [1].

Figure 1 shows the mechanism for attracting the initiative population (owners) as investors and participants in small business services.

The most important conditions for the operation of this mechanism are:

1. Mutual benefit of combining the interests of a citizen for the realization of personal property objects and a specific object of the service sector, when each party receives income from the joint use of personal objects (as an individual) and / or joint property of a municipal entity and a small business of services.

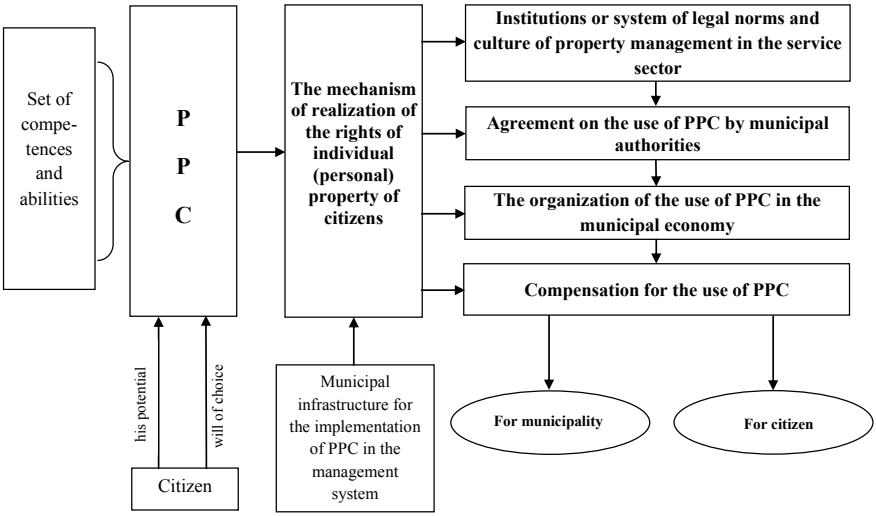

Figure 1. *The mechanism of realization of the right of ownership of personal and other property of a citizen (PPC) in the service sector*

2. Creation of a developed market infrastructure, as well as the application of the rule of law in the form of a system of municipal contracts for the use of citizen's property objects, as well as the rules of the culture of personal property management and other forms for using or using personal (and other) property participation in its management [3].

3. Ensuring the trustful realization of property rights, both among citizens and municipal officials.

Today we can talk about the typicality for the regional and local level of a problem management situation. Its essence is that a small business in the service sector can develop only within the framework of regional strategic programs. However, funds are needed for the development of the service sector within the municipality, but their chronic shortage in the local budget is explained by the narrow tax base for incomes of municipal property and poorly developed small business. And this base cannot be sufficiently replenished by subsidies from the central and regional governments. Therefore, the municipal funds needed to support the development of small business services are also chronically lacking. Thus, the range of problems seems to be closed, but the problem of forming a middle class from the wealthy population due to its active participation in business processes and an increase in tax revenues from it has remained acute for many years for most Russian municipalities. Moreover, in the development programs of municipalities, this goal is not always indicated. As a result of the management problem that has arisen, municipalities do not have the economic capacity to fulfill their mission of maintaining and developing the services sector.

To get out of the problem, we can offer a strategic management scheme adapted to the development of the service sector in the municipal management system. It contains a number of managerial actions of the subject of the municipality, which can be executed by officials as the procedures of social management within the framework of the technology of municipal management:

1. goal-setting, containing the stages of analysis and socio-cultural integration of all initial interests (population, small business, services, administration) to develop the Mission of the municipality, as well as to build a system of long-term goals that ensure it [2];

2. the choice of development management methods that ensure the integrity of such an object as an economic system of a municipality with a subsystem of property management culture: indirect impact, supporting initiatives of various groups of owners from below, adapting and dissipating the structures and functions of small business services to changing market conditions;

3. Formation of the system of indirect management of enterprises of the service sector of various forms of ownership by creating the necessary and sufficient conditions for self-organization of small business facilities;

4. Development and creation of elements of the mechanism for attracting to the investment process owners-citizens and entrepreneurs, ensuring the development of the municipal economy as self-movement of its facilities;

5. Development of technologies for the management of new objects of indirect control:

- economic culture, as well as the culture of property management;
- production and investment potential of the population of the municipality or territory;

-the taxable base of local self-government, as a result of the business activities of all owners living in the municipality; [four]

- the infrastructure of the service sector acts as a complex object: trade, transport, marketing companies, etc .;

6. Assessment of expected results of sustainable development and adjustment of design decisions.

On the methodological basis of this technology, the economic service of local self-government carries out operations to develop and implement a program for the development of economic culture through training officials, entrepreneurs, business incubator participants, and initiators to create new service businesses in new business technologies, forms of participation in mixed ownership, forms investing in innovation in the services sector, giving them the opportunity to actually explore the subcultures of the culture of property management of various businesses m.

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俄罗斯联邦政府采购：立法基础，执行机制和问题
GOVERNMENT PROCUREMENT IN THE RUSSIAN FEDERATION: LEGISLATIVE BASIS, IMPLEMENTATION MECHANISM AND PROBLEMS

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注解。最近，在俄罗斯联邦正在进行的预算过程改革和国家财务控制系统改进的背景下，特别注意为公共需求筹集资金的公共采购程序机制。目前，在国家和市政采购领域，正在进行大规模改革，与这一领域的合同制度的过渡有关，其基础是采用系统的方法，允许所有阶段的共同商定的法律监管。采购过程，包括计划，供应商（承包商，表演者）的选择，州和市政合同的签订，执行，州和公共控制，审计和监督。国家和市政对国家和市政采购的控制行使管理国家和市政财政的职能，因为它协调客户代表的财务活动，并评估预算资金的有针对性的使用。由于在联邦，地区和市级实施预算程序，实现预算资金的最有效利用需要组织和实施州和市政控制。

关键词：政府采购，立法。

Annotation. *In the context of the ongoing reform of the budget process and the improvement of the state financial control system in the Russian Federation, recently, special attention has been paid to the mechanism for financing public procurement procedures to meet public needs. Currently, in the sphere of state and municipal procurement a large-scale reform is being carried out, connected with the transition to a contract system in this sphere, based on the application of a systematic approach that allows for mutually agreed legal regulation of all phases of the procurement process, including planning, selection of suppliers (contractors, performers), conclusion of state and municipal contracts, their execution, state and public control, audit and monitoring. State and municipal control of*

the sphere of state and municipal procurement exercises the function of managing state and municipal finances, as it coordinates the financial activities of the representatives of the Customers and assesses the targeted use of budgetary funds. Achieving the most efficient use of budget funds necessitates the organization and implementation of state and municipal control due to the implementation of the budget process at the federal, regional and municipal levels.

Keywords: g*overnment procurement, legislation.*

In modern Russia, a large share in the structure of revenues and expenditures of the state budget is occupied by the financing of the system of state and municipal purchases. Annually, a huge amount of funds is allocated to customers for the relevant fiscal year in order to ensure the functioning of the economic system and meet state and municipal needs. At the same time, it is important to note that the management of state and municipal finances should be carried out with the help of control, which allows to ensure openness and track the execution of state and municipal contracts in accordance with the norms of Russian legislation. Ensuring openness and transparency in the management of state and municipal finances remains one of the invariable priorities within the framework of the ongoing large-scale reform of the public sector. Increasing the openness and transparency of the budget system becomes an urgent task, the solution of which is connected with building a "through" system of openness of state bodies in terms of increasing accessibility and information about the state of budgets of the budget system, spending budget funds, procurement and investments, implementing state programs and effective and public control [1, p. 106].

As part of the implementation of the Federal Law No. 44-ФЗ "On the contractual system in the area of procurement of goods, works, services for state and municipal needs", in 2017, the Russian Federation announced 3.1 million open purchases of goods, works, services for state and municipal needs totaling 7.1 trillion. rubles, which is 11.4% (in terms of value) exceeds the level of 2016, including:

• at the federal level - 812 thousand purchases in the amount of 2,380.2 billion rubles;

• at the level of the constituent entities of the Russian Federation - 1.39 million purchases in the amount of 3,292.2 billion rubles;

• at the municipal level - 905 thousand purchases in the amount of 1 414.4 billion rubles.

The total volume of purchases announced in 2017, in terms of customer levels, is presented in Figure 1.

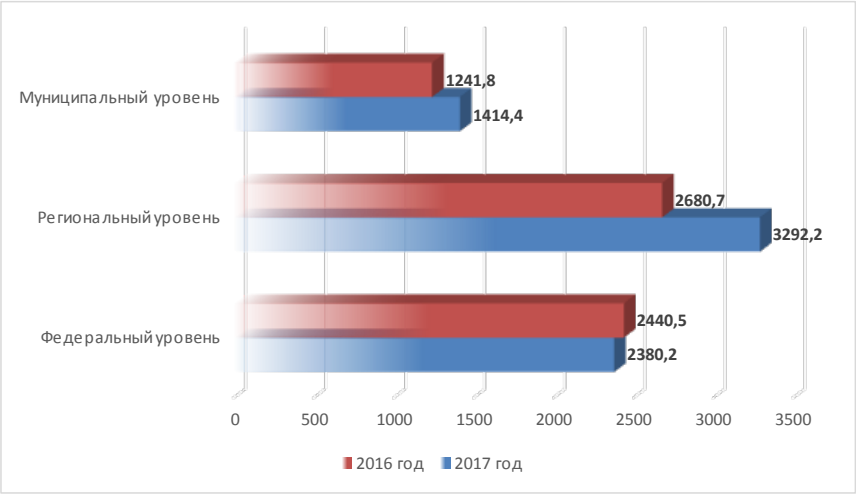

Figure 1 - *Total public procurement by budget levels, billion rubles*

* compiled by the authors according to the Procurement Portal // URL: http://www.zakupki.gov.ru

According to the results of the study of enforcement of the Federal Law No. 44-ФЗ "On the contract system in the field of procurement of goods, works, services to meet state and municipal needs", the main problems and disadvantages (risks) in the implementation of state and municipal procurement include the following:

1. Disadvantages in the regulation of procurement. In accordance with Article 19 of the Federal Law No. 44-ФЗ "On the contractual system in the area of procurement of goods, works, services for state and municipal needs", state authorities impose requirements on the products they acquire, their territorial bodies and state bodies subordinated to the specified bodies public institutions for certain types of goods, works and services (including the marginal price of goods, works, services) and regulatory costs for ensuring the functions of these bodies and their subordinate state shock institutions. At the same time, from the content of Article 19 of Federal Law No. 44-ФЗ, it follows that the indicated state bodies can approve both requirements for purchased goods, work of services and regulatory costs, and one of such documents to choose from. At the same time, in accordance with the Government Decree No. 1084 of October 20, 2014, the procedure for determining the standard costs for ensuring the functions of the federal government bodies, as well as the governing bodies of state extra-budgetary funds of the Russian Federation, including government agencies that are in their jurisdiction, Federal authorities and government bodies of state extra-budgetary funds of the

Russian Federation, Approve and place in the Unified Procurement Information System regulatory costs to ensure the functions of these bodies and public institutions under their jurisdiction. According to the order of the Government of the Russian Federation dated September 2, 2015 "On the definition of requirements for purchased federal state bodies, government bodies of state extra-budgetary funds of the Russian Federation, their territorial bodies and state and budget institutions, certain types of goods, works, services (including marginal prices of goods, works), federal bodies of state power and governing bodies of state extra-budgetary funds of the Russian Federation azrabotat and validate requirements for certain types of goods, works and services (including the maximum prices of goods, works, services) purchased by them, their territorial bodies and their subordinate state and budgetary institutions."

2. Problems of procurement planning. In accordance with Article 17 of Federal Law No. 44-ФЗ, from 2016, the procurement plan is formed during the process of drafting and reviewing the federal budget, taking into account the provisions of the budget legislation of the Russian Federation, and is approved within 10 business days after the state or municipal customer receives (or) fulfillment of obligations in accordance with the budget legislation of the Russian Federation. Budget institutions must approve procurement plans within 10 business days after approval of the financial and business plan. Analysis of the results of the audit by the Accounts Chamber of the validity of the indicators of the draft federal law "On the federal budget for 2017 and the planning period of 2018 and 2019" showed that the Customers did not always form Procurement Plans in a timely manner. Thus, the analysis of procurement planning shows that government bodies do not comply with the requirements of the legislation on the procurement contract system in terms of procurement planning, as a result of which the Procurement Plans did not fully justify the budget allocations for the procurement of goods, works, and services during the formation of the federal budget for 2017 and the planning period of 2018 and 2019.

3. Deficiencies in the substantiation of the initial (maximum) contract prices. A separate stage of the work of state and municipal customers in the implementation of their purchases is the justification of the initial (maximum) prices of contracts, prices of contracts concluded with one supplier (contractor, performer). At present, the formation of the justification of the initial maximum contract price is carried out using the price information of suppliers (contractors, performer), supplying identical or similar goods, works, services planned for procurement. At the same time, it is very likely that price data provided by potential bidders will be overestimated in relation to real market prices due to factors such as a possible decline in prices at the auction, the likely increase in market prices at the time of the conclusion and execution of the contract and other circumstances including requests for pricing information to companies affiliated with customer officials.

Therefore, open sources of information on market prices for goods, works and services, one of which, as mentioned earlier, is a catalog of goods, works and services for state and municipal needs, containing price proposals of suppliers and manufacturers, are of particular importance.

The above indicates the need to further improve the mechanism for determining the initial maximum contract price, including through introducing a catalog of goods, works, services, its subsequent update, as well as the need for a regulatory resolution of the mandatory use of the Methodological Guidelines developed by the Ministry of Economic Development of Russia. maximum contract price.

4. Problems of information support of the contract system in the field of procurement. According to the results of the expert-analytical event for 2016, it was established that the reliability of information placed in the Unified Procurement Information System (errors when placing information in registries, incomplete maintenance of the register of contracts, errors in completing the monthly reports), which is negative affects the quality of monitoring information on the functioning of the procurement system. The main disadvantages of the information support of the contract system include the following:

• preservation of the possibility of an incorrect indication by the customer of information about contracts;

• placement of unreliable information in the registers of contracts;

• indication by the customer of the application of a model contract that does not correspond to the object of purchase;

• an indication of the units of measurement of the quantity of goods, works, services that do not correspond to the object of purchase;

• the possibility of attaching to the same register number the purchase of several contracts with different register numbers, as well as the assignment to the same contract of different register numbers;

• placement of information in the procurement protocols in a non-structured form;

• so far, the integration of regional and departmental automated information systems into a single federal system has not been fully ensured [2, p. 100].

Summarizing all the above, we can conclude that during the operation of Federal Law No. 44-ФЗ, the procurement contract system has been improved. Constant analysis and control over the activities of customers in the implementation of the procurement procedure allow to identify weaknesses of the contractual system, while making changes to the law ensures the elimination of deficiencies. The exercise of control powers will be aimed at monitoring the legality and effectiveness of the use of budgetary funds [3, p. 100], which will be reflected in the resulting savings from the implementation of procurement and obtain the greatest effect.

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在具有对称和非对称分布的概率不确定性条件下的经济决策工具包住房和公共服务

ECONOMIC DECISION MAKING TOOLKIT HOUSING AND COMMUNAL SERVICES IN THE CONDITIONS OF PROBABILISTIC UNCERTAINTY WITH SYMMETRIC AND ASYMMETRIC DISTRIBUTIONS

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注解。 住房和社区部门（HCS）的一个主要功能特征与其经营实体在20多个经济部门的经济实体的活动得到保证有关。 考虑到在积极的市场改革和实施该领域整个基础设施的全面现代化的条件下，其经济实体的活动与许多不同指导因素的同时影响有关。 这种情况使我们能够假设概率不确定性几乎总是出现在他们的活动中。 因此，在开展生产和经济活动时，经济行为者经常在存在概率不确定性的情况下作出决定。

关键词：住房和公用事业，经济实体，复杂现代化，概率不确定性，决策，对称和非对称分布。

Annotation*. One of the key functional features of the housing and communal sector (HCS) is related to the fact that its functioning is ensured by the activities of economic entities in more than twenty sectors of the economy. Considering that in conditions of an active market reform and the implementation of a comprehensive modernization of the entire infrastructure of this sphere, the activities of its economic entities are associated with the simultaneous influence of many differently directed factors. This circumstance allows us to make the assumption that probabilistic uncertainty is almost always present in their activities. Consequently, in carrying out its production and economic activities, economic actors often make decisions in the presence of probabilistic uncertainty.*

Keywords*: housing and utilities, economic entities, complex modernization, probabilistic uncertainty, decision making, symmetric and asymmetric distributions.*

Introduction

Since economic entities of the HCS sphere are engaged in conducting production and business activities, it seems logical to assume that in its implementation no subject will make decisions, the consequences of which may be a loss [1, p. 301]. On the contrary, the main purpose of the activity of each economic entity in the market is to ensure its profitability. Only obtaining sufficient income allows economic entities to function and develop normally. To do this, they must reasonably make choices and make certain multi-criteria decisions when carrying out their activities under conditions of probabilistic uncertainty. An important role in solving this problem can play the use of methods of economic and mathematical modeling.

Main part

The toolkit of forming a model of choice and decision making under conditions of probabilistic uncertainty can be based on determining the preferences of an economic entity on the set of admissible probability distributions of a random set of decisions. Suppose that each solution r in some set $R = \{R\}$ of admissible probability distributions is a random variable. Further, we will assume that all descriptions of random variables can be applied almost randomly to random vectors. Then the problem of choice and decision making for random variables can be represented as the problem of forming the vector criterion $l(r, y) = (l_1 (r, y), ..., l_n(r, y))$, where $r \in R$ is a set of admissible solutions, $y \in Y$ - uncertainties. Moreover, if we consider each uncertainty factor y as a random parameter on the set Y, then the vector criterion $l (r, y)$ can also be considered a random variable.

In the subsequent reasoning, we will proceed from the fact that an admissible decision r as a random variable is equivalent to some random income d, and the problem of choice and decision-making by an economic entity is to maximize this income. For this, it is necessary that preferences are set for an economic subject on the set $R = \{R\}$ of admissible probability distributions, that is, the notion "distribution R is "better" than distribution K" is defined. We denote the preference relation by the expression $R \succ K$. The preference relation can be calculated if there exists a functional F defined on R, such that $R \succ K \Leftrightarrow F(R) \geq F(K)$.

The functional F will be called the preference indicator, since its meaning is that for countable preference relations, some number can be assigned to each distribution in order to further compare these distributions by comparing the specified numbers. In this case, the preferences on the set of distributions will be given by the natural order on the set of real numbers [2, p. 68].

If the preference indicator exists, then any strictly increasing function of it will give the same preference indicator, since the preference itself remains the same, and only the scale of the scale for estimating distributions changes. Moreover, the converse is also true: if there are two indicators of the same preference U and V, then there is a strictly increasing function q such that $V = q(U)$. This means that indicators of preference of this kind are always defined up to a strictly monotonic transformation.

A necessary and sufficient condition that a certain ratio can be specified by an indicator is the restriction of the characteristics of the distribution of a random variable to only the first two parameters, namely, its expectation m and the variance σ^2. In that case, if we are interested in the distribution of random income d of some economic subjects, then it will be quite natural to choose a distribution with a large mathematical expectation m, and in case of equality of mathematical expectations, to make a choice in favor of a distribution with a smaller dispersion σ^2. However, in practice, there are no numerical functions in order to set this kind of preference relationship impossible any. To get out of this position, we formalize a number of requirements for determining preferences of an economic subject on a set of admissible probability distributions of a random set of solutions.

Suppose that d_{x0} is a distribution concentrated at x_0. In this case, we are dealing with a degenerate distribution, since the random variable we are considering is actually deterministic and can take only one value x0. However, this circumstance does not prevent us from formally including this deterministic quantity in the aggregate of random variables. Now, if we assume that a random variable describes a certain income of an economic subject, then the condition $x_0 \geq x_1 \Rightarrow d_{x0} \succ d_{x1}$ means that the distribution improves with increasing income. In our case, the distribution functions d_{x0} and dx1 are related by the relation $d_{x0}(x) \leq d_{x1}(x)$ for all x. In the following, we use the statement that "the distribution of R is better than the distribution of K" ($R \succ K$) meant, that is:

$$R(x) \leq K(x) \tag{1}$$

for all x and all distributions, including degenerate ones.

Condition (1) will be considered a condition of stochastic dominance. In the practical activities of economic entities, it reflects their desire to increase income d.

In order to consider the assumptions associated with the desire for "stability" of income, we introduce a number of additional concepts. So, we will assume that the distribution of R is symmetric with the center of symmetry m, if for all $x > 0$ the equality:

$$R(m–x)= 1 – R(m+x+0) \tag{2}.$$

For a random income d with a distribution of R, this condition means that the following relationship between probabilities holds:

$$P\{(d-m) > x\} = P\{(d-m) < -x\} \quad (3),$$

that is, the probabilities of deviations of the random variable income d from the center of symmetry in any direction will be equal to each other.

The assumptions made above allow us to formalize the condition of "stability" of the income of an economic entity in the field of HCS as follows.

Let R and K be symmetric distributions with a common center of symmetry m and suppose that for $x \le m$ the condition holds:

$$R(x) \le K(x) \Rightarrow R \succ K \quad (4)$$

In practice, condition (4) means that if there is a random variable ξ with the distribution R, the random variable k with the distribution K, and these distributions are symmetric with a common center of symmetry m, then for all $x>0$ the condition will be:

$$P\{|d-m| > x\} \le P\{|k-m| > x\}. \quad (5)$$

In other words, if R is a normal distribution with mean m and variance σ_1^2, and K is a normal distribution with the same mean m and dispersion $\sigma_2^2 > \sigma_1^2$, then the condition for striving for stability will be the preference of distribution R to distribution K. Thus, the conditions are consistent with the requirement of stability (4) and (5) [3, p. 116]. This means that the problem of choosing and making decisions by an economic entity for obtaining some income in the conditions of probabilistic uncertainty with symmetric distributions of random variables has a solution.

However, practice shows that this is a fairly simple case. A more difficult case is the choice and adoption by the economic entity of the HCS sphere of decisions for obtaining some income in the conditions of probabilistic uncertainty with asymmetric distributions or distributions with different centers of symmetry. Indeed, if you want to compare two normal distributions with the parameters of expectation and variance of the following type, respectively, (m_1, σ_1^2) and (m^2, σ_2^2), then the economic subject must somehow relate to the desire to increase the expectation m (increase income) and reduce dispersion σ^2 (increase stability).

This problem can be solved through the definition of a preference indicator on the set of admissible probability distributions of a random set of solutions and the utility function. In this case, as an indicator of preference on the set of probability distributions, it is advisable to choose the average value of the utility function [4, p. 91]. Thus, we obtain the following expression:

$$F(R) = \int g(d)dR(d) \quad (6),$$

where $g(d)$ – utility function.

Expression (6) has the property that for any two numbers $\alpha \ge 0$, $\beta \ge 0$, $\alpha+\beta=1$, the following equality will always exist:

$$F(\alpha R + \beta K) = \alpha F(R) + \beta F(K). \quad (7)$$

In the practical activity of an economic subject, expression (7) can be interpreted as follows. If an economic entity chooses two options for generating income - 1) with probability α and with distribution R, and 2) with probability β and with distribution K, then the final income distribution for it will be equivalent to the mixed distribution ($\alpha R + \beta K$).

If income d is considered a random variable, then it can be argued that the economic entity does not seek to make risky decisions, provided

$$g(md) > mg(d) \quad (8),$$

and risk averse in case

$$g(md) < mg(d) \quad (9),$$

where m is the expectation symbol, and g(d) is the utility function.

In other words, an economic subject that is not prone to taking risky decisions will prefer a solution for which the utility of average income will exceed the average utility of income. And vice versa, an economic subject, prone to taking risky decisions, will strive to take the opposite decision.

At first glance, it seems that the use of the preference indicator (6) looks quite reasonable when comparing asymmetric distributions or distributions with different centers of symmetry. However, it is not always acceptable, since it is a linear functional.

To get out of such situations, it is advisable to use nonlinear functionals as an indicator of preferences. Consider one of the approaches to the construction of such functionals. We introduce the function of "comparative utility" $h(u,v)$, which shows how income u is represented for the economic entity "better" than income v. In this case, we assume that for $u \geq v$ $h(u,v) \geq 0$, and for $u \leq v$ $h(u,v) \leq 0$.

Suppose that a random variable of income d has a distribution R. Then the average comparative utility of the random income of an economic entity d with respect to its deterministic income v can be expressed as follows:

$$g(v) = mh(d,v) = \int h(x,v)dR(x).$$

Next, we will use the root of the equation as an indicator of preference $F(R)$:

$$g(v) = 0. \quad (10)$$

Expression (5) is a deterministic income v of an economic entity whose relative utility with respect to random income d will always be zero on average. In other words, deterministic income v is on average equivalent to the random income of an economic entity d.

If we assume that $h(u, v) = \omega(u)(f(u)-f(v))$, where ω(u) is a weight function, then the solution to equation (6) will have the following form:

$$F(R)=f^{-1}\left(\frac{\int f(u)w(u)dR(u)}{\int w(u)dR(u)}\right) \quad (11)$$

where f^{1} - inverse function.

After the formalization carried out, all the above justifications for the expressions "income d^1 is better than income $d^{2"}$ can be applied to vector criteria, since the conditions under which "vector l1 is better than vector $l^{2"}$ have already been defined. Therefore, all considerations regarding the construction of an indicator of preference under probabilistic uncertainty can be transferred to the case of the vector criterion *l*. In this case, we will speak about the distribution of the random vector *l* and the corresponding multidimensional utility function.

Conclusion

As a result of the conducted research, the possibilities of using economic instruments of the HCS sphere for the formation of a model of choice and decision making based on probabilistic uncertainty factors based on determining the preferences of an economic subject on the set of admissible probability distributions of a random set of solutions with symmetric and asymmetric distributions were substantiated.

Thanks

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投资组合分析方法在农业控股«Sayan Broiler»发展战略形成中的应用
APPLICATION OF THE METHODS OF PORTFOLIO ANALYSIS FOR THE FORMATION OF THE DEVELOPMENT STRATEGY OF THE AGRICULTURAL HOLDING «SAYAN BROILER»

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注解。从美国，欧盟成员国和其他一些国家（澳大利亚，加拿大，乌克兰，日本等）对俄罗斯及其经济实施制裁限制的主要目的是遏制俄罗斯经济的正常发展。对农业工业综合体经济实体进行生产活动的限制使它们在主要的，主要是外国的交易对手方面处于明显无利可图的条件，并对其农产品的竞争力产生负面影响。进一步扩大制裁限制范围，将其扩展到整个行业，导致这些行业的企业被迫迅速制定外国产品的进口替代战略，并将自己的生产本地化在我国境内。为此，有必要证实并正确使用一套有效的模型和方法，使企业能够在制裁限制条件下成功运作。其中之一是投资组合分析方法。本文探讨了将这种方法应用于贸易交易所上市产品的可能性，以便形成农业控股“Sayan Broiler”的发展战略。

关键词：制裁限制，发展战略，金融工具，投资组合分析方法，盈利能力 – 风险模型。

Annotation*. The main purpose of imposing sanctions restrictions against Russia and its economy from the United States, EU member countries, and a number of other countries (Australia, Canada, Ukraine, Japan, etc.) was to curb the normal development of the Russian economy. Restrictions on the conduct of the production activities of the economic entities of the agro-industrial complex put them at obviously unprofitable conditions in relation to the main, primarily foreign, counterparties and had a negative impact on the competitiveness of their agricultural products. Further expansion of the range of sanctions restrictions, their extension to entire industries*

led to the fact that the enterprises of these industries were forced to quickly develop import substitution strategies for foreign products and localize their own production within our country's borders. For this, it was necessary to substantiate and correctly use a set of effective models and methods that allow enterprises to operate successfully under the conditions of sanctions restrictions. One of them was the method of portfolio analysis. This article explores the possibility of applying this method to products listed on trade exchanges with downward and upward trends in order to shape the development strategy of the agricultural holding "Sayan Broiler".

***Keywords**: sanctions restrictions, development strategies, financial instruments, portfolio analysis method, profitability-risk model.*

Introduction

In order to preserve the competitiveness of its economy on the scale of the world economic system of the country, faced with the negative impact of sanctions restrictions, we are forced to find new ways and make additional efforts to minimize their influence and ensure their economic development. The same can be attributed to the enterprises of those branches of the Russian economy that are subject to sanctions restrictions and are forced to actively search for internal reserves in order to maintain the competitiveness of their products in the world and domestic markets. Enterprises of the Russian agro-industrial complex turned out to be among the economic entities whose activities were less affected by the negative impact of the sanctions restrictions. However, today they are also set in the condition of the need to quickly modernize their production and restructure relations with potential counterparties in order to replace foreign products, products and components, as well as technologies and equipment with domestic counterparts that were not inferior to foreign models in terms of quality and functional characteristics . In order to successfully withstand the sanctions restrictions, these changes should find their place in the developed import substitution strategies at the level of individual enterprises and entire sectors of the Russian economy.

Main part

An important role in the development of such strategies is played by the key points of the classical theory of portfolio management of financial instruments. Not only Nobel Prize Laureate W. Sharp, G. Markowitz, M. Miller, L. Kantorovich, T. Kupmans, but many other scientists were engaged in developing effective models and methods improving this theory for more than a decade [6, p. 73]. Developing the theory of portfolio formation, they came to the conclusion that the main goal of the investor is to obtain the maximum expected profit while minimizing the possible risk. In this case, a portfolio was usually understood as a certain set of financial instruments and assets that an investor has at his disposal. It can include both instruments of the same type (promissory notes, stocks, bonds), and various assets (derivative financial instruments, bank deposits, securities, stock indices, commodities).

Following the basic principles of the classical portfolio theory, for each commodity, it is necessary to calculate such indicators as yield (*Dx*) - calculated as the average value of the return on the goods in the analyzed period, risk (*Rs*) - calculated as the standard deviation from the expected return, the ratio of return to risk *(Dx / Rs)*. These indicators were calculated for 24 products of both industrial and agricultural profile (see table.). In this case, all the considered data in time were divided into two parts: training (Q_1) and verification (Q_2). The training part is designed to calculate the relevant indicators and build a model, and test to test the results. The calculated indicators were determined on the basis of the dynamics of the values of profitability over the four-year period from 01/01/2013 to 31/12/2016. (according to data received from the investment company «Finam», as well as investing.com and finanz.ru sites, with a time interval of one month).

Table

Calculated values of expected return and risk

№	Name of exchange goods	*Dx* (%)	*Rs* (%)	*Dx/Rs*
1	Oil brand «Brent»	-1,70	9,31	0,18
2	Oil brand «Light»	-1,61	9,54	0,17
3	Natural gas	-0,24	10,28	0,02
4	Aluminum	-0,62	4,97	0,12
5	Petrol	-1,68	9,36	0,18
6	Gold	-0,90	4,97	0,18
7	Mazut	-1,17	9,29	0,13
8	Copper	-0,93	5,76	0,16
9	Nickel	-1,23	7,58	0,16
10	Tin	-0,46	5,35	0,09
11	Palladium	-0,46	9,13	0,05
12	Platinum	-1,26	6,26	0,20
13	Lead	-0,30	6,50	0,05
14	Silver	-1,92	7,65	0,25
15	Zinc	0,53	5,50	0,10
16	Wood	0,36	6,95	0,05
17	Wheat	-1,83	8,77	0,21
18	Sugar	-0,50	7,93	0,06
19	Cocoa	0,65	5,22	0,12
20	Rape	0,72	4,82	0,15
21	Pic	-0,82	5,52	0,15
22	Corn	-0,94	8,19	0,11
23	Oats	-0,65	10,82	0,06
24	Beans	-0,46	7,15	0,06

All commodities, with the exception of zinc, cocoa, rapeseed and wood, were in a downward trend (bearish). Based on this, we divide the goods under consideration into 2 subgroups: with an upward trend (UP subgroup) and a downward trend (DOWN subgroup). Consequently, for zinc, cocoa, rapeseed and wood, further considerations will be considered from the point of view of prospects for the continuation of the growth trend, and for all others - the tendency for a decrease in prices. The table shows the absolute values of returns. The distinct leader of the UP subgroup is rapeseed, which has the highest return with the lowest level of risk. Thus, a reasonable investor in the formation of an investment development strategy will prefer rapeseed, which has the prevailing values for these indicators, since it is the best choice in terms of the ratio of profitability and risk.

We turn to the consideration of the subgroup with a downward trend (subgroup DOWN). Following the basic provisions of the portfolio analysis, we exclude from consideration goods that [1; 2]:

a) with a commensurate return, they have less risk;

b) with equal values of risk, they have large indicators of average profitability;

c) are obvious outsiders, both when considering the profitability of a given commodity and the risk relative to other commodities of the analyzed stock exchange subgroup.

The identified downstream market leaders are: Brent oil, gold, platinum, silver, wheat and rice.

For approbation of the obtained results, exchange commodities of the UP and DOWN subgroups were analyzed. Let us remind by the DOWN subgroup: in the considered period of time, it is implied that the investor will only open short positions for profit. The formed simplest portfolio with equal weights of the six leading goods was tested on the test part (Q_2) of the historical sample from 01/01/2017 through 10/31/2018, i.e. tested the performance of the synthesized model on "fresh" data. The composition of the leading group was not revised throughout the entire investment horizon, that is, the newly received information, the results of technical and fundamental analyzes were not taken into account and, moreover, all further calculations were performed without taking into account commission fees. This means that tests of a subgroup of industry-leaders were conducted in the most "difficult" conditions. The procedure itself is implemented in such a way that the calculations were carried out with a cumulative total from January 2017 to October 2018.

In the DOWN subgroup, the results of testing the synthesized model indicate that the initial assumption about the potential for effective investment operations on products that showed negative returns did not justify itself, and therefore, in the future, only those products that are in the past demonstrated a positive average return on the training set.

Prices for products used for the preparation of feed, such as: corn, wheat, beans, coffee, sugar and many others, are subject to significant fluctuations. To reduce the level of risk in working with them, an attempt was made:

a) by means of the main provisions of the portfolio theory to identify a subgroup of leaders among the commodities under consideration;

b) based on the remaining data, build a profitability-risk model;

c) based on this model, rank commodities based on expected price movements;

d) on the basis of price forecasts obtained using empirical models and identified leaders according to the profitability-risk model, formulate the basic principles for the formation of the optimal development strategy of the agricultural holding "Sayan Broiler" within the considered time period [1, p. 268].

The size of the training sample is selected in accordance with the recommendations for the study of price fluctuations over time periods from one to five years [4, p. 251]. All further calculations are made with absolute returns, which are presented in the table, except for rape and cocoa averages, since the average yield for these commodities is positive. The above means that in the time interval under consideration, prices for wheat, sugar, rice, corn, oats and beans were in a downward trend, while prices for rapeseed and cocoa were rising. All further reasoning for the first subgroup of goods (DOWN) will be considered from the point of view of prospects of continuing *the trend of lower prices*, and for the second (UP) - *growth trends*.

We exclude from further consideration the products that are on the bottom-right dispersion chart located at the bottom right [1, p. 269].

Based on the remaining data (group of leaders) of the table, an empirical model describing the dependence of the level of profitability on risk is constructed: the profitability-risk model:

$$Dx = 0{,}16Rs;\ R^2 = 0{,}79$$

where Dx – expected yield, Rs – risk, R^2 – coefficient of determination.

The significance of the coefficient of the regression equation at the 95% confidence level and the relatively high value of the coefficient of determination indicate the practical suitability of the model. As follows from the model, an attempt to increase profitability by 1% causes an increase in risk of 6.25%. In its essence, the outlined system of forming the investment policy of business entities is close to the "winner model" [5]. A comparative analysis of the risk / risk ratio of various markets (currency, stock (Russian and US), commodities (including the agricultural sector, industry market, etc.) showed that this ratio is expected to be lower for agricultural products [3, p. 354].

Consider the main points of making investment decisions in the framework of the development strategy on the example of the agricultural holding "Sayan Broiler". In general, the task is formulated as a classical problem of finding the

extremum of a function of several variables (objective function) with a number of restrictions and control parameters. Limitations may include limited funds, non-negativity of variables, etc. In turn, the management parameters are the size of the acreage for specific agricultural crops at the Kuytunskaya Niva enterprise, the volume of purchases for each crop and for each farm, etc.

To develop sound investment decisions, the system under consideration is equipped with a mathematical model that allows predicting, with satisfactory accuracy for practical purposes, the price dynamics of the crops being studied. For this purpose, a system of empirical models was synthesized, which allows one month in advance to predict the price dynamics of certain commodities in the agricultural sector [1, p. 268].

Consider a few special cases of the formation of investment decisions in the framework of the development strategy on the example of the agricultural holding "Sayan Broiler".

1. The analyzed product belongs to the UP subgroup. Therefore, within the nearest investment horizon, an increase in prices for this product is expected. In order to optimize (in this case, minimize) future expenses, it is necessary (if the season allows) to increase the acreage for this crop at Kuytunskaya Niva enterprise, or, by means of derivative financial instruments, fix supply volumes and the level of purchase prices in the future. The goal can be achieved by investing forward in some other way, for example, by leasing equipment (a kind of derivative financial instruments).

The clear leader of the UP group is rapeseed. An estimation of the investment horizon has been obtained for this agriculture - no more than seven months and the cumulative profit for the specified period was 16.8%, i.e. 2.4% per month. According to the management of the agricultural holding Sayan Broiler, the cultivation of rape at Kuytunskaya Niva enterprise will not only provide the agricultural holding with a high-quality protein supplement, but also allow it to be supplied to the oil and fat plants of the Irkutsk Region and Buryatia, as well as exported to China.

2. If a product from the DOWN subgroup, then the supply contract can be concluded in such a way that the conditions in it take into account the price trend in the nearest periods. Or, it is necessary to reduce the cultivated area for this crop in your own enterprise in the hope of an expected price reduction. In both cases considered, in order to increase the efficiency of the decisions made, it is necessary:

a) with the help of empirical models to develop forecasts of the expected prices for the considered culture [1, p. 268];

b) using technical and fundamental analysis methods to evaluate the current situation and possible options for price movements.

Conclusion

Based on the results obtained during the research, the following conclusions can be formulated:

1. Among the economic entities, whose activities were less affected by the negative impact of sanctions restrictions, were enterprises of the Russian agro-industrial complex. However, today they are also set in the condition of the need to quickly modernize their production and restructure relations with potential counterparties in order to replace foreign products, products and components, as well as technologies and equipment with domestic counterparts that were not inferior to foreign models in terms of quality and functional characteristics .

2. An important role in the development of such strategies is played by the key principles of the classical theory of portfolio management of financial instruments, as well as the profitability-risk model developed by the first two authors.

3. To test the results obtained, the exchange commodities of the UP and DOWN subgroups were analyzed. All further considerations for the first subgroup of goods will be considered from the point of view of the prospect of continuing the trend for lower prices, and for the second growth trend.

4. The constructed empirical model describing the dependence of the level of profitability on risk - the profitability-risk model allows, by additional analysis, not only to increase the reasonableness of the forecasts, but also to optimize the planned expenses, freeing up the necessary financial resources to form the development strategy of the Sayan Broiler agricultural holding.

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开发用于预测农产品库存价格的自回归模型及其作为农业控股«Sayan Broiler»的形成策略的用途

DEVELOPMENT OF AUTOREGRESSION MODELS FOR PREDICTING STOCK PRICES FOR AGRICULTURAL PRODUCTS AND THEIR USE AS TOOLS THE FORMATION STRATEGY OF THE AGRICULTURAL HOLDING «SAYAN BROILER»

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注解。本文的主要目的是研究开发自回归模型的可能性，并利用它们来预测Sayan Broiler农业控股公司为其生产活动购买的最重要农产品的股价动态。我们的研究对象是农业控股“Sayan Broiler”在制约限制购买外国农产品的条件下的生产活动。研究的主题是选择建模和核算农产品股票价格动态，形成企业发展战略。

相关分析和自回归模型被用作研究的方法论基础。它们的应用是基于这样的假设，即未来时期股票价格与前期价值存在显着的相互依赖关系，在此基础上形成线性函数并开发自回归模型。

作为研究的结果，基于农产品交换价格统计数据开发自回归模型的可能性得到了证实，这些数据允许预测即将到来的时间段（月，季度，年）的动态变化。

获得的预测使Sayan Broiler农业控股能够在短期内客观地反映饲料采购价格，优化其投资组合，迅速包括与该地区农民和农民的合同，其中的相互作用对农业最有利。在特定的时间段内举行。

关键词：自回归模型，股票价格，预测，发展战略。

Annotation*. The main goal of this article is to study the possibilities of developing autoregressive models and using them to predict the dynamics of stock prices for the most important agricultural products purchased by the Sayan Broiler*

agricultural holding for its production activities. The object of our research is the production activity of the agricultural holding "Sayan Broiler" in the conditions of sanctions restrictions on the purchase of foreign agricultural products. The subject of the research is selected modeling and accounting of the dynamics of stock prices for agricultural products in the formation of an enterprise development strategy.

Correlation analysis and autoregressive model are used as the methodological basis of the study. Their application is based on the assumption that there is a significant interdependence of stock prices in future periods on their values in previous periods, on the basis of which linear functions are formed and autoregressive models are developed.

As a result of the research, the possibility of developing autoregressive models based on statistical data on exchange prices for agricultural products, which allow to predict the change in their dynamics for the upcoming time period (month, quarter, year), is substantiated.

The obtained forecasts allow the Sayan Broiler agricultural holding to have an objective view of feed purchase prices in the short term, to optimize its investment portfolio, quickly including contracts with farmers and farmers in the region, the interaction with which is most beneficial for the agricultural holding in a specific time period.

Keywords*: autoregression model, stock prices, forecasting, development strategy.*

Introduction

The Russian economy has been operating under sanction restrictions for almost five years. Of course, their introduction has had a negative impact on most of the leading industries and enterprises of the most different types of industrial activity. Largely due to the timely introduction by the Government of the Russian Federation of reciprocal restrictions on the supply of foreign agricultural products and the provision of financial support measures, enterprises of the Russian agro-industrial complex were less affected by the sanctions restrictions. At the same time, the majority of Russian agro-industrial enterprises were faced with the need to replace foreign suppliers and promptly search for domestic producers able to promptly satisfy their requests in the required volumes.

Since the Russian agro-industrial complex is represented by a sufficiently large number of enterprises, when choosing them as potential counterparties, the exchange price for agricultural products set by each enterprise plays an important role. In this regard, the development of effective tools for the rapid tracking of the dynamics of exchange prices for agricultural products is of great importance. As such a tool, the article substantiates the possibility of using correlation analysis

methods for the development of autoregressive models of exchange prices. The models proposed for some types of agricultural products were verified on statistical data of the last 1-1.5 years and showed their suitability for predicting the dynamics of exchange prices for agricultural products. This means that they are quite applicable in practice for shaping the development strategy of the Sayan Broiler agricultural holding.

Main part

1. Subject area of study. As a subject area of research, the time series of exchange prices for such types of agricultural products as wheat, sugar, and rape, representing their dynamics over time, were considered. Note that the time series implement some model of a random process. The methods used for estimating parameters from known (observable) values of exchange prices of a given time series allow us to construct a short- or long-term forecast of their future values depending on the availability and required volume of values of the observed statistical sample. The resulting estimates are not always the exact values of stock prices, so you need to make a certain tolerance for possible inaccuracy of the forecast.

2. The purpose of the study. The aim of the study is to predict the dynamics of stock prices for the next time period on the basis of a certain sample of statistical data and an assessment of the suitability of the results for practical use in shaping the development strategy of the Sayan Broiler agricultural holding [5, p. nineteen].

3. Baseline. Baseline data is a numeric one-dimensional array of exchange prices for various types of agricultural products: $y^{(1)}, y^{(2)}, y^{(3)}, \ldots, y^{(n)}$. Here n is the "size" of the number series. To construct a fifth order autoregression model using MS EXCEL, the following table was formed (see Table 1).

Table 1

Baseline data for building an autoregression model in MS EXCEL

Output variable	**Input variables**				
$y^{(k)}$	$y^{(k-1)}$	$y^{(k-2)}$	$y^{(k-3)}$	$y^{(k-4)}$	$y^{(k-5)}$
$y^{(6)}$	$y^{(5)}$	$y^{(4)}$	$y^{(3)}$	$y^{(2)}$	$y^{(1)}$
$y^{(7)}$	$y^{(6)}$	$y^{(5)}$	$y^{(4)}$	$y^{(3)}$	$y^{(2)}$
$y^{(8)}$	$y^{(7)}$	$y^{(6)}$	$y^{(5)}$	$y^{(4)}$	$y^{(3)}$
…	…	…	…	…	…
$y^{(n-5)}$	$y^{(n-4)}$	$y^{(n-3)}$	$y^{(n-2)}$	$y^{(n-1)}$	$y^{(n)}$

4. Research methods. As a research methodology, correlation analysis and an autoregressive model were used. Their choice was made on the assumption of the existence of mutual dependence of the values of the time series of exchange prices, the future values of which can be represented as a linear function of a fixed

number of previous ones. This means that the market "has a memory", and therefore the future values of the quotations of exchange prices of agricultural products for the time series being studied are largely determined by their quotes in the past [2, p. 178; 3, з. 137]. Moreover, to a greater extent recent in time and to a much lesser extent - far from the time period under study.

5. Risks. Risks may be due to the poor quality of the analyzed statistical data, the inadequacy of the structure of the developed mathematical model, the influence of unrecorded (external to the system under study) factors, etc. These risks include: a) forecast risk, when the real future value of quotes for agricultural products the studied time series does not fall into the constructed confidence interval; b) the risk of evaluation, when the evaluation of the parameters of the model indicates inadequate behavior.

6. Setting a research task. For the series of values of exchange prices of agricultural products for the studied time series preceding the investigated time period, the investor receives a forecast of the indicator chosen by him for one future time interval (month, quarter, year).

Below are the models that were based on the closing prices of monthly stock quotes from 01/01/2007 to 01/01/2018 received from Finam investment holding (for wheat and sugar) [6] and from Finanz (for rape) [7].

Predictive models were based on the fifth order autoregression equation. The choice of the best equation was carried out using the "manual" elimination method [3, p. 182]. The essence of which is as follows. Using MS EXCEL, the add-on "Analysis package", the "Regression" menu, we calculated the fifth order autoregression equations. Further, the absolute values of the ratio of standard errors to their coefficients were determined. The level of standard error confidence was taken at least 95%.

If all the absolute values of the standard error ratios turned out to be less than one, then the generated equation was taken as final. Otherwise, the term for which this ratio was maximal was excluded from consideration. Then a new, simpler equation was generated. This process continued until the moment when there was at least one relation whose standard error value turned out to be greater than the modulus of the corresponding coefficient. The equation obtained in this way corresponds in a certain sense to the concept of an optimal complexity model [3, p. 164; 4, p. 63].

7. Development of autoregression models.

Model of forecasting stock prices for wheat prices. Using MS EXCEL, the following autoregression equation was obtained:

$$Ps^{(k)} = 13{,}08 + 0{,}8945Ps^{(k-1)} + 0{,}0746Ps^{(k-3)};$$

$$R^2 = 0{,}93.$$

where $Ps^{(k)}$ – wheat price (USD/t), κ – time period number (bar number), R^2 – mul-

tiple coefficient of determination. The verification of this model on an independent material yielded a negative result, which is explained by the fact that since 2004 not only stock prices have significantly increased, but also their variation (see Fig. 1).

The high volatility of world wheat prices in the period under review is primarily due to:

1. Political instability in a number of regions - the main buyers of wheat on the world market (Middle East, the Maghreb countries).

2. The global financial crisis of 2008-2009.

3. The impact of adverse weather conditions - drought in Russia in 2010. According to the UN, negative weather conditions, and, as a result, a reduction in wheat yield led to an increase in quotations of American, European, Australian wheat, as well as wheat from South American countries [8].

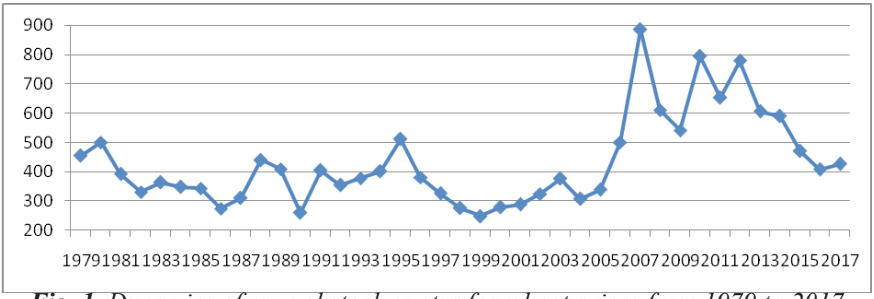

Fig. 1. *Dynamics of annual stock quotes for wheat prices from 1979 to 2017*

In order to improve the quality of forecasts, the list of input variables should be expanded with indicators such as: weather conditions (air temperature, rainfall), the state of the US dollar (through which wheat is listed), etc. [1, p. 141]. As an indicator characterizing the state of the US dollar, you can use its index (USDX). Recall that in this article the possibility of forecasting stock prices for wheat prices at the present time is estimated only on the basis of statistical data for the past several years. Testing more complex models is beyond the scope of this study.

Model forecast of stock prices for sugar. With the help of MS EXCEL, the following model of forecasting stock prices for sugar prices was obtained, one month ahead:

$$S^{(k)} = 1{,}49 + 1{,}12\ S^{(k-1)} - 0{,}2S^{(k-2)} + 0{,}07S^{(k-5)};$$

$$R^2 = 0{,}87.$$

where $S^{(k)}$ – sugar price (USD/t), κ – time period number, R^2 – multiple coefficient of determination. The value of R^2 indicates that the generated autoregression equation is quite suitable for practical use. Indeed, it was obtained according to the data from 01/01/2007 to 12/31/2016. Then the model was verified using data that was not used to build it, from 01/01/2017 to 04/31/2018. (see tab. 2).

The correlation coefficient between the actual stock quotes for sugar prices and their values, determined by the model on independent material, was 0.88, which indicates the suitability of this model for obtaining forecast stock quotes for sugar prices one month ahead. The predictive qualities of the resulting model are clearly presented in Fig. 2

Table 2

The results of the verification of the model forecast sugar prices

Date	Historical data	Model forecast	Mistake
01.2017	20,45	19,40	1,05
02.2017	19,23	20,74	-1,51
03.2017	16,76	19,02	-2,26
04.2017	16,13	16,46	-0,33
05.2017	14,87	16,40	-1,53
06.2017	13,81	15,22	-1,41
07.2017	14,91	14,29	0,62
08.2017	14,4	15,63	-1,23
09.2017	13,21	14,72	-1,51
10.2017	14,74	13,44	1,30
11.2017	15,08	15,40	-0,32
12.2017	15,16	15,44	-0,28
01.2018	13,23	15,41	-2,18
02.2018	13,38	13,14	0,24
03.2018	12,35	13,94	-1,59
04.2018	12,35	12,77	-0,42

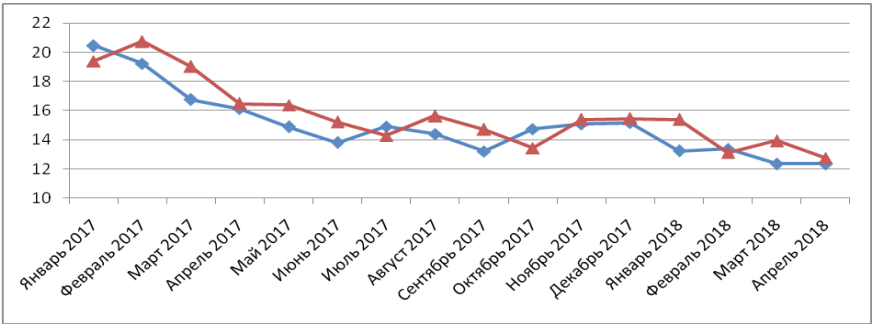

Fig. 2. *Results of model verification (predicted values are marked with a triangle)*

Rapeseed stock pricing forecast model. Using MS EXCEL, the following autoregression equation was obtained:

$$Rp^{(k)} = 22,84 + 0,909Rp^{(k-1)} + 0,251Rp^{(k-2)} - 0,219Rp^{(k-3)};$$

$$R^2 = 0,92.$$

where $Rp^{(k)}$ – rapeseed price (USD/t), κ – time period number, R^2 – multiple coefficient of determination. The value of R^2 indicates that the generated autoregression equation is partially suitable for practical use. The model was verified according to data from 01.2017 to 02.2018) (see Table 3). The correlation coefficient between the actual stock quotes prices for rapeseed and their values, determined by the model on independent material, was 0.62.

The predictive quality of the resulting model is reflected in Figure 3.

Table 3

Results of verification of the model for the forecast of rapeseed prices

Date	Historical data	Model forecast	Mistake
01.2017	416,8	413,3	3,49
02.2017	393,3	416,4	-23,12
03.2017	415	394	20,98
04.2017	352,8	407,5	-54,76
05.2017	362	361,5	0,47
06.2017	371,8	349,6	22,20
07.2017	369,5	374,4	-4,87
08.2017	368,8	372,7	-4,00
09.2017	375	369,4	5,63
10.2017	367,8	375,4	-7,60
11.2017	347,8	370,5	-22,74
12.2017	350,3	349,1	1,13
01.2018	360,5	348	12,53
02.2018	348,3	362,3	-14,04

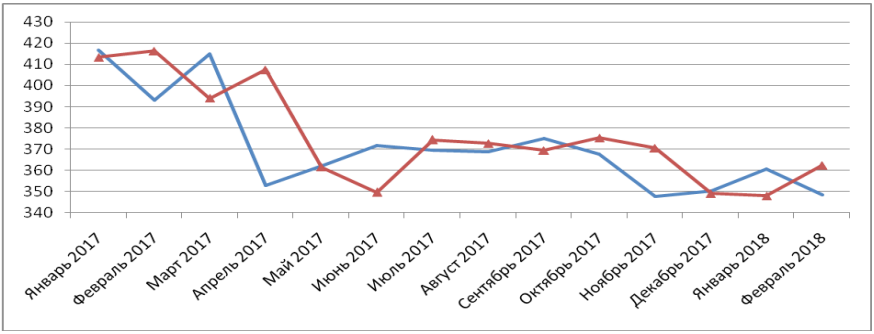

Fig. 3. *Results of model verification (predicted values are marked with a triangle).*

Conclusion

The results of testing the generated models indicate the suitability of their use in practice. Consequently, they can contribute to obtaining objective assessments of stock quotes for the purchase of agricultural products in the near future, and hence, the formation of a strategy for the development of the Sayan Broiler agricultural holding.

As directions for further research should be noted:

1) expanding the list of agricultural products listed on the stock exchange;

2) to justify the possibility of developing models that allow predicting stock quotes prices one year ahead;

3) to determine the optimal volume of statistical data, allowing to improve the quality of forecasts of stock quotes of prices for agricultural products;

4) to assess the economic efficiency of the generated forecast models in the formation of the development strategy of the agricultural holding "Sayan Broiler".

Thanks

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危机管理的应急模型
CONTINGENCY MODEL OF THE CRISIS MANAGEMENT

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注释：应急计划是高度不确定和风险环境下危机管理的重要工具，是组织危机战略的基础。 它通过危机管理负责人的决策，确保危机管理合法性和有效性的计划以及通过实施体制和组织政策，影响危机管理的成功。

关键词：应急计划，危机管理，不确定性和风险，问题管理。

Annotation. *Contingency planning is an important tool for crisis management in a highly uncertain and risky environment and is the basis for the organization's crisis strategy. It influences the success of crisis management through decisions made by the heads of crisis management, programs that ensure the legitimacy and effectiveness of crisis management and through the implementation of institutional and organizational policies.*

Keywords: *Contingency planning, crisis management, uncertainty and risk, issue management.*

The success of crisis management is based on the prediction of possible options for the development of unfavorable events for the organization, the planning of response options to crisis threats in order to minimize losses and expedite the normal operation of the organization. Almost the best way to solve these problems is situational planning, which ensures the speed, certainty, adequacy of decision-making in crisis management.

Due to the large semantic load and the variety of usage contexts, it is difficult to fully describe the content of the concept of "**situational planning**". Here the considerations of the American researcher A. Schadler, who notes: "The notion of "contingency" combines opportunity, uncertainty, unpredictability, can be useful. The simple and clear planning logic for emergencies is that the process leading to a preliminary allocation of resources, personnel, equipment, crisis management centers, tasks, responsibilities, guidelines and rules, combined with personnel training and planning for various outcomes, as well as a lot of training exercises in a "safe" environment, ensures that government agencies responsible for operation-

al and strategic political management, in conjunction with civil society institutions will be able to cope with any crisis in the best possible way" [16, 56].

The most important method of situational planning is scenario planning, which is based on the development of alternative options for the future development of the company's external environment. [3]. However, the concept of "situational planning" is broader. It includes, in addition to developing scenarios, risk assessment and finding ways to implement a plan in crisis management, such traditional planning activities as inventory of resources, development of monitoring tools for the plan (or scenario), building and using econometric models, defining a system of key indicators or indicators for assessing the effectiveness of crisis management, developing measures to prevent the deterioration of the effectiveness of key business processes (business continuity management), and others.

Situational planning is the result of an analysis of the development of a specific potentially dangerous situation (or situations), with all its particular set of crisis threats and potential for overcoming a crisis, or, in R. Pery and M. Lindell's figurative expression, "a photograph of such a pre-crisis situation at a certain point in time and in this sense, its unique characteristic" [13, 343]. In other words, situational planning is not a set of analytical tools that allow to obtain universally acceptable results, but an individualized process, the value of which is narrowly specific. This creates additional difficulties for the search and alignment of situational planning algorithms: the more unique characteristics of the process, the more difficult it is to develop common rules, and the more important are improvisation in management, the search for non-standard solutions in planning, the use of intuition to clarify the situation. All this leads to the fact that situational planning becomes a rather costly procedure, requiring investments in the preparation and improvement of professional skills of planners - a task that is considered in a number of works by modern authors. [15].

For greater efficiency, situational planning for crisis management is institutionalized: specialized bodies, institutions and organizations are created to make the processes that comprise it systematic.

Uncertainty about the future is not an insurmountable obstacle to situational planning, but rather the basis for raising the question, what are the conditions for successful situational planning, and what are the criteria for evaluating it as successful? The answer to this question lies in discussing the conditions under which situational planning can actually ensure that the situational approach is used as a kind of ideology to develop a plan or a system of interrelated plans that could serve as "blueprints" for crisis managers and at the same time provide flexibility of actions depending on specific scenarios for the development of crisis events.

For all the importance of intuition in planning and making management decisions, situational planning should be based on rational grounds. This requirement is

formulated by English researchers G. Webb and F. Chevru as "maxim of success" of situational planning, which remains "successful" as long as "it is rational, considering that it includes interaction, consistency and predictability, while as a crisis implies uncertainty, lack of information and tight time frames" [18, 168]. We will only add that the rationality of situational planning makes it possible to achieve a consistency of assessments by persons analyzing various anticrisis strategies — an important requirement for an adequate transfer of the strategic plan to crisis managers.

Crisis management is usually viewed as a set of measures that can be divided into three stages: the pre-crisis stage (which includes situational planning), the actual management in a crisis — crisis management, and the post-crisis stage, where remedial measures are taken to improve the organization's crisis sustainability. in future.

Since the success of crisis management is determined both by the quality of situational planning and the skills and experience of managers implementing crisis management, it is advisable to consider situations where the quality of situational planning and the quality of crisis management vary in a wide range: from "successful" to "unsuccessful" and from "effective" to "ineffective".

The key point here is the understanding that "successful" pre-crisis situational planning does not necessarily lead to effective crisis management and, accordingly, vice versa: effective crisis management can be combined with both successful and unsuccessful situational planning.

In more detail, this understanding can be disclosed by comparing the range of possible links between situational planning and the results of crisis management. In this case, we justify that the relationship between the quality of situational planning and the results of crisis management is much weaker than is often assumed. To do this, consider the four main types of communication.

(I). *Successful situational planning + effective crisis management = the most successful anti-crisis strategy*. This combination, when implemented in practice, is often seen as the most effective argument for situational planning. It is assumed that the crisis was successfully overcome, and its negative consequences were eliminated as soon as possible [6; 14]. Success in this case is largely determined by a large and long-term preliminary work, involving not only the consideration of various scenarios of a crisis situation, but also the accumulation and effective allocation of resources, managerial roles, responsibilities of officials, testing their managerial qualifications, preparation of solution options, draft orders , orders, etc.

(II). *Unsuccessful situational planning + effective crisis management = strategy based on crisis management.* This strategy may also be referred to as an "outstanding crisis management strategy," which led to the desired results, despite errors and failures in situational planning.

Here, the creative thinking of crisis managers, their ability to improvise can play a key role in forming a response to a crisis — a fairly typical situation for organizations where there is no systematic crisis management, but management in the event of an emergency, acts confidently, demonstrating the ability for flexible, creative management.

(III). *Unsuccessful situational planning + ineffective crisis management = strategic failure.* In this case, significant errors in planning or even the absence of situational planning are factors that play a crucial role in the ineffective response to the crisis. The situation develops but the worst-case scenario, if the crisis develops against the background of inaction or erroneous actions of insufficiently qualified managers to carry out crisis management.

(IV) *Successful situational planning + ineffective crisis management = ineffective crisis management.* This scenario assumes that, despite a well-developed plan, involving consideration of various scenarios for the development of the crisis and sufficient training of managers for action on each of the scenarios, the result, however, (to one degree or another) was an ineffective response to the crisis. This does not imply a complete failure, rather it is about overcoming the crisis, but at the cost of unreasonable casualties, inefficient, overly costly use of resources, as was the case, for example, with the liquidation of the Chernobyl accident, to which there is ample evidence.

Such a development can be caused by an incorrect assessment of the situation, the wrong choice of primary means for stopping the development of the crisis, the lack of sufficiently qualified management personnel and many other reasons that prevented the full use of the best scenario of the situational plan. R. Rosness in this regard rightly notes that “in the case of decisions made under conditions of uncertainty, a catastrophic result does not necessarily indicate a bad decision, and success is not necessarily the result of good decision-making [15].

However, unlike the previous case, in this situation, the crisis management certainly achieved the desired results: the crisis was stopped, its worst consequences were avoided, but at considerable material, moral and temporary costs. Thus, the crisis management in this case can be assessed as effective, but not effective (that is, the desired result was obtained in no way the best way). Describing this kind of situation, M. Haberfeldt and L. Clark write: “Even the most well-made plans can be useless. Confusion may reign even when scenarios of behavior in a crisis have been carefully thought out, the roles are painted, resources are concentrated. Organizations may not follow their own plans, even if their benefits are obvious. Leaders and specialists of organizations may ignore or even simply be unable to understand what confronts them. The rapid and destructive possibilities of certain crises (especially at the tops of systems already created) can overwhelm plans in seconds.” [10, 57].

The four different scenarios outlined above illustrate the complex, non-linear and sometimes unpredictable relationship between situational planning and the results of crisis management. In this regard, R. Souden rightly notes that "planning and success do not always coincide, the relationship between them can be extremely fragile or completely absent" [17, 57].

Situational planning is not a guaranteed recipe for successful crisis management, but it would be rash to abandon it. In a world where unpredictable and devastating crises have become commonplace, government authorities need to plan for emergencies to ensure public peace and political stability. Organizations also need it for similar purposes.

The problem is that such "political" achievements are not cheap. Planning processes and plans themselves often compete with each other, and in order to win in such competition they are politicized, overgrown with promises to provide political power in the event of a crisis not a decline, but an increase in its prestige, and public opinion support for anti-crisis measures taken by the authorities. Such a "hidden agenda" can reduce the effectiveness of situational planning (by increasing the cost of resources), in the event of a crisis, divert efforts to perform various optional tasks envisaged by the situational plan, and if this situation comes into the view of the opposition forces, the criticism of political crisis actions authorities will find additional and weighty arguments.

Officials and political actors involved in planning should not be exempt from criticism and control, but should also not be bullied for non-compliance of plans with political expectations. Situational planning is neither a simple recipe for success, nor political futurology. It combines both of these elements. A more balanced understanding is needed if we want to have fair and realistic expectations about what government authorities can do to prepare for crises, natural disasters and catastrophes.

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国家对投资过程的融资：来源，形式
STATE FINANCING OF THE INVESTMENT PROCESS: SOURCES, FORMS

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注解。 由于需要重组，俄罗斯经济的技术和技术更新，存在实际寻找投资来源和更深入理解融资投资理论（包括国家）的问题。 本文讨论了国家资助的对象和主题，列出了政府计划。

关键词：投资融资，形式，投资机制，预算融资，共同融资。

Annotation. *Due to the need for reorganization, technical and technological renewal of the Russian economy, there is the problem of a practical search for sources of investment and a deeper understanding of the theory of financing investments, including the state. This article discusses the objects and subjects of state funding, lists government programs.*

Keywords: *investment financing, forms, investment mechanisms, budget financing, co-financing.*

In the specialized literature on the theory of finance and investment, the generally accepted definitions of such definitions as "state finances", "investments", and "financing" have been established [1]. Finances are understood as an aggregate of economic relations between subjects, arising in the process of creating and using funds for the needs of the state and creating conditions for expanded reproduction, under investments - investing capital in order to increase it in the long term. Consequently, state financing of investments is economic relations between the subjects regarding the allocation and use of public funds for the expansion of production, the modernization of the economy, and the technological development of the country.

At the same time, the study of works, scientific articles and monographs on the financing of investments shows that there is no unity in the definition of such definitions as sources of investment, forms, mechanisms, tools for financing investments [2].

In the explanatory dictionary of the Russian language [6], the source is designated as something that gives rise to something; where does something come

from Hence, the source of financing investments will be considered the financial resources of a certain subject or set of subjects representing funds from their funds to subjects engaged in investment activities. In essence, this is the starting point from which investment funds start moving. With state funding, investment funds are drawn from one source - the federal budget and the budgets of the constituent entities of the Russian Federation, i.e. state financing of investments is always allocations from the budget, and the terms "state" and "budget" financing of investments are synonymous.

State budget financing of investments is carried out in accordance with articles 79 "Budget investments in state (municipal) property" and 80 "Provision of budget investments to legal entities that are not state or municipal institutions and state or municipal unitary enterprises" (Budget Code of the Russian Federation of 31.07.1998 No. 145-FZ).

The main objects of budgetary investments are state (municipal) unitary enterprises, autonomous and state institutions. The object of public investment belongs to the state, therefore, investments increase the capital of these objects, most often, by increasing their authorized capital, the state retains the right of ownership of the invested capital. The state provides support for investment activities and non-state enterprises in the form of contributions to their authorized capital.

Budgetary funds may be transferred to a subject engaged in investment activities directly from the budget or through special state intermediaries - state investment and sovereign funds, corporations that have recently received the status of development institutions. The budget of such funds can be formed only through transfers from state budgets or from different sources, therefore, the organization of the movement of investment funds from the source of investment to their recipient may be different and the question arises about the form of organization of relations between the subjects about raising funds.

Based on the content of financing investments, as well as the interpretation of the term "form" as an established order of something, the form of financing investments will be considered the procedure of relations fixed by law between the entity providing investment funds and the entities receiving them. The main organizational forms of state financing of investments, based on the analysis of the legislative and regulatory framework, the study of the practice of financing investments in Russia, as well as the content of this definition, include:

- program financing;
- direct investment co-financing;
- co-financing of investment projects through an investment intermediary;
- co-financing in the framework of public-private partnerships.

Program financing is carried out within the framework of state programs (SP), approved by the Government of the Russian Federation. In the passport of each program,

the performers, subcontractors and participants of the GP are indicated, the goal and objectives of the program, target indicators and indicators, stages and deadlines for implementation, the volume of budget allocations by program implementation years, the expected results of implementation. Program participants can be federal ministries, agencies, services, state budget institutions, federal universities, research centers, non-profit organizations [3]. In accordance with Article 179 of the Budget Code of the Russian Federation, the parameters for the financing of state programs are brought into line with the federal budget for the current year and for the planning period.

In accordance with the Order of the Ministry of Economic Development of the Russian Federation of September 16, 2016 No. 582 "On Approval of Guidelines for the Development and Implementation of State Programs of the Russian Federation"

information on the resource support for the implementation of the state program at the expense of the budget allocations of the federal budget of the Russian Federation is presented with the main managers of the federal budget funds and the budgets of state extra-budgetary funds of the Russian Federation (by the executive officer, co-executives and participants of the state program), by subprograms and federal target programs, the main activities, departmental target programs, sub-programs of federal targeted programs Ogram (if available). Thus, with state program funding, the flow of budgetary funds is of the form: the state - responsible executors, co-executives, participants of state programs [4].

From the standpoint of financing investments, the most interesting is the list of state programs of the block "Innovative development and modernization of the economy": Development of science and technology for 2013–2020 of April 15, 2014, No. 301; Economic development and innovative economy for 2013-2020 of 15.04.2014 No. 316; Development of the industry and increase of its competitiveness for 2013–2020 of April 15, 2014, No. 328; Development of the aviation industry for 2013–2025 dated 05.16.2016 No. 425-8; Development of shipbuilding and equipment for the development of offshore fields for 2013–2030 dated 04.15.2014 No. 304; Development of the electronic and radio-electronic industry for 2014–2025 dated 04.15.2014 No. 329; Space activity of Russia for 2013-2020 of 12/28/2012 No. 2594-p; Development of agriculture and regulation of markets for agricultural products, raw materials and food for 2013-2020 from 14.07.2012, etc. In accordance with the state programs of the block "Innovative Development and Modernization of the Economy", it is planned to implement budget allocations in the amount of 15, 745 trillion rubles [5].

Summing up, we once again emphasize that the form of state financing is the order of financing determined by federal laws and government decrees. Within the framework of the form, various mechanisms may be established that establish a scheme for the movement of investment funds between financing entities. Mechanisms suggest the presence of certain formats, i.e. instruments that reinforce the mutual obligations of investment entities, the conditions and limitations of the implementation of financing mechanisms.

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应用统一账户计划进行小额信贷机构会计核算的特点和问题
FEATURES AND PROBLEMS OF CONDUCTING ACCOUNTING OF MICROFINANCE INSTITUTIONS WITH APPLICATION OF THE UNIFIED PLAN OF ACCOUNTS

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Activity of microfinance institutions (further — IFI) is defined by the Federal law of 02.07.2010 No. 151-FZ "About microfinancial activity and microfinance institutions" (further — Law No. 151-FZ). The legal entities which are carrying out microfinancial activity, i.e. providing microloans and entered in the state register which is maintained by the Bank of Russia treat IFI.

As of January 27, 2017, the state register of IFI included more than 2560 organizations. IFIs carry out the activity in the form of the microfinance and microcredit companies (further — MKK) [1]. In the state register 10 microfinance companies, other organizations registered in the register are registered, are the microcredit companies. For conducting microfinancial activity microfinance companies have the right to raise funds of natural and legal entities. As for the microcredit companies, they can raise only funds of legal entities and natural persons — founders of the company. Between two types of the microcredit companies there are also differences in the size of the maximum microloan for natural persons, opportunities for issue of bonds, identification of the client — the natural person through credit institution.

In 2016-2017 the Bank of Russia considerably strengthened supervision of IFI regarding observance of terms of the contract of a microloan, requirements to solvency and financial stability and also to risk management [2]. Since January 1, 2018 IFIs had to pass to a unified plan of accounts and industry standards of accounting (further respectively — EPS and OSBU). Features of transition and conducting accounting are determined by EPS and OSBU by a form of implementation of activity of IFI. Transition of IFI to EPS and OSBU began still during this period when in Federal law No. 151-FZ there was no division of IFI into the microfinance and microcredit companies.

During the comparative analysis of methodology of conducting accounting

under RAS and OSBU it is possible to select provisions of accounting in IFIs which in industry standards considerably differ from the existing requirements of accounting. These are so-called innovations of accounting on EPS and OSBU which are classified on an innovation by a form and an innovation according to the contents. The innovations in a form which are defined by new approaches to conducting accounting are similar at all non-credit financial institutions and reflect structural changes of a unified plan of accounts in comparison with the operating book of accounts.

In a form can be carried to the major innovations:

• twenty-place designation of an account number;

• extension of sections of accounts for the account of allocation of new sections of balance accounts and two chapters of off-balance accounts;

• determination by signs of the accounts of additional information (about the account of the first order, the account of the second order, currency, use of trust management, a type of activity and other information);

• assignment to accounts of the status only active or passive (active and passive accounts are absent);

• introduction of the specific accounts reflecting financial activity (settlement accounts, accounts of deposits, special accounts, accounts of loans, accounts for reflection of debt financial instruments at the amortized cost, accounts of revaluation of securities on their types and categories, accounts of reserves under depreciation, accounts of income and expenses on types of operations).

Criteria of account on open categories can or be specified in the provision on a unified plan of accounts or in industry standards, or be defined by IFI independently. Therefore the analytics is classified under accounts of the second order:

• on obligatory analytics — in compliance with indications of a unified plan of accounts and industry standards;

• on voluntary analytics — at the discretion of IFI for needs of accounting, management and other accounting;

• on analytics in the form of one personal account with opening additional the analyst of the sub-account.

The department of insurance and business economics of the social sphere of the Financial university developed classification and the description of internal documents which can be developed if necessary by IFI, and recommended to include in them provisions, regulations and methodical instructions (internal standards) [3]. The special documents regulating separate processes in IFI belong to these provisions. Division of microfinance institutions into the microfinance and microcredit companies allowed the Bank of Russia to apply various approaches to the organization of accounting according to scales of business of subjects of microfinance. For the microfinance and microcredit companies similar conditions

of transition to EPS and OSBU which include actions for methodology of account and the reporting, automation of registration processes and training of employees are created. The microfinance and microcredit companies apply twenty-place book of accounts, make working book of accounts on its basis, develop obligatory and voluntary analytics on accounts of the second order. The main difference in accounting of the microcredit companies in comparison with microfinance companies is connected with a possibility of application of the provision "The Industry Standard of Accounting for Separate Non-credit Financial Institutions" which assumes the simplified approaches to accounting on EPS and OSBU in the microcredit companies. The main simplified approaches to accounting on OSBU for the microcredit companies are shown:

• in a possibility of use of methods of accounting (PBU) and OSBU federal standards with a priority of methods of accounting on OSBU over PBU;

• in a possibility of withdrawal from accounting methods on OSBU in favor of PBU at insignificant differences;

• in reduction of maintenance of accounting policies;

• in the simplified methods of accounting of the given microloans

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2018年后叙利亚的旅游业：前景和挑战
TOURISM IN SYRIA AFTER 2018: PROSPECTS AND CHALLENGES

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注解。 文章描述了现代叙利亚旅游业发展的主要前景。 重点突出的旅游目的地，旅游团体。 确定外国游客在选择叙利亚作为休息场所时应注意的因素。叙述了叙利亚政府在战后时期面临的问题。 得出的结论是，首先需要解决哪些任务才能支持该州旅游业的发展。

关键词：叙利亚旅游，叙利亚旅游问题，叙利亚战争，叙利亚前景。

Annotation. *The article describes the main prospects for the development of the tourism industry in modern Syria. Highlighted priority tourist destinations, tourist groups. The factors that foreign tourists pay attention to when choosing Syria as a place of rest are identified. The problems that confront the Syrian government in the post-war period are outlined. The conclusions are made about what tasks need to be addressed first of all in order to support the development of the tourism industry in the state.*

Keywords*: tourism in Syria, problems of tourism in Syria, war in Syria, prospects for Syria.*

The average resident of the civilized world, who follows world news reports, believes that Syria and tourism are incompatible concepts. If we proceed from the data spread by the media all over the world about Syria, then, indeed, one might think that the military conflict completely engulfed the entire country and destroyed the entire tourist infrastructure.

According to analysts of the Ministry of Tourism of Syria, many foreign citizens point out that Syria cannot be an attractive tourist destination even after the cessation of hostilities, because There is always the likelihood of a terrorist attack. Those. They note that rest in Syria is not safe. The second reason that foreign tourists do not want to visit Syria, called the destruction of historical sites. But this is a delusion, because the destruction of cultural and historical sites of the country took place in the center of Aleppo. In other areas, the fighting was not conducted at all.

Before the military conflicts in Syria, domestic tourism was well developed, which accounted for 25% of the tourist flow. The main direction of the tourist flow (80%) were the coastal areas of Syria. The number of tourists in the last two years, about 300 thousand people, and the goal of most tourists - a pilgrimage [1].

The tourism industry in Syria has begun to recover now. This is largely due to the promotion of Syrian tourism by the Ministry of Tourism of Syria and public figures. For example, they shot more than 100 video clips that reveal the benefits of recreation in the country (interesting sights, pilgrimage sites, descriptions of traditions, hotels, restaurants, etc.). All possible modern means of advertising were involved.

In 2018, for example, the Syrian Ministry of Tourism increased funding for the development of tourism on Arwad Island, which is the only island of Syria. The Syrian authorities, together with businessmen and investors, provided financial support for the restoration of the island's ancient buildings, its sights and historical sites. By the end of 2018, the island was completely ready for tourists. However, there are no hotels in its territory, and the size of its territory is small; it is possible to bypass all objects in 2 hours. But since the ancient buildings and architecture are concentrated on the island, they will attract foreign and local tourists. In the future, several luxury hotels will be built on the island.

For foreign tourists, a beach holiday will be attractive in such settlements of Syria as Latakia, Tartus, Jebla, Benyas [5]. They are considered safe; their territories were not affected by military conflicts. In addition, investors are engaged in the restoration of hotels and building new hotels. This is due to the reason that cheap hotels were populated by refugees from localities where hostilities took place. In view of what the guests-tourists were taken only in expensive hotels and hotels of the coastal cities of Syria. In 2018, the shortage of luxury hotel enterprises has already been noted by business owners. Therefore, the Syrian government offers many options and projects for building hotel complexes of the coastal territory on the terms of public-private partnership.

At the same time, it is believed that the main promising cooperation in tourism will be attracting visitors from Arab countries from Syria. This is due to the following reasons:

- in Lebanon, beach rest is not developed, in the existing hotels accommodation is quite expensive. For this reason, the inhabitants of Lebanon with an average level of wealth prefer to relax in Syria [4];
- in the countries of the Persian Gulf a hotter climate, with the presence of an alternative in the form of Syria, tourists will prefer the mild climate of the latter;
- in Syria, there are many advantages for residents of Arab countries: the lack of language and cultural facilities, loyalty to travelers, including there is no prohibition on drinking alcohol; there are no other prohibitions found in other Arab countries due to religion.

In addition to these promising tourist groups, the development of domestic tourism will intensify in Syria in the near future. This is due to the following reasons:

- the bulk of Syria's population in the near future will not be available to rest in foreign countries because of the refusal or difficulty of obtaining visas to Arab countries (especially in Europe). Therefore, tourists will choose a place of rest within the country;

- The standard of living of Syrians after hostilities has decreased, i.e. Incomes of the population are primarily directed to the purchase of top-priority products and goods. Some citizens restore their housing, health, business. Spending rest and traveling is not provided for in every Syrian family. But if they can afford a trip, then this will be the inner direction of tourism [2].

With regard to the prospects for the development of tourism in the direction of Russia-Syria, the direction may become attractive. Tourists from Russia are interested in relaxing on the Mediterranean coast. In addition, the Syrians have a positive attitude towards the Russians, and the prices for hotels and entertainment infrastructure are much lower compared to other resort countries.

However, the obstacles to the development of this tourist destination is the purchase of tickets to Syria, which can only be obtained from the representative office of the Syrian airline. In addition, there are uncertainties with obtaining a visa. Russians should provide them upon crossing the border of Syria, but in practice it is required to obtain a visa in advance [5]. It is necessary to put in order these procedures in order to increase the flow of tourists from Russia.

Currently, military operations in Syria are local. According to information reports, for 2018 in Syria, 6964 civilians were killed. After the end of the war, Syria will face many problems, including:

1) the problem of the return and accommodation of refugees. Such an event for the Syrian government will be quite costly, because it is necessary to restore the housing of citizens, to support them for the period of arrangement and job search;

2) the problem of economic recovery and infrastructure. According to experts, in the historical center of Syria destroyed about 75% of the infrastructure. The support of external partners is needed (for example, Russia, China, Iran and a number of countries have received proposals for participation in Syrian government projects) [3];

3) the problem of the existence of ISIS. In fact, it is completely impossible to destroy ISIS, the group contains too many participants, a too extensive network that can organize terrorist acts from anywhere in the world. As a result, experts note that Syria will be the target of a terrorist attack for a long time. The Syrian government is to conduct a number of reorganization efforts to strengthen the protection of order inside the country, to prevent attacks by terrorists and suicide bombers on civilians;

4) the problem of developing a new Constitution. This problem lies in the fact that the development of a new basic document of the state should take into account the interests of different religious movements, ethnic groups, in order to stop or reduce the tension between Sunnis, Shiites and Kurds. If this problem is not solved, the country may be subject to a new wave of social upheavals and civil wars;

5) the problem of restoring relations with other countries, primarily with Turkey. The solution of this problem in the future is the key to social stability and the development of Syrian society [6].

The problems listed after the end of hostilities in Syria, one way or another, relate to the development of tourism. A country with a ruined economy and low social status of the population cannot attract foreign tourists. This is due to the fact that in such a situation, the internal crime in the state will increase, which foreign tourists are afraid of. In addition, a weak infrastructure in tourism and the entertainment industry will primarily affect the choice of a country of rest. The presence of internal social conflicts, external conflicts with other countries are also important factors that attract foreign tourists. A calm atmosphere and a high degree of protection from the law enforcement agencies of the state are a guarantee of safety for holidaymakers.

Consequently, the Government of Syria in the future for the development of tourism it is necessary to solve three main tasks:

- to increase the number and level of training of law enforcement officers (this, in turn, will reduce the likelihood of an attack by terrorists and militants in the future);

- attract investors, incl. from other countries, to restore the main objects of the tourism industry and infrastructure, as well as to increase the number of buildings of hotels and hotel complexes. This not only contributes to the growth of the tourist flow, but also increases the number of jobs, which helps to reduce social tensions;

- solve problems in relations with other countries. The signing of certain international treaties contributes not only to the restoration of peace, but also to the restoration of the status of Syria in the ticket booking system. Air lines will be opened, the procedure for entering the territory of Syria will be simplified.

You can make certain conclusions. Despite the fact that the current situation in Syria cannot be called calm and favorable for the development of tourism, this industry still remains attractive (for guests, businessmen, investors). The main stake in the Syrian government is to attract foreign investors to help develop the industry, as well as to increase the tourist flow from Arab countries. Indeed, Syria, for climatic and financial reasons, is an attractive country for holidaymakers from Lebanon and from the countries of the Persian Gulf. Also in the prospects for the development of tourism in Syria, the development of domestic tourism, attracting tourists from Russia.

But before embodying the designated plans for the development of the tourism industry, Syria needs to solve a number of internal problems. The government of Syria should solve the priority problems of refugees. The system of law enforcement agencies inside the country should also be strengthened in order to prevent possible attacks by militants and terrorists. To support and develop the tourism industry, Syria needs to attract external financial resources. Similar offers have already been submitted to Russia, China, Iran. It is necessary to conduct competent negotiations in order to obtain maximum financial support.

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管理会计在经济创新过程影响下的演变
THE EVOLUTION OF MANAGEMENT ACCOUNTING UNDER THE INFLUENCE OF INNOVATION PROCESSES IN THE ECONOMY

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注解。 本文讨论了管理会计发展的动态，证实了会计科学在商业企业管理中的重要性。 强调了创新技术对管理会计结构的影响及其在管理经济实体中的作用的变化。

关键词：管理会计，会计基础设施，创新发展，会计适应形式，会计对象，信息空间管理，绩效指标。

Annotation. *The article discusses the dynamics of development of management accounting, confirming the importance of accounting science in the management of a commercial enterprise. The influence of innovative technologies on the structure of management accounting and the change in its role in managing an economic entity are highlighted.*

Keywords: *management accounting, accounting infrastructure, innovative development, accounting forms of adaptation, accounting objects, information space management, performance indicators.*

Market infrastructure in the global economy is often accompanied by two main problems: inflation and a slowdown in the development of innovative technologies. If the first problem has become a concomitant factor of a market economy and is often associated with political conflicts, the second one is justified by high demands on innovative products, the quality of which can be questioned in the context of economic crises. In addition, attempts to overcome the crisis and improve technology are accompanied by increased costs, which creates the risk of reducing the purchasing power in relation to serial and non-serial products. In such conditions, the management of innovation-oriented entities makes special demands on the information support of their management infrastructure. A significant role in this is assigned to management accounting, which in recent years has acquired a special status, both in international and in Russian management practice.

Despite the uniqueness of the applied settings of management accounting for a particular enterprise, there are typical accounting elements for management purposes, defining the essence of the management system as a whole and different from accounting elements for the purpose of generating financial statements. Gone are the days when the unified accounting system supplied external and internal users with the same information, practically in the same volume and with the same frequency. The selection of techniques and methods for obtaining multi-purpose information from a single accounting infrastructure has formed two accounting subsystems: financial (accounting) accounting and management accounting. The main role in the process of managing profitable indicators is of course given to management accounting. This is confirmed by the dynamics of adaptation of management accounting, for example, in the Russian practice of management. If we consider this dynamic, it can be divided into two stages.

The first stage (the last quarter of the twentieth century) is characterized by the adaptation of management accounting as an applied accounting concept based on the use of control procedures. In this difficult transition period, accounting has come under pressure from the contradictions between the market infrastructure and the regulatory accounting that has been operational for decades. The current situation to some extent gave rise to restrictions with respect to accounting science, as a participant in management. In this connection, against the background of the arising contradictions, the authors were looking for a new purpose of accounting science. In this way, management accounting has rightfully become an integral part of the enterprise management system.

The innovative development of management accounting in Russia was obtained at the second stage, from the beginning of the 2000s, when not only business and commerce freedom was in demand, but freedom from the existing stereotypes regarding the institution of accounting methodology appeared. In addition, the country took the path of innovative technologies, which required socio-economic, managerial-organizational and purely technological types of innovations for the country as a whole. As for the regulatory regulation of accounting technologies, in accordance with international practice in Russia, accounting regulations were developed for a number of economic categories, unifying the accounting reporting procedures and making its formats more transparent and understandable for investors.

Due to the typicality of regulatory accounting, new horizons have opened up for the improvement of management accounting and adaptation at Russian enterprises of international accounting and management techniques. The process of innovation in this area, although it can be defined, cannot be formalized under any circumstances, and its course cannot be fully predicted and predictable. The main task on the way to innovation is the expansion of management capabilities based

on innovation-oriented techniques in the field of economic management (including microeconomics).

At the same time, the complexity of the current situation lies in the fact that some enterprises, being financial donors for others, dictate to their enterprises their management ideology, not caring about territorial differences, the need for the socio-economic development of entire corporations, the state of external and internal labor demand, etc. This creates a certain cyclical nature in the development of accounting science. And this has its own "plus": it is depressed industries or corporations, and even enterprises, to innovate, including in the management and accounting system. And, on the contrary, in those regions where the former production structure is capable of generating stable income and thus creating conditions for economic and political stability, the propensity for innovative management techniques will be much lower.

As a result, the status of accounting for management purposes becomes dependent on innovation, and the analytical nature of accounting is built depending on the tasks of planning, control, analysis and motivation, but, again, in terms of innovative technologies. If an innovation is focused on economic benefits, and its emergence can bring additional income, then innovation, as a phenomenon, should be considered inextricably with the innovation transformations of the accounting process. The more qualitative the level of the innovation process, the more identical the level of accounting should be to it.

Innovative ideology obliges the company to seek accounting forms of adaptation to changing environmental conditions. At the same time, it is impossible to deny the empirical dependence - the greater the profit from the innovation that the organization expects to receive in the future, the higher the costs it should be ready for in the present. The costs of management accounting require significant investments in software, in personnel training, in the means of protecting economic information, etc.

Thus, one of the methods of the innovative approach to the management of economic entities to a greater or lesser extent is accounting, which meets the managerial interests of the innovative production technology.

As a result of the “paradigm shift in financial statements in the global economy,” management accounting begins to position itself as a point-based information management mechanism in terms of innovative technologies [1]. The allocation of management accounting in an independent category does not mean the emergence of an independent accounting industry, but only means the empowerment of traditional accounting or the practical consequences of applying accounting as such. The use of the term “management accounting” only makes it easier to convey this meaning to any opponent.

However, at present, the third stage of management accounting development

is brewing, since the content of the load on it in modern conditions is beginning to change. Enthusiasm towards him is gradually being replaced by the search for more advanced tools for solving problems that previously belonged to the field of management accounting. In the West in 2005 There was an opinion about the crisis of management accounting, as stated by the head of one of the prestigious professional associations in the field of management accounting Institute of Management Accounting (IMA). "This crisis is not very noticeable due to the existing inertia. IMA / Ernst & Young Survey of Management Accounting studies show that management accounting is still considered as a strategically important element of the decision-making and control system. Despite this, innovative solutions in this area are becoming less. And the readiness of the management of companies to invest in management accounting is reduced" [2].

The current situation is less related to the lack of interest in business management at the enterprise level. Quite the contrary. In pursuit of operational management information, the interest on the part of managers began to cover not only the accounting service, but also all divisions of the enterprise that carry the information load. This is explained by the fact that management accounting began to spread throughout the entire infrastructure of a modern enterprise. It is impossible to place all the responsibility for the preparation of information support for complex issues on the accountants, even if they have analytical experience.

The above volume of management information, which to some extent is reflected in the accounting space, is associated with the constant search for the objective cost of sales objects or the search for opportunity costs in relation to the "bottlenecks" in the enterprise. Management accounting techniques are not always enough in such a search. This is explained as follows.

In terms of innovative technology, less and less part of the costs is directly related to the production of a product. Direct cost is born only during the primary processing of the product in the main operating cycle. Next comes the turn of processes in the form of auxiliary operations, such as logistics, marketing, management, etc. At the same time, the classical management accounting system is more focused on accounting and management of the main production. However, the stronger the competition, the more important the supporting elements of the value chain.

The indirect costs associated with direct costs are difficult to distribute among the main types of products. In this connection, the problem arises of obtaining information and criteria for evaluating its objectivity with respect to dependent variables. Produced products no longer act as dependent quantities, but these may be technical processes, cost centers, and segments of activity. In relation to them, there are three main processes that are traditionally attributed to management accounting: control, cost calculation and reporting. The task of management ac-

counting is to create an optimal system for collecting, analyzing and presenting management data, alternative to the system for collecting information within management accounting. Of the traditional methods of management accounting, only the vital ones remain: documentation, a system of accounts and double entries (if it is necessary to constantly receive revolving statements), costing, evaluation of assets and liabilities.

As a result, it turned out that it is not enough to have a detailed report on the results of production accounting on the costs of each unit or on the share of its contribution to the total profit of the enterprise. It is necessary to own interrelated business processes for the company as a whole, financial flows in relation to all participants of the reproductive activity, to have an idea about the directions of capitalization of profits in conjunction with the responsibility for these operations, etc.

In addition, the desire for security in relation to risky business led to a shift of focus in management from the accounting stage to the risk forecasting stage. The whole set of techniques and methods of the budget process, which today is receiving serious attention by management participants, has become in demand. At the same time, management accounting became a mirror image of the goals that were identified as budget targets during the planning stage. As a result, the budgeting structure (in the form of the company's budget structure) dictates the structure of management accounting today. This means that as objects of management accounting should be those objects for which the budget figures are formed before the beginning of the planned period. As such objects can act as cost carriers in the form of manufactured products (works, services), structural units in accordance with the management structure of the enterprise or responsibility centers in the form of specific costs assigned by responsible managers in accordance with their functional responsibilities. Depending on what kind of analytical information is required for their compilation, the structuredness of management accounting will be formed.

The expansion of the structure of accounting information that goes beyond accounting is affected by the expansion of the requirements of the general managers of the company. For example, the need to obtain not only the cost characteristics of performance indicators, but also their quantitative parameters. As such, there may be the number of product groups between regions, the number of goods sold by sales subdivisions, the number of customers for specific goods, etc.

Another factor in this direction is the change in the relationship between performance indicators and the motivation of business participants. Companies, especially those with private capital, easily change the motivational structure of economic indicators. On the one hand, this strengthens the position of management accounting as the sole supplier of relevant analytical information, on the other

hand, the divergence between management and financial reports in this direction is growing. This is due to the fact that management accounting can not always be based on primary accounting registers and use the accounting control system to ensure the accuracy and completeness of motivational information. In confirmation of the company's motivation policy, not only economic but also legal services should take part. The legal assessment of enterprise standards will strengthen the corporate solidarity of the human factor in the distribution of a motivational fund and will allow for objective management of commodity-money relations.

As a result of the expansion of the analytical components during the management of the company, management technologies are becoming popular, which affect all departments and business processes and implies a clear distribution of responsibility for the implementation of management tasks. Modern requirements for "innovation and other types of business of the company, its interaction with the near and far environment implements a new approach to management accounting" [3]. However, the evolution of socio-economic structures will lead to the emergence of new problems and, accordingly, to the need to form a new model model of management accounting for new informational components of the economy.

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信息技术：采用模式的文献回顾和公司决策的过程
INFORMATION TECHNOLOGIES: LITERATURE REVIEW OF ADOPTION MODELS AND PROCESS OF DECISION-MAKING AT FIRM LEVEL

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注解。 在本文中，我们回顾了理论模型和框架，旨在了解创新采用的过程和影响决策采用创新的因素。 总体目标是确定公司层面的IT接受决定因素，这些决定因素可能是可修改的，因此可用于提高业务流程成功数字化的可能性。

关键词：信息/数字技术，TAM，TPB，TRA，TOE，DOI，技术采用决定因素

Annotation. *In this paper, we review theoretical models and frameworks aimed at understanding the process of innovation adoption and factors that influence decisions to adopt innovations. The overall goal was to identify IT acceptance determinants at firm level that are potentially modifiable and, thus, might be employed to increase the likelihood of successful digitalization of business-processes.*

Keywords: *information/digital technologies, TAM, TPB, TRA, TOE, DOI, technology adoption determinants*

Despite the undeniable advantages of digital and information technologies, many managers are reluctant to introduce them in their practices, that is why it is essential to identify and understand the determinants of the innovation adoption process. Nowadays, if a company wants to lead the market, it must quickly adapt to changes by establishing an innovation-friendly environment and developing new business models.

Innovation adoption literature includes different theoretical models and frameworks, amongst which Diffusion of Innovation (DOI) theory, Technology Acceptance Model (TAM), Theory of Reasoned Action (TRA), Theory of Planned Behaviour (TPB) and Technology-Organization-Environment (TOE) framework have been widely used in empirical research on the adoption of information technologies [1].

Table 1

Theoretical constructs in innovation adoption literature

Construct	Author(s)	Main ideas
DOI	Rogers	Diffusion – process by which an innovation is communicated through certain channels over a period of time among the members of a social system [2]. Adopters are divided into 5 categories: innovators (2.5%), early adopters (13.5%), early majority (34%), late majority (34%), and laggards (16%).
TRA	Fishbein and Aizen	Individual behaviour is defined by behavioural intention which is determined by the person's attitude and subjective norms regarding the behaviour in question [3].
TPB	Aizen	Based on TRA with the addition of perceived behavioural control – an individual's perceived ease or difficulty of performing the particular behavior [4].
TAM	Davis	Aimed to explain how users come to accept and use a technology. Intention to use is defined by perceived usefulness and perceived ease-of-use of the technology [1].
TOE	Tornatzky and Fleischer	Decision process is influenced by technological (internal and external technologies relevant to the organization), organizational (scope, size, managerial structure etc.) and environmental (industry, competitors, government regulation and so on) contexts [5].

Overall, researchers have considered various factors that influence the adoption of innovations, the can be divided into 4 categories:

1. Technological – innovation characteristics, including relative advantages, costs, complexity, compatibility, security, observability and trialability of the technology;

2. Organizational – internal environment characteristics such as size, top management support, IT experience, centralization, formalization, resources, specialization etc.;

3. Environmental – external environment attributes, for example, competitive pressure, government support, environmental uncertainty, external pressure, vendour support;

4. Individual – characteristics of CEO and user acceptance factors: CEO innovativeness and attitude, CEO IT knowledge; manager's age, gender, experience and education level; perceived usefulness, perceived complexity and perceived voluntariness.

Let us now look at all the determinants listed above with regard to information (digital) technologies. Digital technologies have clear relative advantages, nowadays, they are rapidly improving and becoming more accessible, even to the

small and medium enterprises. In general, more sophisticated innovations with high perceived usefulness and low complexity are more likely to be accepted by users. However, the majority of disruptive technologies meet only two of the criteria listed above because of its complex architecture. For instance, only 20% of big data generated by IOT devices that companies collect gets used for decision making [6]. Moreover, digital technologies have low observability (the degree to which the outcome of an innovation is visible to others).

Another problem is related to the observability factor, that is, the obvious benefits from the implementation of innovation. Often companies do not notice the potential of technologies due to their complex architecture. Moreover, actions of other people also affect the perception of an individual, that is why, the realization that the technology is being actively used increases the likelihood of its implementation at the firm level. Researchers consider competitive pressure as one of the most influential determinants for adopting new technologies as they can help organization gain the necessary edge over its competitors and lead to a greater market presence. Competition is a key driver of innovation as businesses are aiming to produce the best product to hit the market.

Digital innovation adoption heavily relies on top management support as it requires substantial investments. CEO and managers should also create innovation-friendly working environment and improve organizational capital as research shows there is a positive relationship between investment in organizational capital and the returns from ICT investment [7].

The Fletcher School at Tufts University have developed Digital Evolution Index, assessing more than 100 different indicators across four key drivers: Supply Conditions, Demand Conditions, Institutional Environment, and Innovation and Change. These drivers combined determine digital technologies adoption process in various countries. Authors also emphasize the importance of increasing population's digital trust as lack of it can impede the digitalization process [8].

Our analysis shows that digital innovation adoption depends on numerous internal and external factors that should be managed on different levels (B2B, B2C, B2G) by identifying and targeting unique drivers of digital development.

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无钱金钱基金的法律性质
THE LEGAL NATURE OF CASHLESS MONEY FUNDS

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注解。 在比较分析的基础上，文章研究了资金使用和电子货币的法律制度。 对他们共同的专有合同性质持有意见。

关键字：现金，现金，非现金，电子现金，所有权，责任权。

Annotation. *The article on the basis of comparative analysis examines the legal regime of the use of funds and electronic money. Settles opinion about their common proprietary-contractual nature.*

Keyword: *cash, cash, non-cash, electronic cash, ownership, liability rights.*

In accordance with Art. 128 of the Civil Code of the Russian Federation to objects of civil rights include “things, including cash and documentary securities, other property, including non-cash money, non-documentary securities, property rights”, and a number of other objects.

Since cash is the things that their owner considers his own, and all others agree with this, the owner of money has a real connection with them [13, p. 30–34]. The interest in maintaining this connection is not due to the material from which the money is made, but in the monetary units (denomination) indicated on them, since this allows us to determine and compare the cost of various tangible and intangible benefits and acquire their required amount.

When the owner transfers the money to the bank (hereinafter referred to as the client), they acquire the status of non-cash money. In this case, the legislator in relation to them uses a different terminology. Thus, in relation to cash that enters a bank and is recorded by a bank in the respective accounts, the legislator uses the term “cash”. As for money that is not recorded in bank accounts and is subject to further transfer using electronic means of payment (hereinafter EMP), the legislator in relation to them uses the term “electronic money” (hereinafter EM) (para-

graph 18 of article 3 of the Federal Law dated June 27, 2011 No. 161-ФЗ "On the National Payment System" (hereinafter the Law No. 161).

In Letter No. 249-T dated December 20, 2013, the Bank of Russia "On Providing Information to Customers-Individuals on the Features of Electronic Money Transfer Services" clarified that the latter are non-cash money in rubles or foreign currency. It follows that EM is a type of non-cash money and is covered by the term "cash".

It seems that the clarification of the Bank of Russia in relation to EM should be reflected in Art. 128 of the Civil Code of the Russian Federation, which could be presented in the following form: "The objects of civil rights include things, including cash and documentary securities, other property, including non-cash money, including electronic money...".

In legal science, basically, there are two points of view on the legal nature of non-cash funds. Some scientists characterize it as a binding law [11, p. 80–86; 1, p. 319], others - as proprietary [2, p. 28; 10, p. 263-264]. It seems to us that the legal nature of non-cash funds is proprietary. This conclusion is based on the following.

Since the receipt of money in the bank, neither their legal nature nor the economic essence change. The client remains the owner of the money, which is recorded in bank documents indicating the person who deposited the money and the number of monetary units indicated on the banknotes. The client continues to exercise in relation to money the powers of use and disposal, paying for the services of the bank in accordance with the terms of the contract. The fact that the money continues to belong to the client confirms the obligation of the bank to pay interest to the client for using the money transferred to it (Article 852, 860 of the Civil Code of the Russian Federation). If the client had lost ownership of the money deposited in the bank, then he would not receive any interest.

This conclusion is confirmed by the provisions of Art. 235 of the Civil Code, which is specifically devoted to the grounds for termination of property rights. Part 1 of this article states: "The right of ownership shall be terminated when the owner alienates his property to other persons, the owner refuses to own the property, ruins or destroys the property and if the property right to the property is lost in other cases provided by law. All other cases are listed in part 2 of this article. Not one of them concerns the conclusion of banking contracts in which the client does not alienate the money belonging to him, but transfers it to the bank for temporary use.

Additionally, we note that in regulating the powers of the client, the legislator uses terminology relating to the right of ownership. Let us explain this by the example of a bank account agreement (Article 845 of the Civil Code of the Russian Federation).

Part 1 of Art. 845 of the Civil Code of the Russian Federation expressly states that the bank undertakes to comply with the client's orders on transferring and

issuing the corresponding amounts from the account and carrying out other operations on the account. Part 2 of the same article clarifies that the bank guarantees the client's right to freely dispose of the funds in his account. Part 3 states that the bank is not entitled to determine and control the direction of use of the client's funds and impose other restrictions on the client's right to manage the funds at its own discretion, which are not provided by law or bank account agreement. In part 4 it is stated that the rights to the funds on the account are considered to belong to the client within the amount of the balance.

So, all the powers of the owner of the money transferred to the bank are reserved for the client. However, since the client enters into a bank account agreement with the bank, in addition to real rights to money, he has binding rights arising from this agreement. We are talking about the possibility of presenting to the bank demands for the correct and timely execution of operations on the account (Art. 856 of the Civil Code of the Russian Federation); bank secrecy (Art. 857 of the Civil Code of the Russian Federation); on the payment of interest for using the client's money (Art. 852 of the Civil Code of the Russian Federation); on the return of cash balance at the closure of the account (part 5 of Art. 859 of the Civil Code of the Russian Federation).

Note that in this case no transformation of property rights to money into obligations occurs. Both those and others exist in parallel. Accordingly, the legal nature of cash held in a bank can be defined as a property obligation. Upon termination of the contractual relationship with the bank, the commitment relationship is terminated, the property relationship remains. The cash balance is returned to the client. It does not matter that the same bills that he handed over to the bank are not returned to the client, because, being generic things, money is determined in public circulation not by its physical properties, but solely by its numerical relation to a certain abstract unit [7, p. 95].

In addition to the bank account agreement, the bank concludes other agreements with customers, under the terms of which cash is transferred to accounts opened by the bank. These are bank deposit agreements (Art. 834 of the Civil Code of the Russian Federation), nominal account (Art. 860.1 of the Civil Code of the Russian Federation), Escrow accounts (Art. 860.7 of the Civil Code of the Russian Federation), and public deposit account (Art. 860.11 of the Civil Code of the Russian Federation). According to Part 1 of Art. 860 of the Civil Code of the Russian Federation, the general provisions on the bank account apply to the accounts opened under the specified contracts, unless otherwise established by the rules on these bank accounts.

Let us turn to the analysis of EM. In the literature, along with the point of view of their obligatory nature, the opinion is also defended that this is information stored in electronic form. To the first group of scientists belong M.V. Kolodkina

[5, p. 80], M.A. Korostelev [4, p. 132], V.S. Loshilin [6, p. 54], S.V. Ovseiko [9, p. 30–36] and others. To the second, V.Yu. Ivanov [3, p. 99], A.E. Tedeev [12, p. 136–137], V.M. Yurovitsky [14, p. 43] and others.

The argument of the proponents of the nature of EM obligatory funds is no different from the argument of the proponents of the obligatory nature of cashless funds, who regard these funds as liabilities arising on the basis of an agreement between the bank and the electronic money holder.

Supporters of the informational nature of EM claim that electronic money is a legally significant information-digital impulses, a specific sequence of numbers symbolizing banknotes and coins [12, p. 136–137], that this is information recorded in specialized data banks [14, p. 43]. V.Yu. Ivanov, who speaks of the need to understand EM in a narrow and broad sense, defends the same position somewhat differently. In the narrow sense, this is "information in electronic form about the amount of funds previously provided to the issuer". In a broad sense, this is a financial product - a service "that can be provided (emitted) only by a credit institution" [3, p. 99].

First about the service. According to Art. 779 of the Civil Code of the Russian Federation, a service is defined as certain actions (activities) carried out by one person on the instructions of another person who undertakes to pay for these actions (activities). EM for this reason cannot act as a service. Such is not the money itself, but their reception by the operator of electronic money (hereinafter the EM operator) from the person who provided it (hereinafter the client); accounting of money in a certain way; execution of client's orders for their transfer; return of the remaining EM to the customer; recalculation of foreign currency received from a client in rubles at the rate of sale established by the Bank of Russia; restoration of client access to the payment system in the event of its loss, etc. It is for these actions that are performed by the EM operator in the framework of the obligation that arose between him and the client, he receives a commission from the client in accordance with the agreement between them.

Information - is knowledge about something, in this case information about the funds received by the EM operator, which are taken into account without opening an account, but using electronic information technologies, including the receipt of customer orders. In the resulting information legal relationship, each party has its own subjective rights and obligations. The client has the right to require informing him of the execution of instructions regarding the funds provided to the EM operator, the EM operator is obliged to provide such information to the client. It follows that the information about the funds and the funds themselves are different categories.

In our opinion, the legal nature of EM is similar to the legal nature of ordinary money flowing into a bank. According to paragraph 18 of Art. 3 of Law No.

161, EM is money that is provisionally provided by one person (client) to another person, who takes into account information about the amount of money provided without opening a bank account (EM operator), to fulfill client's monetary obligations, to third parties and in relation to which the client has the right to transfer orders exclusively using electronic means of payment (EMP).

As in the case of the previously mentioned banking agreements, Law No. 161 does not provide for the transfer of ownership of money to the EM operator from the client who provided it. The real relationship with money is retained by their owner, who, in addition to real rights to money, acquires liability requirements on the basis of an EM transfer agreement or EMP use contract concluded with an EM operator, and in particular about sending notifications to the client regarding each transaction using ; ensuring that the EM operator can be notified of the loss of EMP and / or its use without the consent of the client; on suspension or termination of money transfer operations on the basis of a notification received from the client; fixing sent to the client and received notifications from him; storage of relevant information for at least three years; respecting the deadlines for the transfer of EM and others (Art. 9, paragraph 11 of Art. 7 of Law No. 161).

The specifics of these rights of claim are determined by the three main differences of the EM legal regime from the legal regime of ordinary funds.

First, EM accounting is performed by the EM operator without opening a bank account to the client. The EM operator forms only a record reflecting the obligations of the EM operator to the client in the amount of the amount provided (part 4 of Art. 7 of Law No. 161). In relation to ordinary cash, the bank in accordance with Art. 30 of the Federal Law of December 2, 1990 No. 395-1 "On Banks and Banking Activities" (hereinafter the Banking Activities Act) provides the clients with the number of settlement, deposit and other accounts they need.

Secondly, EMs are provided to the EM operator exclusively for the fulfillment of a client's financial obligations to third parties (paragraph 18 of Art. 3 of Law No. 161). Conventional cash, according to Art. 5 of the Law on Banking, can be provided not only for settlement services, but also for storage, as well as for trust management.

Thirdly, all orders regarding EM are transferred to the EM operator only using EMP (paragraph 18 of Art. 3 of Law No. 161). Such as applied to the case in question are prepaid bank cards, e-wallets, and Internet banking. As for the transfer of ordinary funds, according to Bank of Russia Regulation No. 2-П of 3 October 2002 "On Cashless Payments in the Russian Federation", they are used for payment orders, payment requests, letters of credit, checks, collection orders. In addition to them, Part 7 of Art. 845 of the Civil Code of the Russian Federation in relation to a bank account agreement allows the use of EMP: settlement (debit) and credit cards, but they are tied to bank accounts (paragraph 1.5. Bank of Russia Regulation No. 266-П dated December 24, 2004 operations committed with their use").

Along with the main differences in the legal regimes for the use of electronic and conventional money, there are others.

In particular, the operator EM in accordance with paragraph 5 of Art. 7 of Law No. 161, it is forbidden to provide the client with funds to increase the balance of EM of the latter; paragraph 6 of the same article prohibits the operator from charging EM interest on the remainder of the customer's EM. These restrictions do not apply to ordinary funds attracted to deposits and to other bank accounts (Art. 29 of the Banking Act).

Translation EM is carried out in accordance with paragraph 11 of Art. 7 of Law No. 161, immediately after the adoption by the operator of EM customer orders. The exception is set only for EM transfer using a prepaid card. In this case, the transfer period should be no more than three working days after the operator accepts the client's order, unless a shorter period is provided for in the agreement between them or the payment system rules. As for the client's ordinary cash, in accordance with paragraph 5, Art. 5 of Law No. 161, they are transferred within a period of not more than three working days, but starting from the day the funds are debited from the payer's bank account or from the day the cash payer is provided for the purpose of transferring funds without opening a bank account.

Working with EM has certain limitations compared to conventional cash. So, legal entities or individual entrepreneurs can be recipients of funds, and payers only in the case when recipients of funds are individuals who have passed full or simplified identification (part 9 of Art. 7 of Law No. 161). This ban on practice is easy to manage: legal entities or individual entrepreneurs transfer funds to predetermined individuals, and the latter, in turn, transfer these funds to well-defined legal entities.

EM individuals are not subject to insurance while ordinary cash of individuals, including individual entrepreneurs, being in deposits with banks, is subject to mandatory state insurance in accordance with Art. 5 of the Federal Law of December 23, 2003 No. 177-ФЗ "On Insurance of Deposits of Individuals in Banks of the Russian Federation".

Thus, the category of "cash" is common to cash and non-cash money, including EM, which is their variety. Cash, which are recorded in bank accounts, acquire the status of non-cash funds and are used by the client on the basis of bank agreements. Cash that is not accounted for in a bank account and subject to transfer using EMP acquires EM status, which are also non-cash, but only transferred to a higher level, since settlements with them are "provided by electronic technical means" [8, p. 41]. The client uses them on the basis of an EM transfer agreement or EMP use agreement. The owner of the money transferred to the bank (operator) in any case remains the client, who maintains a real connection with them, allowing him to own, use and dispose of the money. Obligatory rights of the client

arise on the basis of the relevant agreement concluded between him and the bank (operator). At the same time, the legal nature of non-cash funds and such types of them as EM is proprietary. The material relationship with the money is retained by the client for the entire duration of the contract concluded with the bank (operator) and continues upon termination of the contract in relation to the cash balance received. The obligation to communicate with money arises and remains only for the period of the contract and terminates with the termination of its validity.

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在哈萨克斯坦共和国组织和管理公共采购的世界经验
WORLD EXPERIENCE IN ORGANIZING AND REGULATING PUBLIC PROCUREMENT IN THE REPUBLIC OF KAZAKHSTAN

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注解。 本文探讨了哈萨克斯坦历史道路的社会文化特征及其对社会法律意识的影响。 在确定哈萨克斯坦共和国立法的优化方向以及保护宪法规定的健康权时，应考虑这些特征。 宪法规定的医疗保健和医疗保健权利几乎与个人和公民的所有其他权利和自由密切相关。 为了提高监管材料在医疗保健领域的有效性，有必要预测该领域立法优化的主要方向，同时考虑到过去和现在的历史经验趋势，法律文化的具体情况。 和哈萨克斯坦社会的法律意识。

关键词：一个人和一个公民的宪法权利，健康保护，立法，保护，社会文化代码，原型。

Annotation. *the article discusses the socio-cultural features of the historical path of Kazakhstan and their impact on the legal consciousness of society. These features should be considered when determining the directions of optimization of legislation in the Republic of Kazakhstan, as well as the protection of the constitutional right to health protection. The constitutional right to health care and medical care is closely interlinked with virtually all other rights and freedoms of a person and citizen. In order to increase the effectiveness of regulatory material in the field of health care, it is necessary to predict the main directions of optimization of legislation in this area, taking into account the trends of the past and present historical experience, the specifics of legal culture and legal consciousness of Kazakhstan society.*

Keywords: *constitutional rights of a person and a citizen, health protection, legislation, protection, socio-cultural code, archetype.*

The global experience of organizing and regulating public procurement for the needs of the state is of particular interest to Kazakhstan during the development period in the field of procurement of goods, works, services, regulated by the law "On public procurement in the Republic of Kazakhstan" of December 4, 2015.

Many foreign countries have accumulated practical experience in managing

the process of efficiently spending budget funds, including procurement activities. Similarly, Kazakhstan, despite its limited experience in conducting public procurement, yet the state has built a more or less transparent system for conducting these procedures.

To see clearly how and how the institution of public procurement has become in different countries, it is necessary to draw a parallel and make an analysis. For our young state, given that Kazakhstan gained independence 26 years ago, the process of the emergence of government procurement began to take shape not so long ago. Legislation on public procurement in different countries of the world developed with the peculiarities of legal systems and traditions. Therefore, there are noticeable differences in the structure of legislation, as well as differences in the ratio of laws (acts) in the total volume of regulatory documents on the issue of procurement. In this article I would like to consider such countries as the USA, Great Britain, Germany, as these countries have rich historical experience and a very stable economy. In countries such as the United States and the United Kingdom, national contractual systems are in place, including proven mechanisms for managing a state order in three main stages: planning, locating, executing. In the countries of the European Union, there are detailed procedures for placing state orders, which are binding not only on the EU member states, but also on the countries applying for the right to join the EU. The US Federal Contracting System (hereinafter referred to as the FCC) was created in 1921 and is one of the oldest contractual systems [3]. Throughout the history of the development of the legislative framework and the entire public procurement system in the United States, certain periods are viewed. During the war years, the state strengthened interference in production, closed bidding and direct distribution of orders were widely used, which contributed to the acceleration of military supplies, however, this was accompanied by increased corruption and a sharp decline in procurement efficiency. In the post-war period, the contract system was aimed at increasing the efficiency of spending budget funds and at ensuring equal access to the state order, which made it possible to fully use the principles of open competition. The modern mechanism of government procurement in the United States was mainly formed by 1984, when a set of laws and regulations was adopted, collectively referred to as the "FAR-Federal Acquisition Regulations) [2]. The rulebook contains more than 1000 pages and there are 53 sections, each of which is devoted to a separate aspect of procurement [2, p. 64]. The first six sections deal with general issues of concluding government contracts, the next six are devoted to various provisions of procurement planning. In the following sections, issues of labor law for the implementation of public procurement, rules and procedures for monitoring the progress of

contract execution, a library of standard contracts, which contains more than 100 regulated state contracts, are considered. The US FCC divides the purchases made for the implementation of state programs and the purchase of property and materials necessary for the functioning of the state apparatus [6]. Significantly large purchases are made for the implementation of budgeted state programs (weapons, road construction, etc.). These purchases are placed by ministries, agencies and a number of other agencies independently in the arms market, energy, etc. Procurement, necessary to ensure the activities of all US federal agencies, is carried out by the Administration of General Services (AOU) [2, p. 67]. This state organization purchases centrally and stores materials and equipment in its warehouses, which are subsequently distributed to ministries and departments. In general, due to the fact that the AOU buys products in large batches through bidding, the total costs are significantly reduced compared to what each department would buy goods and services on its own for small contracts or retail. Great Britain also has extensive experience in organizing government procurement. For example, a special procurement body ensuring the interests of the “crown” was created in 1833. In its modern form, the procurement system was formed in 1984, when the “Recommendations on competitive procurement” were adopted. In 1990, the Central Procurement Organization was established under the Treasury as the main methodological and controlling body [2, p. 69]. In every ministry in the UK, unlike in the United States, there is a contract work department, which makes purchases on its own to meet the common needs of the remaining departments and regional offices. The Treasury in turn delegates the right to dispose of budget funds to sectoral ministries (departments), while the Treasury officials in charge of this department accompany the planning, placement and execution of the state contract throughout its life cycle. In addition, the representative of the Treasury confirms expenses and provides guidance based on the principle of "value for money" - "adequate value for the money paid." On the portal of the UK contract system there is an electronic library of standard contractual in the form of a service for the selection of government contracts. Currently, the library has over 450 contract areas. Rather specific organization of government procurement in Germany. Contractual relations are not singled out in separate legislation, but are one of the aspects of antimonopoly legislation, the purpose of which is to provide for the impossibility of its violation both on the part of the customer and on the part of the order placement participants. In this regard, the European procurement legislation borrowed from Germany a section of the law on the inadmissibility of restricting competition, as the principle of a market economy, regardless of the position of the customer. In the conditions of a high level of taxation, customers cannot allow inefficient spending of taxpayers' funds.

The existing order in Germany clearly regulates the requirements of the bidder, avoiding contractors who do not have a good reputation, sufficient work experience and relevant qualifications [2, p. 70]. It should be noted that the legislation minimizes not only budget risks, but also the likelihood of losses on the part of participants, which may arise due to customer errors. The legal framework provides for the payment of compensation to participants of expenses incurred during the preparation and during participation in competitive procedures, as a result of errors and violations of the customer. One of the mechanisms of control over the placement of the state order in Germany is the activity of the public organization of experts and scientists "Government Order Forum", which exchange views and shape the public attitude to new phenomena in the field of public procurement. The forum annually awards the prize for the best scientific work in the field of public procurement - Public Procurement Award [3]. Changes in Kazakhstan legislation in the field of public procurement are largely based on foreign experience and modern principles of development of the contractual system [4]. Given the experience of foreign countries, the state is constantly improving legislation in the field of public procurement. In order for this procedure to take place most transparently and in compliance with all the norms of the law.

Based on the above, the following elements of foreign experience can be used in modern Kazakhstani practice of public procurement:

1. The organization of public procurement is centralized with the help of a specialized state body with the subsequent distribution of necessary goods and services to state institutions.

2. Unified methodology of competitive bidding using libraries of standard contracts and a database of requirements for purchased products.

3. Implementation of the audit of the procurement process by the bodies (centers), in terms of forecasting and planning of procurement, organizing tenders, ensuring pure competition, monitoring the execution of contracts, analyzing the effectiveness of ensuring state needs.

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当代学生在非暴力地位形成的问题 – 心理学和教育学支持领域的未来专家
CONTEMPORARY PROBLEMS OF FORMATION OF NON-VIOLENT POSITION AMONG STUDENTS – FUTURE SPECIALISTS IN THE SPHERE OF PSYCHOLOGICAL AND PEDAGOGICAL SUPPORT

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注解。本文专门讨论在学生中形成非暴力的实际问题 – 未来在心理和教育支持领域的专家。在实证研究的基础上，揭示了互动立场与社会教育刻板印象，烦躁，对一个人的敏感性，成就动机，对待危险的态度和自信的关系。指出了在学生中形成非暴力立场的主要问题：为他们熟悉非暴力作为一种价值观念创造了条件;发展对自己和他人形成非暴力态度的技术;非暴力互动技能培训;发展与在不同年龄阶段的学生中形成非暴力职位的能力相关的能力。

关键词：互动立场：强制，操纵，非暴力，不干预;对人的烦躁，社会和教育的刻板印象，对一个人的敏感性，自我中心，成就动机，对危险的态度，自力更生。

Annotation. *The article is devoted to actual problems of forming a position of non-violence among students - future specialists in the sphere of psychological and pedagogical support. On the basis of empirical research, the relationship of interaction positions with socio-pedagogical stereotypes, irritability, sensitivity to a person, achievement motivation, attitude to danger, and self-confidence has been revealed. The main problems of the formation of the position of non-violence among students are indicated: the creation of conditions for familiarizing them with the ideas of non-violence as a value; development of technologies for the formation of non-violent attitudes towards themselves and other people; training in nonviolent interaction skills; development of competencies related to the ability to form a position of non-violence in students at different age stages.*

Keywords: *interaction positions: coercion, manipulation, nonviolence, non-intervention; irritability to people, social and pedagogical stereotypes, sensitivity to a person, self-centeredness, achievement motivation, attitude to dangers, self-reliance.*

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Introduction. The urgency of the problem of forming a position of non-violence in students - future specialists in the sphere of psychological and pedagogical support is due to practical needs. Unfortunately, it is necessary to state that in modern educational organizations we often encounter not only facts of coercion, but also manifestations of open aggression, both from students and teachers, which adversely affects the psychological health of all participants in the educational process. The specialist in the field of psychological and pedagogical support, by virtue of his duties, must create conditions for the safe development of the personality, prevent and smooth out conflicts, form the ability of people to nonviolent interaction. And for this, he himself should have a position of non-violence, which is a concrete expression of his acceptance of the idea of non-violence as a universal value. *The purpose* of this study was to identify the factors contributing to the adoption by students of positions related to interaction with other people, determining on this basis the main directions of work on the formation of their positions of non-violence.

Theoretical and methodological foundations of the study. In developing the conceptual framework of the study, we relied on the understanding of non-violence in various religions (Jainism, Buddhism, Hinduism, Islam, Christianity), as well as on the philosophical and ethical views of L. N. Tolstoy, N. K. Roerich, M. Gandhi, J. Semlena, M.L. King, A. Schweitzer and many others. As a result, an understanding of non-violence was formulated as an ethical principle, which is based on the recognition of the value of all living things, man and his life, the denial of coercion as a way of human interaction with the world, nature, other people, as the approval and strengthening of the ability of all living things to positive [7]. The specification of the definition found in the following theoretical principles:

- non-violence is the ability of a person to choose from a number of alternatives those that carry the least amount of coercion;
- non-violence is a special force, consisting in confidence, dynamism, ability to constantly search for a solution that causes minimal damage to others;
- non-violence is the ability to overcome self-centeredness, the ability to accept other people as they are;
- non-violence is a manifestation of independence, autonomy of the individual;
- non-violence is also the process of interaction itself, expressed in the ability to perform non-violent actions and to render non-violent resistance.

Based on the above provisions, we have identified and characterized the positions of interaction: coercion, manipulation, non-violence and non-intervention. At the same time, we proceeded from the assumption that the logical basis for their separation may be, on the one hand, the degree of acceptance or non-acceptance of the value of coercion or the value of non-violence, and, on the other, the level of activity or passivity of the interaction subject. The position of *coercion* (active form) is manifested in the fact that an individual in the process of interacting with other people does not take into account their interests, prefers to use direct methods of influencing a person: pressure, demand, order, submission to himself, threats, up to the manifestation of aggression in its various forms. Accepting the position of *manipulation* (passive form) indicates a preference for the individual to use manipulative actions. The most common of these include: flattery, deception, bribery, intimidation, hints, indirect pressure, references to authorities and others. The position of *non-violence* (active form) is focused on taking into account not only their own interests, but also the interests of the opposite side, where priority is given to actions that do not harm it. Typical non-violent actions include cooperation, assistance, compromise, forgiveness. The position of *non-interference* (passive form) indicates that when involved in interaction, a person does not show high activity, accepts circumstances, takes the situation as a given, does not protest against the actions of others, tries to stand aside, avoids trouble. Each of these positions can either dominate the individual, or be combined in a certain way with other positions.

To date, a number of areas have emerged in science and practice related to solving the problem of forming a non-violence position in the younger generation. Within the framework of the first direction, the problems of educating the younger generation in the spirit of peace and negative attitude to war are investigated [5, 12, 9, 3 and others]. The second direction is focused on the development of technologies of non-violent attitude towards nature and all living things [2, 8, etc.]. Within the framework of the third direction, issues of creating a non-violent educational environment, building interaction on a non-violent basis are being solved [1, 4, etc.]. The fourth direction is devoted directly to the problems of the formation of non-violence in the younger generation [6, 11, 10 and many others].

This study was carried out in the fourth direction.

An empirical study of the positions of interaction and their underlying factors.

Methods. In order to identify interaction positions and the factors contributing to their adoption, we developed diagnostic tools: a questionnaire on identifying interaction positions; questionnaire on the identification of socio-pedagogical stereotypes; questionnaire to identify irritability to people; questionnaire on the identification of sensitivity to man. In addition, we used previously developed questionnaires to identify needs for danger and safety, types of people's attitudes

to hazards. Diagnostics of the level of egocentrism was carried out using the test of egocentric associations (author T. Shustrova, modification T. I. Pashukova). The motivation for achieving success and avoiding failures was revealed with the help of T. Ehlers tests. Readiness to risk was studied using the test of G. Schubert. The following were specific tasks: 1) to identify and describe the structure of interaction positions for students; 2) to identify the relationship of interaction positions with irritability to people, social and pedagogical stereotypes, sensitivity to man and egocentrism, achievement motivation, risk appetite, needs in danger and safety, type of attitude of people to hazards. In total, more than 300 students of Moscow Humanitarian University and Cherepovets State University took part in the study. Empirical research was conducted in 2018.

Results. As a result, we have identified and described the types of students that differ in the structure of interaction positions. The following was established. The position of coercion dominates 10% of students. The position of coercion combined with the position of manipulation is dominated by 8% of the subjects. The manipulation position is at 4%. The position of non-violence dominates 12% of students. The position of non-violence at the same time as the position of non-intervention prevails in 13% of subjects. The position of non-interference dominates 14% of students. A contradictory combination of positions was found in 22% of subjects. Finally, none of these positions dominates clearly among 17% of students. The study clearly showed that there are quite a few students in a higher education institution whose position of non-violence is not clearly expressed, and special work is needed to form it.

On the basis of the correlation analysis, factors determining the adoption of one or another position of interaction are identified and described. The position of coercion is positively correlated with irritability towards people, the need for experiencing a sense of danger, willingness to take risks, ignoring hazards, the motivation to succeed, and negatively - sensitivity to a person. The position of manipulation correlates with the same factors, apart from ignoring the dangers, and also positively correlates with sensitivity to threats, which determines its specificity. The position of non-violence is positively associated with sensitivity to the person, sensitivity to threats, the motivation to avoid failures, confidence in oneself, the choice of adequate ways to react in situations of threats, the need for security, and the negative with irritability to people. The position of non-intervention positively correlates with the motivation for avoiding failures, exaggerating the meaning of hazards, self-centeredness, the need for experiencing a sense of security, the need for ensuring security, adherence to social-pedagogical stereotypes, and negatively - with confidence in oneself and with sensitivity to a person.

These results provide an opportunity to characterize the various behaviors of students in situations of interaction with other people.

If an individual has a desire to achieve his goals (high motivation to achieve success), combined with low sensitivity to people and high irritability to them against the background of the desire for risk and ignoring the dangers that are based on the need to experience a sense of danger, he will prefer position of coercion.

In those cases when high sensitivity to threats is added to these factors, he will give preference to the position of manipulation. Thus, the manipulator gives preference to the "soft" form of exerting pressure on the opposite side, not because he does not want to quickly achieve a result, but because he fears a response, foresees possible negative consequences of his behavior. By virtue of that, showing ingenuity, he is looking for such ways of influence that would gradually force the opposite side to submit to his wishes.

A completely different structure of factors underlies the individual's acceptance of the position of non-violence. If an individual has a pronounced sensitivity to a person, combined with low irritability to people, with the desire to avoid unpleasant situations against the background of complete self-confidence, the ability to detect threats and respond to them adequately, based on the need for security, is developed. will take a position of non-violence.

If an individual shows a high level of egocentrism and stereotype in the perception of social phenomena, insensitivity to a person, this shows a low level of self-confidence against the background of a pronounced need for experiencing a sense of security, a desire to avoid failures, which leads to a tendency to exaggerate any danger, he will give priority to the position of non-interference.

Problems of formation of a position of non-violence among students. Our series of studies on the relationship of interaction positions with various personal factors is not exhaustive. However, already at this stage one can say with all certainty about the importance and the need to conduct special work with students on the formation of their position of non-violence. Here we can distinguish four groups of problems associated with the formation of a non-violence position in the conditions of university training.

The first group of problems can be described as the need *to create conditions for students to master the ideas of non-violence as a universal value.* They can be solved by introducing special courses into the educational process. For example, the course "Pedagogy of Non-Violence" is taught at the Moscow Humanitarian University; the course "The Psychology of Non-violent Interaction" is introduced at Cherepovets State University. The experience of their introduction into practice by the authors of this article proved their viability and expediency.

The second group of problems is related to the development of *special technologies* for the formation of non-violent attitudes towards themselves and other people. As our research has shown, it is imperative to introduce workshops on

awareness and overcoming one's irritability, egocentrism, social pedagogical stereotypes, and developing sensitivity to people. All this will contribute to the development of the ability to accept oneself and other people, that is, to develop tolerance.

The third group of problems concerns the development of *learning technologies for non-violent interaction,* which includes non-violent actions like action (refusal from coercion, cooperation, assistance) and non-violent actions as a reaction (patience, compromise, forgiveness). This task can be solved with the help of a special practicum (training), which is based on the principle of modeling life situations.

The fourth group of problems is due to the need *to prepare students for work on the formation of a position of non-violence at different stages of age development.* To date, technology has been developed to work with preschoolers and younger students, to a lesser extent with teenagers and older students. With these technologies it is necessary to acquaint students, develop their respective competencies.

Conclusion. In conclusion, it should be noted that the successful solution of these problems will largely contribute to the improvement of students' professional competencies related to their practical preparation for solving problems of psychological and pedagogical support in educational institutions, and, consequently, tasks related to the formation of a mature, psychologically healthy personality.

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文化作为一个方面的影响 教育活动
THE INFLUENCE OF CULTURES AS AN ASPECT OF PEDAGOGICAL ACTIVITY

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注解。 本文致力于在俄罗斯大学教授学生汉语的背景下，中俄文化的差异问题。 本文介绍了基本的社会，文化和文化语言刻板印象的例子，描述了它们对学习过程的影响，并提出了必须学习的主要文化方面。 本文包含了在中文教学中提高学生的社会文化和跨文化交际能力的可能途径。

关键词：文化，传统，刻板印象，跨文化交际，中国

Annotation. *The article is devoted to the problem of differences in the cultures of China and Russia in the context of teaching students the Chinese language in a Russian university. The article presents examples of basic social, cultural and cultural linguistic stereotypes, characterizes their influence on the learning process, and presents the main cultural aspects that are obligatory for study. The article contains information on possible ways to improve students' sociocultural and intercultural communicative competences in teaching Chinese.*

Keywords*: culture, traditions, stereotypes, intercultural communication, Chinese*

Culture affects all spheres of human activity and, above all, communication. One of the first treatises on this topic is Confucius's "Conversations and Judgments", which betrayed great importance to mutual relations. The connection between culture and language is obvious. The language, which owes its formation to culture, is also its essential basis. Any language, speech, is not only a set of grammatical constructions, vocabulary, it is a carrier of a certain linguistic picture of the world [1]. For successful intercultural communications, an understanding of a foreign language culture, knowledge of traditions, stereotypes, and history is necessary [2]. Methods of teaching a foreign language should take into account national and cultural characteristics, should not be focused only on the aspect of linguistic competence. This article is devoted to the problem of forming the linguistic and sociocultural competence of students in teaching Chinese.

The teacher should be aware that in the eyes of the student is the bearer of Chinese culture, therefore, he himself must have diverse knowledge about China [3]. The identification of a teacher with Chinese culture is especially acute in the first years of study.

The goal of the teacher for 4 years of study at the university is to teach the student to communicate in Chinese, while the student should know enough features of the material and spiritual culture of the Chinese people and use them in communication, but not lose their own self-identification. That is, to avoid a typical mistake when, in pursuit of an understanding of foreign culture and language, a person turns out to be a stranger, both for the native and for the studied environment. In order for students to form such competence of intercultural communication and expand their worldview, the teacher must solve several problems:

- transfer a number of encyclopedic cross-cultural knowledge of China, familiar to every Chinese, including information about religion, schools of philosophy, cultural traditions, etc .;
- to reveal the peculiarities of the culture of Chinese behavior, ethical standards and instill a tolerant attitude towards them among students;
- introduce the traditional and contemporary art of China;
- transfer the basics of the linguistic picture of the world of Chinese society and, thereby, expand the individual picture of the world of students;
- to learn to use verbal and non-verbal means of communication and to adequately behave in various communicative situations;
- to develop a culture of speech that meets ethical standards.

Getting a student the listed knowledge and skills will provide the opportunity for successful communication in authentic situations of intercultural communication.

Today, China is actively involved in world politics and economics, but at the same time, it remains a closed state. The latter is manifested in the special sustainability of cultural traditions. Cultural and civilizational systems of Russia and China differ greatly, there are a number of mutual stereotypes, different perceptions of the world, all this makes communication and understanding of communication participants difficult. When teaching Chinese in a university, a teacher and students face all these problems. Students often meet China for the first time in a university, and until then their presentations are very scarce. The problem is that for most students all education takes place outside the language environment.

It would seem that a large number of Chinese students study in Russian universities, and this should lead to frequent contacts, communication and rapprochement with Russian youth, especially those learning Chinese, to help in learning the language. But the Chinese, who come to study in Russia, are not inclined to communicate and train anyone, which is also related to the stereotypes and traditions

of China. Russian students themselves do not seek to make contact. What kind of mutual stereotypes interfere with communications between the representatives of these two cultures.

The first barrier is the mutual negative perception of communities in general. In the Russian environment, the Chinese are considered narrow-minded and even stupid, capable only of copying, ideas, things, and closed, as the "middle kingdom" itself. The Chinese also perceive Russians as mentally and mentally weak, and consider that they are easy to get around and "turn around" themselves in Russia, they feel superior to everyone else. In China, competition within the community is high, for the right to get an education, good work, etc., and this is compounded in relations with foreigners. Being in Russia, the Chinese do not want to help competitors, to help learn their language and culture, they are locked in diasporas. In general, a foreigner for them can be either a source of knowledge or an enemy. While in China, the situation changes somewhat, the Chinese are more willing to make contact, but it is in the context of receiving something from you. This means that it is easier for Russian students to get experience of intercultural communication while in China, for example, on internships in local universities. It is important to understand that an equal exchange is necessary for contact with the Chinese. Understanding your goal, you need to immediately offer something in return, the only way possible is a productive, mutually beneficial dialogue. In any case, it is necessary to use any opportunity to plunge into the culture of the Chinese language, only in this way its adequate perception is possible.

In the context of the influence of culture on teaching Chinese, attention should be paid to the linguistic and cultural and linguistic and cultural aspects. First of all, we note that when training you need to focus on the transfer of communication strategies, and not just information about the country and culture. This means that everything should be given on examples of life situations. Knowing some simple moments that are common to Chinese communication culture will help not to be misled, for example: to bow in greeting, present a business card with two hands, exaggeratedly admire the interlocutor and belittle own merits and skills. Some moments cause rejection, but they are traditional for Chinese etiquette and should be known in order to avoid misunderstandings: it is not accepted to pay attention to sneezing, eating should be accompanied by loud sounds, food is more important than business and you need to eat first, but to enjoy eating appetite. The speech behavior of the Chinese, like life, is subject to a strict hierarchy, who and when he speaks during communications depends on his status or age. In the Russian mentality such etiquette causes alertness, it seems to be a hidden threat, although there are only traditions behind it. On the other hand, one must be attentive and self-sufficient, as excessive expression and emotionality inherent in Russians, for the Chinese, will be a bad sign emphasizing the subjectivity of the opinions ex-

pressed. Similar comparisons, the analysis of one's own stereotypes of thinking and behavior, are especially useful in the formation of intercultural communicative competence. An important aspect is the speech traditions (speech etiquette), the phraseology used, the use of clan yu in speech, etc., everything that makes up the specific code of the interlocutor's speech culture. If in Russia such emotional "staining" of speech began to occur less and less, in China it is an indicator of education and is used constantly. Explaining phraseological units, meanings of chenuis and similar forms of imparting emotional coloring to speech is an important aspect in teaching Chinese. Through the study of speech etiquette, you can learn a lot about the culture and traditions of the Chinese people, and facilitate communication. The bearer of the national-cultural semantics is a large number of elements of speech and written communication, such as an address. So in China is not accepted appeal on the patronymic name, in the first place put the title, profession, and then the name. A large number of articles and scientific papers are devoted to each such aspect.

Learning a foreign language, like teaching communications, should not overlook the psychological aspect. At the first stage, the student should acquire knowledge about culture, traditions, speech etiquette, etc., and at the second stage, learn how to apply them in real life. Here an empathic approach to intercultural communication can come to the rescue, involving mental and emotional insight into the inner world and feelings of another person.

Of course, attention should be paid to the traditional and contemporary art of China: painting, theater, literature and music. When teaching by students, creative tasks should be carried out, in the process of which they should be acquainted with them. Introduction to art is an important aspect for immersion in the culture of the studied language. Philosophical schools and religious traditions also contain a wealth of information, knowledge of which will facilitate understanding of the causes of certain actions of the interlocutor-Chinese.

The importance of the cultural aspect in the modern world is understood by the leadership of the Chinese Communist Party (CCP), especially in the light of the realization of the "Chinese dream" [4]. The Celestial Empire has always carefully preserved its traditions and culture, and today it is also attentive to the perception of it abroad, it considers culture as one of the elements of "soft power". Thus, the task of spreading Chinese culture was set up in 2004 at the IV Plenum of the Central Committee of the 16th CCP. The result was the opening of Confucius institutes and classes all over the world — centers for the promotion of Chinese language and culture in the world [5]. They became one of the "three bridges" together with associations of Chinese abroad and Chinese-language media. Confucius institutes and classes hold various contests, organize cultural programs, film screenings and art exhibitions. Students need to be involved in such activities in order to become

familiar with Chinese culture. Of course, the best way to dive into culture is internships in Chinese universities. There are a large number of programs, students can take part in them, both independently and with the support of Russian universities. An important element of education should be cultural events held during extracurricular time in the learning process (preparing reports, watching films in Chinese, preparing sketches, etc.). It is imperative to involve representatives of Chinese youth in their participation. And here it is necessary to overcome the stereotypes, which were mentioned above.

The Chinese language is difficult to learn, not only because of the fundamental difference in the writing system, phonetic and grammatical system, but also because of cultural differences. The key to mastering the Chinese language is the knowledge and understanding of Chinese traditional culture, history, art, and a special picture of the world of the Chinese. It is also impossible to miss the psychological characteristics of the Chinese people, their way of thinking when learning. The ability to intercultural communication, is the most important goal of learning a foreign language, contributing to the dialogue of cultures and the development of society [6, 7]. In this case, a transformation of the worldview and participants of communication occurs, individuals acquire a new experience in various spheres of life. But nevertheless, one should be attentive to intercultural interaction, there is a risk of blurring cultures on this path, and for the individual - the possibility of violation of cultural identity.

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UDC: 378.14: 614.2

人道主义知识在医学专业发展中的发展
HUMANITARIAN KNOWLEDGE IN THE DEVELOPMENT OF PROFESSIONAL OUTLOOK OF THE DOCTOR

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注解。 文章揭示了人文学科在医学院形成未来医生专业世界观的过程中的作用。

关键词：专业世界观，知识，医生，人道主义培训，发展。

Annotation*. The article reveals the role of the humanities in the process of forming the professional worldview of future doctors in a medical school.*

Keywords*: professional worldview, knowledge, doctor, humanitarian training, development.*

The socio-political reforms of the last decade have pushed humanitarian knowledge into the background of social development. In fact, a doctor's worldview is not a scientific system in everything and does not have goals and objectives that correspond to a specific scientific knowledge. It is a spiritual synthesis of knowledge and practice, giving them a value coloring.

In turn, humanitarian training of a doctor is a value that never decreases, but, on the contrary, contributes to the development of intelligence, general cultural growth, the formation of a high level of professional world outlook and culture.

The high humanitarian culture of a physician as a real antidote to any form of "spiritual totalitarianism" and manipulation of personality has an intellectual capacity as its core, for the development of which there are no other means except conceptual and theoretical thinking.

The worldview of the physician as the core of the spiritual foundation changes with the achievements of science and technology. Since the doctor has a lot of power over the patient, professional intervention in the psyche and body of a person imposes humanistic requirements on the professional worldview of a doctor related to problems such as health and illness, norm and pathology, life and death, human cloning, organ and tissue transplantation , euthanasia and others. In this connection, the requirements for the general cultural and professional content of the doctor's world view are increasing. They are caused by the increase in knowledge, the improvement of medical theory and practice, the formation of information technology competence, the expansion of the capabilities of modern medical technologies, the introduction of new methods in the learning process.

On the one hand, the need for increased attention to the professional worldview of the doctor is characterized by theoretical and practical circumstances of the issues raised, the crisis of domestic health care, the ongoing erosion and destruction of traditional values and motivations of the doctor's activities, the deformation of their beliefs and ideals based on the principles of humanism and justice. On the other hand, the doctor's professional worldview is characterized by an emotional-sensual and rational attitude to the external environment. Since the content of the people's worldview expresses the totality of their diverse beliefs and ideals, the doctor's worldview is understood as rethought worldview knowledge, assessed on their basis and on the basis of life experience, ideals, norms, principles of life, values and attitudes, developed beliefs, accepted beliefs. Therefore, overcoming the horizon of humanitarian knowledge is an obligatory and necessary condition for the development of a doctor's professional world outlook.

Thus, the main task of studying humanities is the formation and development of scientific humanistic knowledge and beliefs of a comprehensively developed personality of a doctor based on his study of the laws of being, biomedical ethics, social and cultural development, and achievements of world and national humanitarian thought. Humanitarian knowledge is the basis of associative flexibility of thinking ability, the ability to see an object included in a network of diverse connections and relationships with the physician's world, the study of which contributes to the formation and development of ideological, methodological, spiritual, moral and ethical attitudes, humanistic ideals and value orientations of a physician which it is possible to successfully solve worldview tasks in professional activities. Thus, the study of humanities for future doctors is a school of rational thinking, which allows to form a new scientific and humanistic worldview, the foundations of clinical thinking, professional behavior based on professional biomedical ethics, universal morality and values.

The most important direction in the development of the professional worldview of the future doctor is the profiling of the content of the humanities studied

by him. Profiling the teaching of humanities at a medical university involves the discovery of the mutual influence of the humanities and theoretical medicine in the history of the spiritual culture of society, the analysis of their contemporary interaction, the consideration of the ideological and methodological significance of the views of outstanding naturalists and doctors, the formation and development of scientific understanding of the need for humanitarian disciplines to understand the subject of medicine and its status in the system of theoretical knowledge, analysis of methodological problems of m cine and values of modern concepts, claiming the role of the methodology of medicine.

The content of the doctor's professional worldview [1] depends on the completeness and depth of his rethinking of the humanitarian worldview. The value orientation, the ideals of professional activity and the understanding of the meaning of life depend on the humanitarian knowledge of a future medical specialist.

In order to enhance the profiling of humanities and the formation of a professional outlook of a doctor in a medical university, we developed a modular special course "Basics of forming a professional outlook of medical students", the purpose of which is to form a doctor's professional outlook necessary for productive professional activity in modern labor market conditions.

Today, a person receives new lines of frontier from modern medicine in scientific knowledge, therefore, in modern medicine, the priority role is given to the development of other human sciences. At one time, it was not for nothing that M. Foucault believed that "medicine is the elder sister of the humanities" It is in a very special way connected with the anthropological structures of the development of the physician's personality's worldview, thanks to which she has acquired this position. Thus, health has replaced salvation, and doctors have become confessors of the body [1, 2]. It is regrettable that the efforts of the humanities, despite the intensification of their development in recent years, have not changed the situation in the study of human nature.

The humanitarian component of a doctor's worldview reflects his awareness of social being and his place in it. This component includes the views and ideals of the socio-historical, cultural, socio-economic, political-legal, moral, artistic and aesthetic, religious and other nature of the doctor and acts as the backbone of his professional activities. The sciences of society and man develop a wide spectrum of examples of behavior, life situations of medical practice, which, if they are needed, can help him develop a modern system of humanitarian knowledge and value orientations. Through diverse humanitarian knowledge, a doctor perceives social reality, which is the basis of his spiritual world. The humanities form, substantiate the human ideal, directly related to the social nature of man, so that his life, the meaning of his being, inevitably include questions about the fate of society, about its future [2, p.42].

Medicine as a science absorbs a wide range of problems of the fundamental and narrowly applied sciences, an essential part of which is natural science and humanities. In addressing the issues of preserving and strengthening health, she uses the achievements of all disciplines about a person, concentrates in herself everything advanced that is developed by science, art, especially philosophy about a person and his life activity. However, modern scientific medicine is a complex of disciplines of predominantly natural science, at the same time medicine is humane in its essence: when dealing with a person, it requires corresponding attention to the cultural and spiritual aspects of human existence [4]. "Modern medicine from humanistic practice is increasingly transformed into a situational-applied set of technical manipulations, on the verge of a transition to subjective arbitrariness" [5, p. 110]. As a rule, the rapid development of various technical devices and technical manipulations led to a different type of outlook, and we called it "**synthetic**" - a machine-humanitarian professional outlook.

Thus, medical education is seen as *a strategic innovative direction in the development of a professional world view, aimed at becoming a new generation of doctors with a machine-humanitarian professional worldview.*

The machine-humanitarian knowledge in the physician's worldview acts as complementary components that determine the level of professional knowledge necessary in shaping the goals of social, technological and personal development, the rational component of which offers reasonable ways to solve the problems posed.

The features of the machine-humanitarian element of the doctor's worldview are determined by the modern specifics of the medical activity, belonging to a special social group, which largely determines the psychosomatic health of the person and society. At the basis of this element of the doctor's worldview are universal and self-medical values [6].

The humanitarian component of the doctor's worldview, his social views, ideals, and beliefs, to a greater extent than those of other professions, is filled with human content in the form of *humanity, compassion, empathy, tolerance, and responsiveness*. The best clinicians have a tendency towards a holistic vision of the world and man based on the latest achievements of the natural sciences, humanities and socio-economic sciences. The interrelation of the natural science, humanitarian aspects in the doctor's worldview is dialectical, it is constantly corrected in accordance with the developing knowledge, enrichment of personal professional experience [2, p. 43-44].

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任务方法作为一种发展认知活动的方式，实现学习数学和计算机科学的学科和主题结果

TASK APPROACH AS A WAY TO DEVELOP COGNITIVE ACTIVITY AND ACHIEVE SUBJECT AND METASUBJECT RESULTS OF LEARNING MATHEMATICS AND COMPUTER SCIENCE

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注解。 本文从各种作者的角度分析了对“任务方法”概念的解释。 在数学和计算机科学教学过程中，任务方法形成关键普遍教育行为的潜力，认知活动的发展和学生的算法思维得到了证实。

关键词：任务方法，认知活动，关键普遍学习活动，算法思维。

Annotation. *This article presents an analysis of the interpretation of the concept of “task approach” to learning from the perspective of various authors. The potential of the task approach to the formation of key universal educational actions, the development of their cognitive activity and algorithmic thinking of students in the process of teaching mathematics and computer science is substantiated.*

Keywords: *task approach, cognitive activity, key universal learning activities, algorithmic thinking.*

Training is a set of information processes of perception, storage and retrieval of information. At the same time, learning is not possible without activity, so it “should be aimed not at sending messages of an educational nature, but at forming thinking that can effectively assimilate necessary knowledge” [14, p. 306]. The approach to learning, in which the learner stands out as an actor, and the teacher organizes and manages the learning process, in pedagogy is called system-activity. Being the methodological basis of the GEF, this approach focuses on the

achievement of subject and metasubject results of students. Activity, in the context of a system-activity approach, is considered as the main means of determining personal development, as "deliberate human activity manifested in the process of its interaction with the outside world, and this interaction consists in solving vital tasks" [5, p. 14]. This change in the theoretical and methodological foundations of the educational process reflects the change in its target vector: if before the goals were defined as the assimilation of knowledge and skills, today education is focused on the development of thinking and the formation of universal learning activities of students. Teachers need to organize educational and cognitive "motivated, purposeful, independent activity of students in mastering knowledge and ways to obtain and apply them, leading to changes in the subject of activity" [19, p.481].

The activities of students, aimed at productive solution of tasks in the learning process is the result of the implementation of the task approach. According to M.Yu. Tumaykina the founder of the task approach is S.I. Shokhor-Trotsky, who expressed the idea of teaching geometry in the process of solving problems. The same author believes that the task approach is "such an approach to the construction of learning, in which problem solving is the dominant method of learning, the formation of new knowledge on the relevant subject" [18, p.12]. O.A. Trubnikova specifies that "the features of the task approach to the organization of learning activities are learning tasks as systems representing tasks to search for systems that solve these tasks using qualitative and quantitative characteristics of the tasks, appropriate means and ways to solve them" [17, p.136]. The possibilities of the task approach in their research are drawn by I.A. Kochetkov, according to the researcher, "reliance on the process of solving problems orients the analysis of the composition of the generalized skill that should be formed in the student, and the creation of conditions for its formation. Task approach requires a clear fixation of those generalized actions and operations that should be formed in students when studying a specific topic" [10, p.344].

All educational activity represents the process of solving educational tasks that "act as a special methodical tool capable of ensuring the assimilation of educational material, the intellectual development of students, the satisfaction of their cognitive needs" [9, p.51]. Teaching on the basis of learning tasks rearranges educational accents from the students 'listening to the subject material on their learning activities and the development of thinking. According to V.V. Davydov's educational task "stimulates the thinking of schoolchildren to explain the unknown, to master new concepts and ways of acting" [6, p. 29]. A.F. Esaulov emphasized that "tasks should not only and not so much contribute to the consolidation of knowledge, training in the application of the laws under study, but rather the formation of the research style of mental activity" [20, p.7].

Let us turn to the interpretation of the concept "task". Scientists and researchers of teaching methods in mathematics, psychology, pedagogy, cybernetics, computer science and other areas of scientific knowledge interpret this concept differently. For example, A.V. Brushlinsky defines a task as a problem arising from practical or theoretical difficulties, having a verbal formulation in which the conditions and requirements are highlighted [3]. E.F. Esaulov believes that the task is a consistent and contradictory systems of information processes, causing the need for their transformation [20]. Analyzing various approaches, we can single out a common feature of this concept: the task is the carrier of objective actions, as a result of which the students will be developed. The learning task is always aimed at the development of the student and represents a complex system of information about an object or phenomenon, some of the information in which is known (defined), and the other part is unknown (it must be found). There is also a special class of tasks, which we define by the term “Algorithmic Problem” by which we mean a task, the result of the solution of which is a compiled algorithm. Thus, by the task approach we mean the approach to the organization of training, in which the process of solving problems is the dominant method of developing students' thinking (including algorithmic) and forming key universal educational actions in their single set or each action separately.

By key universal learning activities, we understand “a set of specific universal learning actions, separated from the requirements for metasubject learning outcomes based on their metafunctionality, which are the foundation for achieving objective results in mathematics and ensuring students' readiness to apply mathematical knowledge in other subject areas” [7, p. .26]. By algorithmic thinking, we understand the style of thinking, including a system of mental operations, techniques, mental modes of action that are aimed at finding an effective solution to theoretical or practical problems, the result of which is an algorithm, a clear plan or instruction.В решении учебных задач результатом усвоения считается не только способность воспроизведения образцов, заданных учителем, но и процесс самостоятельного поиска решения.

Means of solving problems can be: the knowledge used by students, formulas, diagrams, texts, various tools. Therefore, it is important for the teacher not only to competently organize the process of solving the problem so that the learner shows cognitive activity, but also to motivate the learner for such activities. At the same time, it is necessary to take into account information models of thinking and memory [15], based on all areas of memory: sensual, model, conceptual and abstract (see Fig. 1)

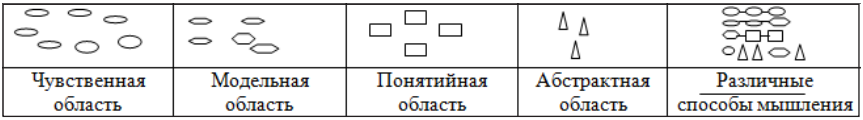


Figure 1. *Information model of memory and ways of thinking*

"Cognitive activity is associated with personal goals and intentions, personal needs. In many respects, they determine the emotional selective attitude to reality, the need for relevant knowledge becomes a prerequisite for the active cognitive activity of students. The desire to solve a problem, get out of a situation of difficulty, solve a contradiction between known knowledge and new data forms a cognitive need" [2, p.23].

The didactic potential of school subjects is proposed to be enriched with a specially organized system of tasks, either by changing the structure of the tasks themselves, or by using a specific way of representing the solution of the problem. Let us give examples of possible modernization of the substantive subject base on the basis of the subjects "Informatics" and "Mathematics".

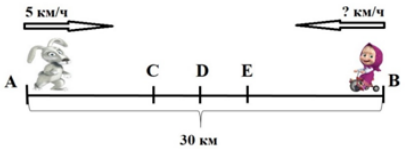
Subject area "Mathematics".

The didactic element enriching the content of the course of mathematics is represented by a cluster of special learning tasks, the fundamental basis of which are:

- basic tasks associated with the planned results of learning mathematics, focused on the development of software content;
- interdisciplinary design problems solved by mathematical methods;
- interdisciplinary teaching and research tasks, the solution of which occurs in the process of self-organization of students [8, p.38].

Let us give an example of a basic task (Fig. 2) aimed at the formation of the key universal educational action "Decoding Information" for students in grade 5.

«Внимательно рассмотри рисунок и заполни пропуски в тексте задачи.



Из пунктов А и В одновременно _____ друг другу отравились _____ и _____. Скорость _____ 5 км/ч, а скорость _____ неизвестна, но она вдвое больше, чем у _____. Через какое время произойдет встреча, если известно, что расстояние между пунктами А и В равно _____».

Figure 2. *An example of a basic math problem*

Answer: From points A and B simultaneously a pedestrian (hare) and a cyclist (Masha) set out to meet each other. The pedestrian speed is 5 km / h, and the speed of the cyclist is unknown, but it is twice as fast as the pedestrian. After what time will the meeting occur, if it is known that the distance between points A and B is 30 km?

This task reveals the possibility of forming a key ECD "decoding information" by means of the students performing the action of its component. The drawing shows the plot of the task, stimulating the implementation of the motivational component, through the involvement of the subject experience of the student (sensory memory). The students accept the goal of decoding this drawing, there is a desire to achieve a high result. Next, an indicative component of the action is involved, its cognitive part is reflected in the definition of specific symbolism corresponding to the process of "moving in the opposite direction" (conceptual and model memory areas). This is indicated by the symbols: the presence of objects participating in the movement; arrows indicating the direction of travel; reduction of units of speed measurement - km/h (abstract memory area). In the praxeological part of the action, the students analyze the symbols of the drawing and determine the type of the process "counter-movement"; the objects of motion are defined and their relations are supplemented with characteristics (building mental chains). The finished speech utterances that make up the linked text are complemented by missing information. The reflective component is performed by correlating the result obtained with the drawing, each statement is checked for the presence of the described data in the drawing.

Subject area "Informatics"

In the works of R.S. Nemova, it is noted that any learning and cognitive activity is a form of activity aimed not only at acquiring knowledge and skills, but also at developing abilities, memory, thinking [13]. Consequently, active cognitive activity is associated with learning motivation, encouraging the student to solve problems.

A number of domestic scientists note that the priority direction in the content of the informatics course is a fundamental scientific component, focused not only on learning the fundamentals of informatics science as such, but also on developing the student's algorithmic thinking qualities that are necessary for successful adaptation in professional activities and modern society [11].

Let us give an example of a trit card for solving algorithmic problems (Fig. 3), which visualizes the stages of a solution and increases cognitive activity by relying on empirical experience. It consists of three parts and is based on the concepts: the life situation, the mental scheme, the block diagram, involves the sensual, conceptual, model and abstract areas of thinking and memory. The students, on the basis of the visualized life situation, isolate the cognitive problem, make up a certain model of its solution (based on the mental scheme), and then construct a block diagram of the corresponding algorithm. This method of solving algorithmic problems seems to be effective due to the reliance on the empirical experience of students, its sensual memory region [4, p.51].

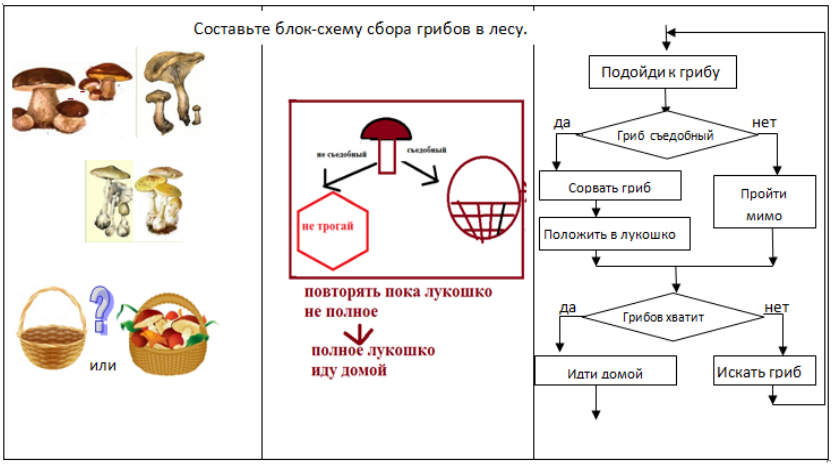


Figure 3. *An example of a trit card for solving an algorithmic problem*

The transition to the mental model develops thinking by building logical chains from different memory areas (see Figure 1). The abstract process of drawing up a flowchart, which is rather complicated for students, is facilitated by the interrelation with the two previous components — the life situation and the model of its solution, presented in the form of a mental scheme. The success of the solution is ensured by cognitive activity at the stage of acquaintance with the task by relying on the subject experience and the unusual form of recording the model for solving the problem (the second part of the card).

Thus, the basis for the development of the student's cognitive activity is the competences acquired by him in the process of independent solution of the problem (universal learning activities), and the cognitive activity itself determines the development of algorithmic thinking. Altukhova M.A. believes that the ability of the student to perform universal learning activities related to the perception, comprehension, assessment of information, is the basic minimum of cognitive activity [1].

Based on the above, we can conclude about the universal role of the task approach for the effective formation of universal learning activities, the cumulative development of cognitive activity and algorithmic thinking of students.

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信息技术在听力受损儿童现代教育系统中的作用

THE ROLE OF INFORMATION TECHNOLOGY IN THE MODERN EDUCATIONAL SYSTEM FOR HEARING-IMPAIRED CHILDREN

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注解。本文确定了在教授听力障碍儿童中使用计算机工具的特点，描述了将其纳入教育过程的主要方向和方法，提出了改进目前使用的将信息和通信技术纳入特殊教育的方法的方法。系统。作者揭示了软件和硬件在现代听力障碍和听力障碍儿童教学系统中的作用，考虑到他们在三个领域的使用：特殊教育组织的管理，校正组件的个别实施，学习过程中的学习过程。传统的课堂教学体系。需要研究在听力障碍儿童的课堂上使用信息技术，开发现代使用方法以及找到能够确保实施校正部分的相关计算机程序，这在科学上得到了证实。

关键词：信息技术，特殊教育，听力障碍，学龄儿童，软件，方法，教育技术手段。

Annotation. *The article identifies the features of the use of computer tools in teaching children with hearing impairments, describes the main directions and methods of their inclusion in the educational process, suggests ways to improve the currently used methods of integrating information and communication technologies into the special education system. The authors reveal the role of software and hardware in the modern system of teaching hearing impaired and hearing-impaired children, considering their use in three areas: administration of the organization of special education, individual implementation of the correction component, the learning process within the traditional class-lesson system. The need to study the use of information technology in the classroom for children with hearing impairment, to develop modern methods for their use and to find relevant computer programs that can ensure the implementation of the correction component is scientifically substantiated.*

Keywords: *information technology, special education, hearing impairment, schoolchildren, software, methods, technical means of education.*

Informatization and the modern technologies connected with it have long been an integral part of our life, so the widespread use of computer tools in the field of education is a logical and indisputable consequence of this fact. Many states actively support and introduce advanced methods of information interaction into the educational system, as today it is the most effective way to develop national intellectual potential. Our country is actively involved in this process, denoting in the strategy "Kazakhstan - 2050" and the program "Information Kazakhstan" priority areas - the modernization of the education system with large-scale support of information and telecommunication technologies [1].

The integration of computer learning tools into the domestic pedagogical environment is already quite deep at the moment. Updating and expanding the technical base of educational organizations, improving the methodologies for integrating hardware and software components into the educational process, ensuring the development of an information culture of teachers and students are tasks successfully solved within the framework of Kazakhstan's educational policy [2]. The state standard clearly defines the role of information and communication technologies in the pedagogical system; however, in our opinion, for a special (correctional) school, this role needs to be clarified based on the object and specificity of its work. Therefore, the purpose of this article is to identify the features of the use of computer tools in teaching children with hearing impairments, to describe the main directions and ways of their inclusion in the educational process, to offer options for improving the methods currently used.

Fundamental studies of scientists involved in the training and education of deaf and hearing-impaired children (L.S. Vygotsky [3], R.M. Boskis [4]) showed that impairment of the auditory function negatively affects not only the development of the speech apparatus, but also on cognitive abilities. The limited information exchange and social interaction caused by problems with verbal communication, lead to the impossibility of perception of educational material in full. In addition, reduced or absent hearing leads to an increased load on the vision, as on the main analyzer, compensating for the partial or complete impossibility of perceiving sound signals. The consequence of this is frequent fatigue, distracted attention, an increase in the time interval necessary for understanding the content of the topic being studied.

Considering this problem from the modern point of view, based on the capabilities of the currently available technical means, teachers M. A. Karlova, A. A. Samorodina [5] and E. V. Shevchenko [6] suggested using multimedia, computing and communication capabilities computer and peripheral equipment for solving educational and correctional tasks in a school where children with hearing impairments are taught. In our opinion, in order to fully reveal the role of information technologies in the modern system of teaching hearing impaired and hearing im-

paired children, it is necessary to consider their use in three areas: administration of the organization of special education, individual implementation of the correction component (for example, in the classroom on the formation of pronunciation and development of auditory perception) and , directly, the educational process in the framework of the traditional class-lesson system.

So, the first category of software and hardware - school management automation systems. After the successful launch of the “Electronic Government” project, Kazakhstan began to actively implement electronic document flow in all government institutions [7]. Thanks to this, all schools gained access to the national system for storing, processing and monitoring data on the effectiveness of the education of each child “Kundelik.kz”. However, in addition to assessments, each educational organization has a huge array of information, including information about the contingent, organizational and training materials. In addition to this, schools for children with hearing impairments operate on information about the child’s psychophysical state, the dynamics of speech and perception skills, the conditions for adaptation and the inability to hear (full or partial). Fast access to such information by all participants in the pedagogical process can greatly facilitate the choice of an individual learning path, as well as ensure a more effective implementation of the principle of differentiation.

To date, the mass introduction of such automated systems does not occur, schools independently computerize internal workflow to one degree or another. This process consists both in using the resources of the teaching staff and support staff, and in the use of proprietary software. An example of such a commercial product can be the Russian system "1C: School Management", which provides the possibility of automated management of both educational and economic activities. At the same time, initially without possessing the tools to support special (correctional) schools that teach and educate children with hearing impairments, this software package is quite variable to adapt its functionality to the needs of such organizations.

Thus, in view of the lack of systematization at the moment in the automation of intraschool management, an independent solution of the problem of electronic document management may indicate the interest of the school (including correctional) in quality education. If she adheres to such an approach, then, according to I. G. Zakharova [8], rational use of information technologies in the field of administration of pedagogical, educational and related processes will make it possible to more successfully solve the following tasks:

- ensure planning and systematic work of the organization of education;
- monitor the effectiveness of training, respond to changes in dynamics;
- implement the principle of individualization and differentiation;
- to maintain a health-saving regime, a favorable psychological atmosphere;

- to organize the continuous interaction of all subjects of the educational system.

Next, we consider the second category of information and communication tools that can be involved in the framework of the school for children with hearing impairments - deaf technical (software and physical). The importance of remedial work (especially individual) in a special school is difficult to overestimate. Scientists and teachers O. I. Kukushkina, T. K. Korolevskaya, Yu. B. Zelenskaya [9], who studied the use of information technologies in the formation of pronunciation in children with hearing impairments, justified the need for individual lessons. The complex system of speech development and auditory perception in such children preserves the unity of forms and methods throughout the entire period of their training. The deaf-and-dumb educators in such classes reveal the possibilities of residual hearing and intact analyzers to create a clear picture of the hearing, hearing-visual and sensory images in the child, and develop communication skills in the speech environment.

Technical means of visualization of sounds and voices began to be used when teaching children with hearing impairments a long time ago (from the middle of the 20th century), today they have been replaced by special computer simulators. They allow not only to increase the effectiveness of the deaf-and-dumb teacher, but also to maintain the child's permanent interest, since bilateral activities are important in individual classes [9].

The localized version of the American Visible Speech program and the Russian Delfa software-hardware simulator are among the most popular computer tools in the national deaf-and-dumb school. These programs allow you to present the individual components of oral speech in the form of interactive animated images, clearly showing children the correctness of the pronunciation of certain sound structures by them. A supporter of the computerization of special education N. N. Malofeev [10] in his publications also confirmed the positive impact of information technology tools used in individual classes with deaf or hearing-impaired children on learning speech breathing, correct sound pronunciation, development of fluent speech and phonemic hearing.

It should be noted that working with the above-described software products becomes difficult over time due to the termination of their support by manufacturers, and, as a result, incompatibility with the new equipment. There is no alternative to them in the domestic market. Based on how effective computer tools make the process of correctional impact on children with impaired hearing, their absence can become a serious problem. This issue should be resolved at the state level with the involvement of domestic and foreign software developers, as the schools themselves have neither the technical nor the financial ability to get out of this situation. In our opinion, the relevance of this problem only confirms the

need to study the use of information technologies in individual remedial classes in school for children with hearing impairments, to develop modern methods for their application and to search for relevant computer applications.

Now consider the third, most extensive category of computer tools used in school for deaf and hearing-impaired children - teaching and learning programs and support systems for the pedagogical process. American professor L. Roberson [11], who studies the issues of teaching people with hearing impairments, stated the widespread inclusion of information technologies in the teaching of academic disciplines in special educational institutions. According to his research, 84% of deaf-and-dumb pedagogues in one way or another use computer programs or multimedia equipment in each training session. Kazakh professor K. K. Kulambaeva [12], considering the modern approaches to the organization of the pedagogical process in a correctional school, noted the advantages of electronic visualization tools in the development of the cognitive sphere of hearing and hearing impaired children. There are four situations in which the use of information and communication technologies is justified and effective:

- computer literacy training for children with hearing impairment in computer science lessons (the current curriculum on this subject implies mastering the full course, along with hearing children, but for a longer period);
- use of computer tools for visualization and visual interpretation of educational material in the study of various subject disciplines (the most popular methods today are watching videos on a projector screen and working with a presentation on an interactive whiteboard);
- work with electronic textbooks, digital educational resources, Internet encyclopedias, testing and control systems (the metered inclusion of such activities allows not only to increase the interest of hearing and hearing impaired children in learning, to expand and deepen their knowledge, but also to instill independence in working with new information);
- integration of several subjects with the help of computer modeling systems and specialized software systems (our teaching experience shows that for the sustainable mastery of knowledge, children with hearing impairments need to be given the opportunity for their practical implementation, with many experiments that can be carried out within the school base, successfully realizable only by computer model).

In our opinion, each use of information technology during the lesson should be organized purposefully and be objectively justified. For example, the choice of hardware support for pedagogical activity is often determined on the basis of the state of the school material and technical base and its financial capabilities. Functionally diverse models of the same category of peripheral equipment are similar (for example, interactive boards of different generations globally solve

one problem - displaying an image from a computer on a large screen with the possibility of convenient interaction with it), therefore the effectiveness of their use is determined to a greater extent by the skill of the teacher and his skill available and informative to present educational material. At the same time, the choice of software is determined by many factors, since it initially lays down a certain methodological potential.

Today the market of educational computer programs is presented rather widely. Therefore, the teacher who decided to include work with electronic applications in his lesson has an important task - to choose the right software correctly. For teachers working with deaf or hearing-impaired children, this is especially important, since programs that are too complex or do not have sufficient functionality can not only form an erroneous idea of such a subject in such children, but also significantly reduce interest in learning. We propose to adhere to the following algorithm when preparing for a lesson using information technology:

- analyze the selected topic and lesson material, determine the list of possible interactions with the software (observation, information retrieval, practical work);
- to determine the potential opportunities of students, based on the individual characteristics of the development of their cognitive sphere and the degree of damage of the auditory analyzer;
- find out if additional training is required for children for the lesson (for example, whether similar software was learned in computer science lessons);
- study the selected program, compare its functionality with the objectives of the lesson and the abilities of children;
- to develop educational and methodical base necessary for conducting the lesson.

Let us give examples of the use of software and hardware tools for teaching various lessons in a school for children with hearing impairments. Option one is the use of the Sponli.com three-dimensional model of the solar system in a geography lesson. It allows not only to visually present the overall picture of the location of cosmic bodies, but also to examine in detail each planet individually, to track the dynamics of movements. Since, within the framework of this lesson, a visual presentation of the material is sufficient, interactivity from such a software product is not required. However, if we study the same solar system within the framework of physics lessons, where it is necessary to calculate the masses and velocities of the planets, a simple three-dimensional model will not be enough. In this case, for example, you can use Excel spreadsheets or programming environments (PascalABC, Java) [13].

Option Two - the use of word processors in the study of languages. Practice shows that children with hearing impairments are more actively involved in the educational process if new techniques are used for them. For example, a set of

dictation on a computer instead of writing it in a notebook allows you to somewhat diversify the lesson, and sometimes this approach can be quite interesting. In addition, the Word text editor tools support the addition of graphic images, thus it is possible to invite children to show their creativity when performing a standard task. Many well-known programs today are multilingual, so this kind of work can be done both in Russian and Kazakh and English lessons, while retaining all the listed functionality.

The third option is the use of virtual laboratories in chemistry classes. On the average link, it can be such programs as “VirtuLab”, which allow to demonstrate some experiments visually. The systems of tasks presented in them, as a rule, are set out in an accessible language and are illustrated, thus, children with hearing impairment will not have any particular difficulties in mastering them. In high school, you can use more complex programs, for example, "ChemLab". Offering a large selection of instruments and reagents, the interface of such programs also provides the ability to track and control many chemical parameters, which makes conducting experiments in this computer model variable, reliable and, moreover, safe. Didactically, not yielding to traditional practical exercises, such software systems can be used when it is impossible to carry out real laboratory work, while consolidating students' knowledge.

Thus, various forms of application of information technology in a school for children with hearing impairments today are not experimental innovations, but an objective necessity that acquires the status of an educational paradigm. Indeed, in modern conditions it is impossible to abandon the possibility of improving the quality of the pedagogical process, especially if all the necessary technical tools for this are available to each subject of the school system, the main thing is the ability and desire to use them.

Summing up, I would like to note that the peculiarity of information technologies used in schools for children with hearing impairments is their corrective orientation. It can be either direct (voice simulators, digital audiometers) or indirect (the correction component is implemented in the framework of tasks performed using computers or office equipment). The examples considered in this article show that the role of information technologies in a special school is more significant compared to general education, since the compensatory function performed by them allows deaf and hearing-impaired children to have equal access to education. In addition, the inclusion of computers in the learning process allows teachers to more efficiently distribute study time, thereby opening up opportunities for improving the efficiency of learning material acquired by children with hearing impairments.

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适应性可能性和健康状况青少年
CONDITION OF ADAPTIVE POSSIBILITIES AND HEALTH OF TEENAGERS

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注解。 本文介绍了一项关于青少年健康状况的研究数据。 已经建立了受试者健康状况与其适应能力的联系。 发现了五年级学生的适应水平较低，并且确定了患有心身不适应的儿童，导致了一种具有固定负面经历的“不健康”生活方式。 据推测，预计患有心身疾病的适应能力较低且未来健康水平下降的儿童。

关键词：适应，健康，青少年。

Annotation. *The article presents data from a study of the health status of adolescents. The connection of the health of the subjects with their adaptive capabilities has been established. A low level of adaptation of fifth-graders was revealed, and children with psychosomatic disadaptation, leading an "unhealthy" lifestyle with fixed negative experiences, were identified. It is assumed that children with a low level of adaptability of psychosomatic diseases and a decrease in the level of health in the future are expected.*

Keywords*: adaptation, health, teenagers.*

Health, as defined by the world health organization, is a state of complete physical, mental and social well – being, not merely the absence of disease and infirmity. Approximately the same definition of "health" is given in the Great medical encyclopedia.

Habitat is a set of natural and social factors that affect the growth, development, General condition of organs and systems of the body as a whole. Compo-

nents of the environment (water, air, food, soil, climate, etc.) can have a direct or indirect impact on human health at any age period of its development. They are more or less cause a response of the body, can provoke disease. Thus, health is a reflection of the relationship between the body and the environment. If these relationships are balanced, the person is practically healthy [7].

Health indicates the adaptation and resistance of the body to changing conditions of existence.

Adaptation is the adaptation of the organism as a biological system to the environment. There are three types of adaptation: physical, physiological, psychological. Physical adaptation-adaptation of the organism to climatic and geographical conditions, acclimatization in different geographical zones. Physiological adaptation-physiological changes in the body that provide adaptation to changing environmental conditions (high and low temperatures, lack of oxygen, etc.).

Mental (social) adaptation – behavioral adaptation, or human activity to adapt to production and social conditions. The physiological meaning of adaptation is to maintain the biological system of homeostasis. At the same time, physiological mechanisms of the body's resistance to environmental changes appear [7].

Human health is ultimately determined by the capacity of its adaptive reserves. The higher the functional reserve, the lower the "adaptation cost". Adaptation of the organism to the new conditions of life is provided not by separate organs, but by coordinated in time and space and subordinated to each other specialized functional systems [2]. The main role in maintaining the mechanisms of active adaptation and stability is assigned to the nervous and endocrine systems, i.e. rapid response systems. Failures in the work of these systems reduce the stability of the body and are the cause of many diseases.

Adaptability is an innate and acquired ability to adapt to the diversity of life under any conditions. There are high, medium and low degree of human adaptability [1]. The level of adaptability increases or decreases under the influence of education, training, conditions and lifestyle. Emerging or formed personal characteristics, orientations, choice, hierarchy of value systems, goals and needs, claims, the level of verbal (formed by education, training and life) intelligence and culture, including the culture of emotional expression and interpersonal relations, facilitate or complicate the adaptation of a person in real life, also being factors of adaptability.

High or normal adaptability is favorable psychophysical data, high efficiency, endurance, stress tolerance, high or normal learning ability and the ability to gain experience, unconditional self-confidence, adequacy of claims and choice of life goals [1]. It is obvious that promoting the acquisition of the qualities of normal adaptability and, as a consequence, sufficient adaptability is one of the main concerns of a healthy lifestyle teacher (HLS) in working with low — adaptive and maladapted children.

The study involved 132 students of the fifth grade of the Lyceum № 44 of Lipetsk (63 girls and 69 boys). It is known that by 9 – 10 years not only functional, but also adaptive capabilities of an organism of the school student are improved. To identify the level of adaptability, we used a test method.

The proposed questionnaire grouped the main complaints arising in the presence of deviations from the nervous, cardiovascular systems, gastrointestinal tract, kidneys, diseases of the nasopharynx and allergic conditions. Purposeful research is of particular importance, as often these pathologies are not detected fully enough, which in turn leads to untimely preventive measures and reduces their effectiveness

With the sum of positive answers ("Yes") no more than 3 – adaptability is high, if 3 – 10 – average, over 10 – low, 20 – 25 – very low [8].

Although the majority of children successfully go through a difficult period of adaptation to school at the middle level (another school building, changing classrooms, new teachers), in addition, during this period, girls undergo intensive puberty processes, for some, the associated tension is excessive. These students may experience a variety of functional disorders, including reduced mental and physical performance, reduced immunobiological, protective properties, increased morbidity. In this regard, the role and importance of the regulatory function of the autonomic nervous system in ensuring psychophysiological adaptation has increased.

126 students were surveyed (of them 59 – girls (46, 8 %) and 67 – boys 53, 2%, respectively) and found that 69 students or 54, 8% (of them 33 – boys – 49, 3% and 36 – girls – 61 %) responded positively to 3 or more questions that were aimed at identifying possible pathologies of the nervous system (neurotic and autonomic disorders).

42 students or 33, 3% of them 18 boys (26, 9 %) and 24 girls (40, 7%) answered positively to the questions concerning possible diseases of the cardiovascular system. 74 adolescents answered positively one or more questions to the questions aimed at identifying suspected diseases of the nasopharynx, which amounted to 58, 7% of them 36 boys (53, 7 %) and 38 girls (64, 4%), respectively. Answers " Yes " to two or more questions aimed at identifying possible pathology of the gastrointestinal tract gave 49 students (38, 9 %) of them 20 boys (29, 9 %) and 29 girls (49, 2 %). Positively on the questions that concerned possible diseases of the urinary system of 20 people, which amounted to 15, 9% of them 8 boys (11, 9%) and 12 girls (20, 3%). 46 fifth-graders (36, 5 %) of them 22 boys (32, 8 %) and 24 girls or 40, 7% respectively noted allergic manifestations in themselves. And of the 126 students surveyed, only four or 3, 2 % did not report any symptoms (3 boys - 4, 5% and 1 girl – 1, 7 %).

The investigated systems in order of the frequency of complaints arising from the children interviewed are arranged as follows.

Group	*A Place*					
	1	**2**	**3**	**4**	**5**	**6**
Boys	Otorhino-laryngol.	nervous system	Allergic	Gastrointest.	cardiovascular system	Urinary system
Girls	Otorhino-laryngol.	nervous system	Gastrointest.	Cardiovascular system & Allergic		Urinary system
Total	Otorhino-laryngol.	nervous system	Gastrointest.	Allergic	cardiovascular system	Urinary system

We have conducted a study of the level of adaptability of students of the 5th grade parallel MoE Lyceum № 44 Lipetsk. 132 students (63 girls and 69 boys) were surveyed and it was found that 98 students (74, 2%) had high and normal adaptability, of them 42 girls (66.7%) and 56 boys (81, 2%), and 34 (25, 75%) of them 21 girls (33, 3%) and 13 boys (18, 8%) were low-adaptive, respectively.

It was revealed that 29 students (22%) belong to the III group of health from the total contingent of the surveyed; 84 fifth-graders (63.6%) have the II group of health; and only 19 belong to the I group of health (11.4%), which confirms the low level of health of schoolchildren, noted by a huge number of authors. At the same time, among children belonging to group I of health, four (21%) have low adaptability; of all adolescents with group II of health, 21 students (25%) have low adaptability; and of all children belonging to group III of health, 9 have low adaptability (31%). Based on the results obtained, it was found that, on the one hand, the decrease in adaptability correlates with the level of health, and on the other – group I health does not guarantee high adaptive abilities of the organism. Thus, we can conclude that adaptability is significantly reduced overall, 25.7% of the surveyed, i.e. more than a quarter of adolescents is a violation of harmony of "body and soul", as the maladjustment is always a psychosomatic (body and soul).Результаты исследования позволяют проследить взаимосвязь уровня и пропусков занятий учащимися по болезни. Нами установлено, что более 70% (20 дней и более) пропусков по болезни имеют учащиеся с низкой адаптированностью – 12 учащихся (35,3%) из них 7 девочек (33,3%) и 5 мальчиков или 38,5 % соответственно.

Psychosomatic diseases-an integral part of psychosomatic maladaptation of the person. Accordingly, violations of the harmony of mental and vegetative-somatic functions are eliminated by rest, changes in the situation (for example, during weekends and holidays), the ordering of the mode of life, physical education and sports, switching to a new kind of activity (hobby), etc.

Conclusion. The results of the study not only showed a low level of adaptation of fifth-graders, but also revealed children with psychosomatic maladaptation, leading an "unhealthy" lifestyle and having fixed negative experiences. In this regard, it can be assumed in the future the emergence of children with low levels of adaptability of psychosomatic diseases and reduced health.

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教师的道德能力价值在形成学生的道德态度的过程中
THE VALUE OF ETHICAL COMPETENCE OF THE TEACHER IN THE PROCESS OF FORMING MORAL ATTITUDES OF PUPILS

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注解。 文章揭示了专业教学交流问题的现实性。 提出教师的道德能力在形成学生道德态度的过程中的作用。 该过程的有效条件在文章中。

关键词：专业教育交流，伦理能力，道德原则。

Annotation*. In the article reveals the actuality of the problem of professional pedagogical communication. Presents role of ethical competence of the teacher in the process of forming moral attitudes of pupils. The effective conditions of this process are in the article.*

Keywords*: professional pedagogical communication, ethical competence, moral principles.*

In recent years, in connection with the educational system reforms being carried out in Russia, great attention has been paid to the issues of improving the work of teachers in the Russian school. In particular, much has been said about the need to improve the quality of teaching school subjects, to create a competitive wage system, to modernize and improve the technical equipment of schools. However, behind all this, the key task of reforming the education system in the country is the need to improve professional skills and the level of teachers.

One of the indicators of the quality of pedagogical personnel is the level of ethical competence of teachers themselves, and not by chance, because pedagogical activity is of a special nature - it can be considered as a special type of human spiritual production as the highest value of culture [2]. The ethical competence of teachers is understood as “a complex socio-pedagogical education based on the integration of pedagogical knowledge, practical skills in ethics and a certain set of personal qualities, determining readiness for ethically adequate behavior in society in situations of moral choice” [1].

The ethical competence of the teacher consists of a variety of moral, psychological, motivational, behavioral, and other components. The level of ethical competence of teachers in the end determines the nature of their relationship with students, students, students, and also directly affects the etiquette of communication in the professional educational environment and the relationship within the teaching staff.

What elements should be included in the etiquette of professional and pedagogical communication of a modern teacher and be a part of his ethical competence - today the question is debatable. Different researchers solve this question differently, but in one all experts agree - the etiquette of a modern teacher should be based on an unconditionally respectful attitude both to students and their parents and colleagues in the pedagogical workshop. A constant ethical value in the behavior of a pedagogical worker is the maintenance, adherence and deliberate rejection of public discredit of generally accepted rules of behavior in society. This requires special restraint and perseverance from teachers, because today the school, like no one else, is acutely and sometimes very painfully confronted with the consequences of the negative influence on the behavior of children of such social factors as the media, the Internet, youth subcultures, etc.

To demonstrate to students the possibility and reality of moral opposition to such destructive influences, each teacher must have an internal ethical core that will allow him in ethically complex and controversial situations to make the right moral choice and demonstrate polite, correct treatment, consistency, impartiality, the fundamental desire to deeply understand the essence of the question, the ability to calmly listen and understand another position or point of view; Demonstrate equal attitude to all, prudence, validity and reasoning of the statements and decisions made [1].

Respect for oneself and respect for the personality of the student, whatever the last one, is the basis of the professional pedagogical etiquette of the modern teacher. Without respect for the student it is impossible to bring up his personality, it is impossible to make him a person.

Another moral imperative that defines the etiquette of professional and pedagogical communication, conscious denial of discrimination, in whatever form it may be expressed, follows from the principle of respect for the student, himself and colleagues in the pedagogical workshop, ironically speaking to the student, in mockery, in unwarranted pity, in belittling the mental and physical virtues of the child, in insulting, etc. All of this modern teacher should avoid, because what was once the norm of school life, today is not accepted by society as a whole or by students.

Recognition of the uniqueness and value of the personality of each child should predetermine the nature of the teacher's communication with students. And such recognition should not be formal - every teacher should strive to find, see and de-

velop his personality in the child. And for this to recognize and accept as an independent value the identity of another person, especially if this person is still small and not always intelligent, is not always easy. But it is through this moral work that another important component of the etiquette of professional and pedagogical communication of a modern teacher is formed - his value setting to recognize the student as a separate, self-sufficient and self-valuable unit, as a full subject of pedagogical communication [2].

Of course, it is impossible to speak about the teacher's high ethical competence, about his professional etiquette without an active life position. A modern teacher, entering into the sphere of professional and pedagogical communication with a wide range of social subjects, must not only demonstrate high morality and ethical behavior. He should also actively strive to eradicate and neutralize such negative phenomena in the educational process as rudeness, disrespect towards others, pupils, colleagues, unjustified egoism, unmotivated ambition, indifference, personal indiscretion, indiscretion in the choice of teaching methods and abuse of rights [1].

A modern teacher should be able to counter the negative and destructive social influences of positive examples of moral purity, endurance, human dignity, mercy, kindness, responsiveness, etc.

The most important factor of positive behavioral influence on students, determining the level of professional ethics and etiquette of a modern teacher, today is his sincere dedication to his work. When a teacher works "for show", he refers to his duties formally, without experiencing sincere enthusiasm for pedagogical work, the "degree" of his professional etiquette inevitably decreases. The formal "departure" of pedagogical duties inexorably deforms his professional and pedagogical communication with students, parents of students, and fellow teachers, impoverishing him emotionally and spiritually, diluting folding relationships, making them purely functional, utilitarian.

Taking into account all the above, it can be noted that in modern conditions of a dynamically developing society, experiencing a lot of negative social influences both from the inside and the outside, the etiquette of the teacher's professional-pedagogical communication should be given increased attention, since it is in school where children spend a significant part of of their time, their personalities are formed, the characters are formed, the moral attitudes and values mature, which will predetermine their behavior in life in the future.

High ethical competence of teachers and developed etiquette of pedagogical communication can serve as a kind of "vaccination" against the destructive social impacts on children from society. By maintaining his personal moral etiquette at a high level, the teacher thereby contributes to the formation of a strong ethical and moral culture of his students - the new generation that will make their country's life in the future.

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教育学生自信心的一些方面
SOME ASPECTS OF EDUCATING STUDENTS ABOUT SELF-CONFIDENCE

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注解。 培养能够自我表达和自我发展的自信人格 - 这是更新教育的价值和使用交互式教学技术的发展教育的作用，其使用可以有效地纠正动机和意志领域的特征。 人格与建构性人际互动的过程。 本文讨论了学生自信心形成的一些方面。 最新的教育过程是对其目标，意义，内容和应用创新教学技术的回顾，其使用有助于提高学生的自信心。

关键词：自信心的形成，自我发展，自信，对自我实现的渴望，自我肯定。

Annotation*. Raising self-confident personality capable of self-expression and self-development - this is the value of renewed education and the role of developmental education using interactive didactic technologies, the use of which can productively correct the characteristics of the motivational and volitional sphere of the personality and the process of constructive interpersonal interaction. This article discusses some aspects of the formation of students' self-confidence. The updated educational process is a review of its goals, meaning, content and applied innovative didactic technologies, the use of which contributes to the growth of self-confidence among students.*

Keywords*: the formation of self-confidence, self-development, assertiveness, the desire for self-actualization, self-affirmation.*

The realities of modern life tell us that today there is a demand for a person in society who can freely express his opinion, is able to openly declare himself, to defend his point of view.

Professor Kulambaeva K.K. and others believe that this is a significant factor for improving the efficiency of students' learning of subject knowledge, the formation of skills and competencies, the image of the world and the value-semantic foundations of personal moral choice [1, 335], and in the future this factor will become the basis for developing self-confidence in each personality.

In this connection, the cultivation of a self-confident person capable of self-expression and self-development - in this we see the true value of the updated education and the role of developmental education using interactive didactic technologies, the use of which can productively correct the characteristics of the motivational and volitional personality sphere and the process of constructive interpersonal interactions.

So, firstly, the concept - assertiveness (assert, assertiveness). We understand it as a system-forming property of the personality of a modern person with an innovative culture.

It is here that the question arises of the need to develop not only the adaptive, but also the creative abilities of each student in the process of mastering universal learning activities in both secondary school and higher education.

Secondly, the concept of "self-confidence." In the explanatory dictionary of the Russian language, Ushakov D.N. given the meaning of the word "confident", which is defined as "solid, unshakable, completely convinced of something, firmly believing in someone, something" [2, 868].

Approximately the same meaning is given in Ozhegov's dictionary: "... confidence" - "a firm belief in someone, something (in his own strength, in his friends, a feeling of confidence)" [3, 1227].

However, the Dahl dictionary also provides a kindred concept of “self-confidence,” for example, “... A self-confident person, arrogant, trusting much to himself ...” [4, 136].

The person "... self-confident (disapprovingly) - relying entirely on himself, highly appreciating his strength, 2) resolute, alien to doubts and hesitations ... expressing a high opinion of himself, lack of timidity and shyness" [2, 43].

The person "...self-confident - ... too self-confident, expressing disregard for others..." [2, 1041].

Thirdly, in some psychological dictionaries “confidence” is defined as the experience of a person “...his capabilities, both adequate to the tasks that he faces in life, and those he sets himself...” [5, 376].

Thus, the authors of the dictionaries associate the implementation of the above concepts with the state of mind, which is manifested in the expression of judgment without fear of being mistaken, allowing for doubt or freedom from doubt.

Modern realities are characterized by the large-scale spread of the innovation culture, and the personality is its carrier, therefore there are no doubts for the personality of such a property as self-confidence.

Disclosing the stated topic, we propose to highlight three aspects of the development of the personality of self-confident students:

- confidence in knowledge and skills;

- their implementation in activities and communication, overcoming shyness, timidity, low self-esteem;

- reflection, the perception of a reasonably self-confident, not diminishing his abilities and achievements, but also not overestimating himself in them.

These aspects lead us to a renewed educational process, viewing its goals, meaning, content and applied innovative didactic technologies, the use of which contributes to the growth of self-confidence among students involved in the creative process, as a result of which educational needs are met, as well as stimulated worthy of approval among others.

The main aspect here is the need for students to understand the value of their education for themselves, in the context of their own development, the desire to self-actualize, to acquire a personal entity, both given by nature and acquired through knowledge.

An important role in this process is assigned to us by the studies and the depth of awareness by students of their independent creative work. As in the conditions of increasing aggressiveness of the surrounding world, the activity of the media, cinema, it is difficult for an individual to remain “himself” and maintain self-confidence.

At the same time we designate that self-actualization of the personality of self-confident students requires pedagogical support and support of the teacher and other people, there is a need to facilitate.

Recognizing the dynamism of students' personality traits over the years of schooling, we emphasize the value of developing reflection — awareness of oneself, one’s achievements and failures, experiences, one’s own behavior, one’s own movement “... to the likelihood of personal structures, to detecting changes in the“ I ”with changing experience, and closeness of relations, to the unity and integrity of functioning ..." [6, 108].

Agree with the opinion of Professor A.N. Kosherbayeva that "...in understanding the essence of innovation processes in education, there are two major problems of pedagogy - the problem of studying, summarizing and spreading advanced pedagogical experience and the problem of introducing the achievements of psychological and pedagogical science into practice" [7, p. 32 - 33].

Making a conclusion, we say that the confidence of a person who respects himself and others on the basis of understanding and feeling his own importance, as well as the importance of others, contributes to correct and adequate self-esteem.

The conditions of a renewed educational environment in schools, in which virtual tools and innovative technologies increasingly occupy their place, can

successfully influence the achievement of students' ability and readiness to assert themselves in productive, creative activities. In connection with what the professor Kulambayeva K.K. and others "...practical orientation, ...the ability to learn..." [8, p. 153], which is a factor in improving the efficiency of students' learning of subject knowledge, the formation of skills...", and, in general, nurturing self-confidence.

Thus, we see further perspectives of the topic declared by us: "Education of self-confidence among students, since this is education of a person who is confident in life and competitive in a future profession.

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创世纪的传播观念
GENESIS OF THE CONCEPT OF COMMUNICATION

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注解。 本文简要介绍了沟通的概念。 分析了现代科学各个领域中各种词典中提出的这种现象的定义。 比较了沟通和沟通的概念，突出和描述了它们的区别的一些迹象。

关键词：词典，术语，交际术语，词源词典，交际概念

Annotation*. The article gives a brief genesis of the concept of communication. The definitions of this phenomenon, presented in various dictionaries in various fields of modern science, are analyzed. The concepts of communication and communication are compared, some signs of their differentiation are highlighted and described.*

Keywords: *dictionary, term, communication term, etymological dictionary, communication concept*

The history of the origin of the term communication, borrowed from English and which became relevant in the twentieth century in various fields of science, such as pedagogy, linguistics, psychology, sociology, political science, etc., is very interesting. Communication from the Latin language - common, it consisted of com - together and munis (service or assistance to each other) and meant "to help each other all together" [1, 102].

Eric Partridge in his Origins dictionary. A Short Etymological Dictionary of Modern English notes that the Latin commonwere first borrowed by the French in the sense of “making available to everyone, sharing (news, knowledge), and also sharing with God (that is, praying)” and only at the beginning of the 15th

century entered in English as an "act of communication, an act of communication, disputes, negotiations" [2, 576-577]. At the end of the 15th century, the word e was interpreted as “what is reported / transmitted”, and in 1715 the definition of “means of communication” appeared [3].

According to the research D.P. Communication for the first time was recorded in the dictionary of foreign words “Lexicon of New Vocabulum Alphabetically”, created with the personal participation of Peter I in the XVII-XVIII centuries. It is interesting to note that the words “negotiations” and “message” were equivalent to him, which, according to the scientist, “... indicates the practice of using it in speech ... noblemen close to the throne who are familiar with European languages, naval and army officers, diplomats” [4, 19-20].

Then the word appears in V. Dahl’s dictionary (1881), which “indicates that the term we are interested in went beyond the diplomatic offices, court salons and ... became an element of the living everyday language,” having lost the meaning of “negotiation, communication”, acquired a new meaning “Ways, roads, places of communication” [5, 757].

In the "Dictionary of the Russian language" S.I. Ozhegova, in the 21st (1989) and 28th (2017) editions, the term “communication” is kept in two values: 1. The communication path (for example, connecting the army with its bases) and 2. Conversation [6, 288; 7, 440].

Educational explanatory dictionaries of Oxford, Cambridge, Collins, MacMillan agree that communication is not only the process of transmitting simple information, but also articulating their emotions and ideas, which leads to mutual understanding. (note - the author’s interpretation of several interpretations). Thus, interpretations in the English language more broadly reveal the concept of communication and contribute to a deeper understanding of the term. At the same time, the term “communication” is more commonly used in Russian to describe feelings, ideas, emotions [8, 93–97].

The above interpretations given by the English and Russian lexicographers suggest that in English the basic meaning of the word communication (used only in the singular) is closer in meaning and function to the Russian word “communication”, whereas the meaning of communication or communication is expressed by the word communications (used only in the plural). Since the word was borrowed in Russian, respectively, both of the original values from the English language are included in the definition, thereby giving a narrower meaning to this word.

Golovin S.Yu. defines communication as “a concept close to the concept of communication, but extended. This is a relationship, during which information is exchanged between animate and inanimate nature ”[9, 178].

Communication is a form of life, the social meaning of which is to transfer the forms of culture and social experience. Thus, in the interpretation of Golovin

S.Yu. communication and communication are not identical concepts and converge only in one aspect related to the transmission of the message. The communicative act or the act of communication consists of such components as the addresser, the addressee, the message, the code, the communication channel and the result by which you can evaluate how successful the message was.

According to S.Yu. Golovina, in the process of communication, one person opens his subjective world for another, while in the process of communication they reach some degree of social community, while maintaining the individuality of each. Communication comes from the need for contacts with other people, which in case of success carries an element of joy, and in case of failure, personality disorders. Communication is the semantic aspect of social interaction and consciously focused on the perception of meaning by other people.

Thus, communication is a complex process based on the need to establish contacts for information exchange, joint activities, understanding and influence on a partner, and communication is associated with the direct exchange of information to achieve their goals.

So, the exchange of information is carried out by means of a communicative act, which, according to Golovin S.Yu., can be realized through incentive, informative, expressive and phatic messages. It is necessary to clarify that phatic messages are aimed at establishing and maintaining contact, expressive to the excitation of emotional experiences, informative - to the transfer of real or fictional information, motivating - to persuade, suggestion, request or order.

Kazakhstan scientist Sametova Fauzia [10] gives three meanings for defining communication:

1. The message path, the communication line.

2. Communication, communication.

3. The possibility of operational communication between the various parts of the control system. Effective use of a set of information channels using communication technology. [10, 41].

From her definitions it can be seen that there is currently no specific definition, and communication can be called everything that relates to a message, communication or communication channel.

Thomas Lukman, exploring social communication, wrote that “Today almost everything can be called communication. Therefore, the question arises: does this concept mean anything else?” [11, 3].

The scientist believed that the concept of communication is quite universal and at the same time very vague. Despite the fact that many humanities use it as a general metaphor to describe various ideas about themselves and the world, they revolve around the fundamental concept of the human sciences, which reads: “...man is not a closed monad. Everything in the human world can tell him something” [11, 3].

Lukman T. in his works agrees with the statement of E. Husserl that the people around the world and language "...are inseparably intertwined and always... conscious in their inseparable connectedness horizontally..." [11, 6].

It is the language and its paralinguistic functions that help to extract the keys to affective states, decode phatic messages, which inevitably leads to either rallying or conflict between partners. From the point of view of Lukman T., "the language is the guarantor of ordered relations" [11, 18].

Dokuchaev I.I., cultural scientist, author of the textbook "Fundamentals of the Theory of Communication" (2013) strictly distinguishes the concepts of communication and communication. Based on the works of Chertov L.F., Kagan M.S. and Sagatovsky V.N. and other scientists Dokuchaev I.I. comes to the conclusion that communication has some properties of communication, as a simple exchange and, especially, the transfer of information. As evidence, he cites L.F. Chertov. that "... communication is only the technical side of any informational contacts between stakeholders, mediating all types of this activity, including the activity of communication, as long as it stands out in a separate form. From this point of view, the concepts of "communication" cannot be opposed to each other, since they lie in different planes" (11, 19; 12, 218).

Yakupov P.V. [13] writes that scientists agree that communication is a much broader concept and communication is only part of the communication process, reducible to the transfer of information:

- Panfilova A.P. - transfer of emotional intellectual content of communication;
- Andreeva G.M. - explores communication as one of the three sides of communication;
- Kibanov A.Ya. - focuses on the development of contacts;
- Kovalenko M.Yu. - interested in the semantic message, leading to a certain result;
- Taratukhina Yu.V. - emphasizes the information component of the communication process;
- Yakupov P.V. - explores the effectiveness of communication.

The work of foreign teachers is quite difficult to explore, since the concept of communication is often equivalent to or replaced by the concept of communication, which includes the process of information exchange and the perception of meaning, and joint activities, and stimulation of activity, and empathy, and awareness of their place in society. So, for example, Ruben B.D. Considers that communication is an information-related behavior. Dale E. sees in communication a mutual exchange of feelings and ideas. Other scientists, such as Berelson B. and Steiner G., put information, ideas, emotions, and skills by means of symbols into the definition of communication [14].

Based on all the above, we summarize:

- The concept of communication is deeply rooted in the past and initially had the meaning of “mutual assistance to each other”, which in the 15th century in English acquired the meaning of “communication, communication, communication”. The Russian language was borrowed in the 17-18 centuries. in the meaning of "negotiations", and in the 19th century. expanded the value to the value "... path, road, place of communication". Modern interpretation in both languages has two basic meanings: “communication, communication” and “means, ways of communication”.

- Despite the relevance of the concept and its widespread use in many humanitarian, technical, natural sciences during the last century, there is still no clear definition of “communication”.

- The task is complicated by the fact that communication is considered to be part of the process of communication, then the process itself. Communication and communication are so closely intertwined in the consciousness that they are often confused and use one instead of the other due to synonymy.

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对健康生活方式感兴趣的发展问题
PROBLEMS OF DEVELOPMENT OF INTEREST TO A HEALTHY LIFESTYLE

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Annotation. *In this article, through a brief historical and pedagogical analysis of the problem of developing an interest in a healthy lifestyle, the idea is affirmed that the development of students' interest in a healthy lifestyle is dictated by objective needs, social order and pedagogical theory and practice. Health is a complete physical, mental and social well-being, i.e. it is the physical, social, psychological harmony of a person, benevolent relations with people, nature and himself.*

Keywords: *student, interest in a healthy lifestyle, physical education, health.*

The modern stage of modernization of the Kazakhstan education and science system, writes in the collective monograph Professor Kulambaeva K.K., suggests the possibility of acquiring new professional skills at all stages of continuing education, both in physical education and other classes to generate interest in a healthy lifestyle [1, 38].

Pyastolova N.B. writes that health-saving educational technologies are aimed at educating students of a culture of health, personal qualities that contribute to its preservation and strengthening, motivation to maintain a healthy lifestyle ”[2, 108].

Zavyalov A.I., Mindiashvili D.G. write about factors that have an adverse effect on the formation of interest in a healthy lifestyle, such as:

1) “... high psycho-emotional stress, intellectual tension, intensification of educational activities, increasing the quality requirements of theoretical training of students. All this leads to a decrease in the physical activity of students: the body's capabilities, adaptive capacity, performance indicators, increased fatigue..." [3, 7].

2) Pyastolova N.B., Peven M.O. they speak of a low level of physical fitness and poor state of health of the majority of students [4, 14 - 17].

Pyastolova N.B. offers [2, 106-111] physical culture and fitness technology (PCFT). In her opinion, this is a way to carry out a variety of physical culture and recreational activities aimed "... at preserving and promoting health, taking into account:

- age
- professional activity,
- achieving and maintaining physical well-being,
- disease prevention and general recovery,
- increase the body's resistance to environmental influences. "

Hadieva R.T., Mironova E.D. offer criteria for activities that develop an interest in a healthy lifestyle:

1) atmosphere and hygienic conditions in the gym and lecture halls: temperature, fresh air, lighting;

2) the average duration and frequency of alternation of basic motor skills of recreational gymnastics, sports, outdoor games for the preservation and strengthening of health, psychophysical training and self-preparation for future life and professional activity [5, 175 - 178].

Pedagogical components in the development of interest in a healthy lifestyle are pedagogical techniques, methods, technologies that do not harm the health of students and teachers, provide them with safe conditions of stay, education and work in the educational process N.Yu. Ohapkina writes. [6, 288-290].

Khoroshev A.Yu., Maykhiev D.K., the authors of this article, claim the center of the educational system should be the person and comfortable conditions for the development and realization of its individual capabilities.

One of the ways to foster interest in a healthy lifestyle can be pedagogy of cooperation.

For example, one of the ways to work on this technology is group work, when a group is divided into subgroups based on students' physical fitness and health status. For each group, tasks of different complexity are developed, differing in scope and methods of implementation. As part of the group, the students choose the tasks themselves, assessing their physical fitness and state of health for the time being. The teacher has the opportunity to help students who cope with the proposed exercises more slowly.

Надо только обратить внимание на ключевую проблему любого обучения - проблему удержания внимания.

And here information - communication technologies, technical means of training (TMT) can help. The use of TMT makes it possible to change the pace of the lecture, the form of presentation of the material, to carry out a differentiated approach to the student.

Thus, the formation of a conscious attitude to their own health and learning the basics that develop an interest in a healthy lifestyle of students is a goal that justifies all the money spent on its implementation.

Sports movement in youth circles means for Avsievich V.N., Plakhuta G.A., Babakov I.V. the continuation of the search for effective sports and recreational technologies to involve as many students as possible in physical education and develop their interest in a healthy lifestyle [7, 46 - 50].

Thus, this brief historical and pedagogical analysis of the problem of developing interest in a healthy lifestyle confirms the opinion of Professor Kulambayeva K.K. that with minimal adjustment you can always improve any work, design and apply new educational products [1, 42].

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空间和时间概念化的词汇和语法机制
LEXICAL AND GRAMMATICAL MECHANISMS OF SPACE AND TIME CONCEPTUALISATION

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注解。 本文讨论了自然语言中特定的时间和空间的逻辑 – 哲学和认知范畴的语言表示问题，特别是个别的民族语言。 作者通过棱镜分析了世界图景现象，分析了语言与思维的相互作用，以及表达连续体时空特性的方式。 工作中指出的现实语言化机制决定了进一步跨学科研究的目标。

关键词：空间，时间，世界语言图景，语言表征

Annotation. *The article deals with the problems of linguistic representation of logical-philosophical and cognitive categories of time and space in natural language in general and in individual national languages in particular. The author refers to the phenomenon of the picture of the worlds, through the prism of which, analyzes the interaction of language and thinking in relation to the ways of expressing the space-time properties of the continuum. The mechanisms of verbalization of reality, indicated in the work, determine the object of further interdisciplinary research.*

Keywords*: space, time, language picture of the world, linguistic representation*

The logic of possible worlds is very productive in studying the syntactic and semantic properties of modal verbs, conditional subordinate clauses, subordinate clauses with predicates of possible worlds (voluntary, according to E.Paducheva) - *to want, suppose*, etc., types of tense forms of the verb, etc. “The main the task, the resolution of which is carried out by means of the semantics of possible worlds, is the interpretation of formulas with modal operators” [3; pp.95-96] aletic modalities. However, the scope of the possible application of the semantics of possible worlds is far from limited to aletic modalities. Consideration along with the real world of a certain class of possible worlds turns out to be useful in the analysis of many epistemological situations. It seems obvious that the application of the theory of possible worlds as a logical-philosophical concept may be most productive at the level of the research proposal, but this does not limit the list of concepts

and constructions of natural language, adequate logical analysis of which requires an appeal to the semantics of possible worlds.

The notion of an abstract time as a uniformly flowing stream of continuous and indistinguishable from each other moments allows one to explain such linguistic phenomena as, for example, the deictic functions of absolute grammatical temporal forms, dividing the abstract time continuum relative to the moment of speech into three large non-discrete spheres of the past, present, future. The ideas about empirically perceived "individual times" of real objects with their properties and relations, acting in their connected areas of space-time of particular situations and events, are embodied, respectively, in statements about specific unit processes, facts, actions, states, they are present in the content of propositions, predicates, event names, verbal lexemes, receive various modifications in aspectual semantics.

In the course of cognitive and linguistic thinking activities, both types of temporal representations appear in close dialectical unity: images of specific "individual times" of being separate specific and discrete phenomena, events, facts interact in various combinations with the image of a single time continuum. In natural languages, for transferring existing cognitive images of temporal structures there is an appropriate inventory of lexical and grammatical means forming the interacting systems. Their main function, to put it in terms of the modern logic of time, is to form a time estimate, i.e. establishment of the mutual position in the substantial time (one set) of at least two events (its subsets).

N.D. Arutyunova analyzes the assessment as one of the types of pragmatic meaning, i.e. meanings that a word or statement acquires in a speech situation. So, considering through the prism of evaluations of the category of space and time, N. D. Arutyunova talks about the dichotomy *event and fact*. [2; p.7] In her hypothesis, the concepts of *event and fact* correlate with the concepts of *situation and proposition*. The situation is one of the types of Events, this is a generic concept. Events take place in a certain place, one can be a participant in an event, an event leads to consequences, or results, events are characterized by duration, a particular flow pattern, etc. Events can be defined as predicate parameters of facts: they can be static or dynamic, graduated or ungraded, countable or uncountable, etc. A fact is something that does not apply to the world, but to the consciousness of the speakers. Facts are mental in nature because they belong to logical rather than real space; fact is the result of immersing the world in human consciousness. Facts do not have duration, beginning or end, since they are characterized by a lack of length in time, accuracy, and lack of localization in time and space. Facts cannot be seen, heard, recorded in any way, they are inaccessible for perception. However, the facts can be true - they can be denied or asserted, they can be doubted, etc., while the notation of events cannot include denial. N.D. Arutyunova managed to

isolate concrete factual predicates - *to know, understand, regret, be upset, rejoice, forget, resent, worry, pity, strange, interesting, surprising*, etc., - which usually introduce facts, and at the same time true ones. Fact descriptions are combined with predicates of truth evaluation - affirmation and negation. Facts and Events are different in that "the first is constituted by the meaning of truth, and the second is by fuzzy actant relationships inserted in the space-time frame ... The key to understanding "fact" should be sought not in the state of affairs or in events, but in the judgment of reality ". [2; pp. 152-184] It is obvious that the proposed approach to the linguistic categories of space and time is based on the predicates of truth and falsity of utterance, but the lexical and grammatical means of the linguistic expression of these predicates will not be the same in languages of different types.

The concept *event* is important for dividing all temporal evaluations into two fundamentally different groups depending on which event is taken as the basis for attribution when assessing the position of some other event — these are positional and vector time estimates. In natural languages, the formulation of vector and positional time is provided by fundamentally different systems of interacting lexical, grammatical and lexical-grammatical means with the corresponding functions. Thus, the main component of the vector time transmission system in Indo-European languages are special verb tense forms of the past, present and future, often in combination with appropriate temporal vocabulary. For the expression of positional time, fundamentally different, linguistic means are used, interacting with each other in various combinations: relative verb tenses, special temporal verbal and non-verbal vocabulary (such as preceding, following, coinciding, earlier, later, simultaneously), aspectual values of predicates, temporal unions (before, after, while, etc.), temporary pretexts (before, after, until, before, upon, during, etc.) and adverbs (then, after, at the same time), functioning polipropozitive in various structures at the level of the complex and complicated proposal, and the level of supra-phrasal entities, etc.

Recently, the study of means of expressing positional time has gained a new basis in connection with the allocated R.O. Jacobson taxis category, which "describes the reported fact in relation to another fact and irrespective of the fact of the message." [11; p.101] In the light of the theory of taxis, some categories and concepts of traditional linguistics associated with the expression of positional time - "relative time", "relative times", "time alignment" - were rethought and received a new interpretation. An analysis of the literature on taxis points to the fact that some aspects of the form, content, and linguistic status of this category are also interpreted by researchers from very different positions. For example, O.S. Akhmanova, S. Belenkaya, A.I. Borodin's taxis are associated exclusively with the opposition "perfect: nonperfect", which expresses the relation of precedence and is known as "relative time" in Germanistics and English studies, thus

assigning him the status of a predominantly morphological category. As for the semantic-syntactic and lexico-semantic aspects and conditions for the functioning of this opposition, they, as a rule, are not included in the research. From this, the ethno-linguistic differentiation of the means of expressing the assessment of positional and vector time, as well as the means of representing all types of interconnection of real-world phenomena, clearly follows.

In modern linguistics, the triumph of anthropocentrism is proclaimed, which was prepared by the linguophilosophical concept of language as an activity created by V. von Humboldt. The idea of anthropocentrism was further developed in the works of I.A. Baudouin de Courtenay, who foresaw the future in his brilliant prediction of linguistics, the priority of studying the role of the speaker, speech designer, and the priority of studying reality in speech. The modern understanding of the idea of anthropocentrism is reflected in later studies of a philosophical-methodological, linguistic and psycholinguistic nature.

In the process of life, a person interacts with the world and assigns linguistic meanings to reality. The world is transformed by man in such a way that something most significant for the individual is brought to the fore. And then a different speech representation of the same fragment of reality is “not just different shells of universal human consciousness, but also different visions of the world.” [7; p.13] The functioning of models and mechanisms of conceptualization and verbalization of the environment, psycholinguistic perception and national-cultural reflection in the linguistic consciousness of a person, the mode of interpreting the activity of human consciousness in relation to reality can be analyzed through the phenomenon of the linguistic picture of the world. It is generally accepted that the linguistic picture of the world is a historically established in the everyday consciousness of the linguistic group and reflected in the language a set of ideas about the world, “a subjective image of the objective world.” Various types of language picture of the world - common language, dialect, poetic, etc. - may differ significantly from each other and from the common language picture of the world. For example, the perception of the world by carriers of a dialect linguistic culture differs from the world perception of people with aesthetic thinking; therefore, the corresponding types of language picture of the world differ significantly. Numerous studies are devoted to the uniqueness of the artistic worldview, reflecting the individual author's refraction of the main categories of the collective national picture of the world in the mind of an individual language personality. The categories of space and time become strong positions of the text, with the help of which the author reveals the ideological meaning of his work. For example, in the novels of MA Bulgakov’s spatial-temporal organization of the text turns out to be a conceptually loaded category that makes up the emotional dominant of the writer's artistic world and conveys the dynamics of changes in the axiological system. In this case,

the space-time continuum implements the text-generating, style-forming and estimated value function and is a form of the integrity of the artistic text.

The concept of the linguistic picture of the world is defined by two fundamental statements: (1) the linguistic picture of the world differs from the scientific picture of the world, (2) each language has its own, inherent only picture of the world, which differs from the perception of the world in other languages, i.e. this worldview ethnic group of a certain culture.

Modern studies prove that the scientific picture is directly reflected in the linguistic picture of the world, and the basic categories of the world - the subject, its localization in space and manifestation in time - necessarily receive their conceptualization and "language", according to V. von Humboldt. It is obvious that between fragments of the scientific picture of the world and fragments of the linguistic picture of the world there is a certain correlation. Thus, the vocabulary of the national language can be considered as a result of the reflection of the world by everyday consciousness, as the main "building material" of the "home of existence" of the spirit of the people, which implies going beyond the semiotic and instrumental approaches to the language. If we compare a fragment of the scientific picture of the world (terminological system and its logical organization) with the logical organization of the same fragment of the linguistic picture of the world (a certain lexico-semantic group), i.e. invariant of scientific knowledge with the corresponding national "world view", then it can be argued that there is a certain steady dependence of the results of lexicalized interpretations of the external world on the environment of a particular ethnos and on the structure of human consciousness. [5]

Indeed, the cultural models of various societies offer a variety of means by which they develop, polish, consolidate and systematize the spatial and temporal ideas about the world. Each national picture of the world is peculiar to an individual set of concepts that define the space-time concepts and most accurately reflect the world perception and worldview of this ethnic group. The perception of space and time directly depends on national cultures, the researchers say. For example, in the Russian language, the space has the single-root words "country, side"; in English, *space* has a Latin origin, where *spatium* is the space created and measured by stepping. The space in the Russian language picture of the world can be associated with the concept of the world in the meaning of the universe, the system of the universe, writes Yu.S. Stepanov. The world is perceived as a "habitable space", i.e. space, fenced off space "from the outside world and only then - the idea of this" wide world "outside our world and at home." Russian proverbs such as "the world to see, to show oneself" and others are connected with this. [9] The space in Western European perception will have a different mental structure, which is caused by the spatial restrictions and the scale of the territory occupied by the ethnic group.

Time and space in the individual and common linguistic pictures of the world are determined by the human habitat, geographical, historical and ethnic affiliation.

The origins of space perception are rooted at the time when man and nature were one and the same. The semantics of space is important in the formation of a national picture of the world, the foundation of which is the spatial model of the universe. It is embodied in myths, reflected in religious ideas, reproduced in cultural customs and rituals, and enshrined in language. In the language, conceptual spatial categories are realized in the form of remoteness concepts, space boundaries, distances, etc.

The problem of time interests mankind no less. In The Confession, St. Augustine wrote: “So, what is time like? While they are not asking me, I know...”. [1] Not only philosophy and natural science, but also linguistics are engaged in the problem of time, since, in the words of I.A. Baudouin de Courtenay, "in all parts of the language... pulses... purely psychic life." [4] The concept of time "deeply penetrates the meaning of many words" [6], as well as language and our entire consciousness as a whole. It is safe to say that time "belongs to the defining categories of human consciousness..., which are interconnected in each culture, forming a kind of "model of the world"...". [12; p.97]

It is well known from the Sapir-Whorf theory that different languages provide different forms for expressing the concept of time, while different language forms can influence the content of concepts, i.e. we comprehend the idea of time through all the variety of temporal words and their functional features. [10]

It is known that in philosophy there are concepts of cyclical and linear time. The first is characteristic of the mythological consciousness, the second characterizes the later stage of human development and appears with the emergence of Christianity. In the archaic model, time is soldered to events, and the formation of linear time is facilitated by the process of “alienation” of time from events filling it, time begins to abstract from the person.

The consciousness of the modern man of the postmodern era is universal and therefore contains characteristics of both cyclical and linear time and affects almost all levels of the language, manifesting itself in each of them in a special way. This consciousness is especially vividly manifested at the level of individual lexemes, and the idea of different time systems is contained in the intuition of native speakers. In addition to the cyclical and linear opposition in the notion of time, there is another dichotomy: a theoretical and empirical understanding of time. From the point of view of theory, time exists outside the human spirit and outside experience. Empirically, the idea of time is given to man only through his direct experience and could be formed on the basis of ideas about space. The proximity of temporal and spatial characteristics is typical of a cosmological (or mythological) cyclic model of time.

Thus, the representation of the real world can be done through a variety of

heterogeneous linguistic pictures of the world, differing from each other in type - common language, dialect, poetic, collectively individual, common ethnic, theoretical and empirical according to the source of knowledge. It is considered that there are as many pictures of the world as there are observers in contact with the world; there are as many pictures of the world as there are "prisms of the worldview, because a person looks at the world not only through the prism of his individual experience; there are as many pictures of the world as there are worlds that the observer looks at. Synonym for the word world is actuality, reality (objective), being, nature and man." [8; p.33] The linguistic picture of the world is a reflection of the philosophical and accepted scientific picture of the world, and therefore opens up unlimited possibilities for the creation and hypothetical existence of possible worlds of different nature and properties.

The study of space and time by means of natural language, firstly, created the ground for studying the linguistic representation of these phenomena within the language as a system and within individual national languages, and secondly, opened up tremendous opportunities for literary creative experiments on the creation and "materialization" of possible worlds. In addition, an understanding of the philosophical and metascientific sources of the modern theory of possible worlds provides a methodological and terminological apparatus for developing a theory of worlds in linguistics and literature, for both the linguistic, and the philosophical, and the scientific worldview are components of one global, general scientific worldview.

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学生行为规范性研究
RESEARCH OF NORMATIVITY OF BEHAVIOUR AT STUDENTS

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注解。 本文致力于研究学生行为规范性的心理特征。 在实证研究的基础上，揭示了行为规范性与职业认同，生活意识，生活满意度指数，教育和职业活动动机以及个人素质的相互关系。 结果，给出了具有高和低行为标准的学生的特征。 结果可用于学生的专业培训过程 – 未来的教师和心理学家。

关键词：行为规范性，职业认同感，生活意识，生活满意度，教育和职业动机，个人素质。

Annotation*. The article is devoted to the study of the psychological characteristics of the normativity of behavior at students. On the basis of empirical research, the interrelation of behavior normativity with professional identity, awareness of life, life satisfaction index, motivation of educational and professional activity, and personal qualities has been revealed. As a result, a characteristic of students with high and low standards of behavior is given. The results can be used in the process of professional training of students - future teachers and psychologists.*

Keywords*: normativity of behaviour, professional identity, awareness of life, life satisfaction, educational and professional motivation, personal qualities.*

Introduction. Normativity of behavior serves as an important indicator, on the one hand, the individual's adaptation to society, and on the other, its psychological maturity. Mastering in the course of his development various norms and rules of behavior, a person has the opportunity to fruitfully interact with other people, achieve his own goals and solve the diverse tasks that life puts before him. Under the normative behavior usually understand the behavior carried out in accordance with certain requirements and rules (norms), which ensures a person to achieve goals without causing harm to the environment, including other people. Normativity - personal quality, which characterizes an individual's ability to normative behavior. Currently, the normative behavior is the subject of study of many sciences - philosophy, sociology, law, pedagogy, psychology, etc. A number of ap-

proaches to the study of this phenomenon have emerged. These include theories: internalization, social identity, rational choice, “social autopilot”, “social radar” (Morris et. Al., 2015 [10]), as well as a structural dialectical approach (Veraksa, 2000 [1]; Pashchenko, 2012 [6]). There is an extensive literature devoted to the empirical study of the normative behavior. The influence of the norm on prosocial behavior (Schwartz, 1977 [13]; Kondo, 1990 [9], Gimaliev et.al., 2018 [7]), the psychophysiological basis of normative behavior (Shestakova et. Al., 2013 [12]) is studied. Attempts are being made to study the possibilities of influencing people's beliefs in order to increase their standardization (Henry et. Al., 2000 [8]; Rimal & Real, 2005 [11]).

Of particular importance normative behavior acquires in professions related to working with people. It is hard to imagine a teacher or psychologist who, by virtue of his professional duties, must form a normative person, and he himself does not have such normativity. It does not require proof that the professional training of future teachers and psychologists must be combined with the development of their personality, education of their qualities, which characterize a high level of standardization. The most important of them are: the ability to perceive and understand the regulatory situation, the ability to make informed choices, the ability to follow accepted rules, emotional stability, autonomy, responsibility, activity and will. This, in turn, requires special studies devoted to the study of the normative behavior of students in the context of the professional development of the individual. We proceeded from the assumption that a high level of normativity should be associated with professional identity, educational and professional motives, with awareness of life and its satisfaction, as well as with certain personal qualities, such as responsibility, independence, self-control, etc.

In order to test this hypothesis, we carried out a series of empirical studies, the results of which were reflected in our publications [2; 3; 4; 5]. In this report, we summarize the most significant results.

Methods. The methods of theoretical and empirical research were used. The following methods were used as empirical research methods: Cattell questionnaire 16PF; the questionnaire "Adaptability" by A. G. Maklakov and S. V. Chermyanin; methods of diagnosing learning motivation among students by A.A. Reana and V.A. Yakunin (in the modification of N.TS. Badmaeva); test by M. Kuhn, T. McPartland "Who am I?"; the “Life-Oriented Orientation” test by D. A. Leontiev; questionnaire of satisfaction with the life of A. Newgarten in the adaptation of N. V. Panina.

In total, the study involved more than 250 students - future teachers and psychologists of Cherepovets State University. The study was conducted during the 2016-2018 years.

Results. Note the most significant results of the research.

The correlation of normativity with professional identity, the level of awareness of life and life satisfaction. The study of the normativity of behavior with professional identity showed that the overwhelming majority of students with a high level of personal normativity also had a high level of professional identity (79%). And, on the contrary, among students with a low level of normativeness, a formed professional identity is quite rare (18%). On the basis of the correlation analysis, a positive relationship was found between the level of awareness of life and the life satisfaction index. In turn, these two indicators correlate positively with the normative behavior. Moreover, this correlation is more pronounced in girls than in boys. The data we have learned to fully allow us to conclude that the formation of personal normativity acts as a favorable factor for the professional development of a future specialist, expressed in self-awareness as a teacher or psychologist who is positive about his profession and builds his life plans in this direction, which contributes to an increase in life satisfaction index.

The correlation of normativity of behavior with educational and professional motives. The purpose of this study was to study the correlation of motivation of educational and professional activities with the normativity of behavior. With the help of special diagnostic procedures, professional, educational, social, and communication motives, as well as creative self-realization motives were studied. As a result, it was found that professional, educational and cognitive motives and motives of creative self-realization are most closely connected with each other, as well as with the normative behavior. At the same time, the connection with educational and cognitive motivation turned out to be the strongest ($r = 0.52$, with $p \leq 0.01$). A less significant connection was found in the normative behavior with social and communicative motives. No relationship was found with the motive of avoidance and the motive for obtaining a diploma. Thus, students with a high level of personal normativity have a rather favorable combination of professional, educational, social, and communicative motives, as well as motives for creative self-realization. The core consists of vocational and educational motives. For students with a relatively low level of personal normativity, the most often mentioned motifs are weakly expressed, which makes it possible to conditionally classify them as a "careless" type for which learning activities, and not just learning, are not the sphere of self-expression and self-realization. Lack of interests, low level of responsibility, autonomy and self-control are a fertile ground for the formation of attitudes associated with the non-acceptance of norms and rules of behavior in society, ignoring its requirements, which may lead to undesirable consequences.

The correlation of normativity of behavior with personal qualities. The interrelation of the normativity of behavior with personal factors according to R. Cattell was studied. Statistically significant differences by factors were revealed: A, H, O, Q_1, Q_2, Q_3, MD. As a result, the characteristics of students with high and low

standards were given. For students with a high level of normative, the Q_1 factor is more pronounced - radicalism, which is characterized by a susceptibility to innovation, a refusal to take everything for granted. They also tend to have a sense of independence, autonomy, orientation towards their own vision of the problem (Q_2), they have a high level of self-control (Q_3). They are characterized by adequate self-esteem (MD factor). According to Cattell, high MD scores indicate a person's maturity. Students with a low level of personal standard characterize high sociability (A), courage, enterprise, activity, and willingness to take risks (H), which can be combined with anxiety, anxiety, anxiety, and exposure to moods (O).

Conclusion. Based on a series of studies, a generalized description of students with high and low standards of behavior can be given.

Students with a high level of normativity are characterized by a higher level of professional identity, awareness of life and life satisfaction than students with a low level of normativity. They are dominated by professional, educational and cognitive motives and motives of creative self-realization. They expressed such personal qualities as radicalism, independence, responsibility, independence, high self-control, ability to adequate self-esteem. The factors that hinder the development of students' normativeness are: inability to social decentration, the desire to follow only their own interests without taking into account the interests of other people, lack of independence, unwillingness to impose responsibility, weak self-control.

The results obtained by us can be used in the process of professional training of students - future teachers and psychologists.

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形成跨专业主义：趋同科学技术
FORMING TRANSPROFESSIONALISM: CONVERGENCE OF SCIENCE AND TECHNOLOGY*

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注解。 本文讨论了社会经济转型的挑战，专家职业活动领域发生的变化，困难条件下专业活动主体的新资格要求以及专业活动实施的复杂性。 跨性别专业发展趋同理论基础的分析和概括，作为动态变化的社会职业环境中活动主体的整体质量。

关键词：跨专业主义，跨专业，跨专业能力，活动主体，融合，远见技术。

Annotation. *The article discusses the challenges of socio-economic transformations, changes occurring in the field of professional activities of specialists, new qualification requirements for subjects of professional activity in conditions of difficulty and complexity of the implementation of professional activities. The analysis and generalization of the foundations of the theory of convergence in the development of trans-professionalism as an integral quality of the subject of activity in a dynamically changing socio-professional environmente.*

Keywords*: transprofessionalism, transprofessional, transprofessional competencies, subject of activity, convergence, foresight technology.*

The urgency of the problem under study is determined by the proliferation in the production and economic sphere and the provision of services of the phenomenon of trans-professionalism, which requires qualitatively new substantive and technological training of specialists. It becomes obvious that the digital world, high technologies, the pace of production renewal drastically blur the traditional boundaries of the work of an individual professional and, as a result, change the requirements for professional training of specialists. The development of narrow professionalism, the establishment of boundaries between individual professions and specialties, the principle of work in the specialty it's yesterday. Increasingly,

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the need for mastering knowledge, skills that extend the established functionality of a professional is increasing. That is why the creation of new technologies that determine the well-being of our country will be answered by young professionals - transprofessionals who are able to realize themselves not only in one area, but are willing to delve into the problems of other, completely "alien" for him scientific and technical industries and productively interact with these branches in one team. The purpose of the article is to analyze and summarize the bases of trans-professionalism and identify the meaning-based content of the theory of convergence in the development of trans-professionalism as an integral quality of a subject of activity in a dynamically changing socio-professional environment. The statement of the question is important not only in the global approach - the need for highly qualified specialists in the country - but is also necessary to meet the educational needs of young people aimed at acquiring the latest "cross-cutting competencies" in order to competently solve professional problems: employment issues, building an individual route of professional development and change of profession. Their qualifications should be based on the development of new metaprofessional competencies that allow finding complex and unique solutions based on transdisciplinary knowledge synthesis and interprofessional communication.

To ensure all this, the specialist must become a transprofessional.

Transprofessionals are specialists who:

• possess a unique set of methods, means, ways of activity, formed by innovative competences;

• able to solve problems in unusual situations,

• can work in conditions of uncertainty [3; 4].

An important task of education is the problem of studying and forming transprofessional competencies in relation to specialists of different professions. These are non-specialized metaprofessional competencies, the mastering of which allows the subject to increase the efficiency of professional activity in his industry, and also makes it possible to move between sectors, while maintaining his relevance. Based on the study and logical generalization of scientific literature, it was revealed that these competencies should be: system thinking, intersectoral communication, work in conditions of uncertainty [1], ability to work in a team, developed organizational skills, ability to cooperative activities with representatives of other professions. The development of these competencies requires a new training system, and the theory of convergence is one of the most balanced and integrated from the point of view of preparing a modern specialist for integrated innovative professional activities.

The convergence methodology provides a synergistic effect of the interaction of socio-humanitarian and natural sciences. Used in modern research of various natural sciences and the humanities, the term *convergence* (from the Latin. *Con-*

vergo - “bringing together”, “similar”) means the process of convergence, synergistic interaction of dissimilar signs of humanitarian and natural science knowledge, convergence of various areas of activity and related technologies, the mutual influence of technology and their mutual reinforcement. It is explicated in the works of O.E. Baksansky [2], M. Castells [6], M.V. Kovalchuk [7], M.K. Rocco [10], W.S. Bainbridge [11] et al.

For the first time, an interesting and significant interaction of technologies was noticed by researchers at the beginning of the twenty-first century, M.K. Roco and W.S. Bainbridge in the book "Converging Technologies for Improving Human Nature" [12]. Speaking about the convergence of sciences, the interaction of technologies and their mutual reinforcement, they introduced the term “NBIC convergence”, which implies the convergence of nanotechnologies, biotechnologies, information and cognitive technologies. Subsequently, many scientists came to the conclusion that 4 basic technologies cannot be considered in isolation from the block of socio-humanitarian disciplines, resulting in the introduction of the new term NBICS-convergence (in the first letters of the knowledge areas: N - nano; B - bio; I - info; C - cogno; S - socio). This type of convergence of scientific knowledge is considered as a radical new stage of scientific and technological progress, as the most important evolutionary factor. In general, the relationship of these areas of science and technology is fundamental. According to scientists, in their possible consequences NBIC convergence is the most important evolutionary determining factor and marks the beginning of transhumanist transformations. The development of NBIC technologies greatly changes our understanding of the world, including the nature of basic concepts, such as life, man, mind, nature. The latest nanotechnological revolution gives science and technology of the XXI century. new features, returns a person to the perception of the world as a whole, gives the subject the opportunity to objectively act in nature, using the same "technological methods" that nature itself uses [8].

• The study of the methodology of convergence as the basis for the development of trans-professionalism of the subject of activity is based on the design of the professional development of the individual, which is based on such private principles as:

• integration - combining interprofessional and transdisciplinary components of social and professional activities;

• selectivity of the interaction of different professions, generating new professional effects;

• variability of the content of vocational education, defining individual educational trajectories;

• integration of professional and educational standards with transdisciplinary functions of education;

• convergence of educational content and high educational technologies, ensuring the development of trans-professionalism of subjects of educational activities.

In the field of education, the theory of convergence is associated with overcoming the disciplinary boundaries traditionally established in pedagogical thinking and scientific culture, disciplining disunity and the search for integrative, interdisciplinary trends. A subject who has mastered complex technologies, is able not only to use them, but to improve them, to create a new need, idea or a material product.

One of the effective, in our opinion, technology is the Foresight system. Scientists call this technology "technology of foresight" [9], because it allows you to identify the expected changes in the future. The term itself speaks of this: foresight - "a look into the future". According to scientists, foresight is a new technology that allows you to identify the expected changes in the future. However, the essence of foresight lies not only in predicting and forecasting the future, but also in coordinating the development of decisions about the future in the field chosen for the foresight, and this is done in an active form of activity. That is why it becomes not only a forecast, but also a socio-humanitarian technology [5]. The main feature of this technology is the process, the contents of which are consultations, exchange of opinions, direct and feedback relations between the participants, i.e. social dialogue, partnership mechanisms for making and implementing decisions in the context of the multiplicity and uncertainty of the development options for the problem being raised.

The cornerstone of Foresight is the recognition of the multivariance and uncertainty of the product's vision. At the same time, the efforts of all participants in the process of anticipating changes in the selected segment are consolidated, and phenomena and processes that in the future become dominant are highlighted. The most important result of this technology is to ensure the integration of science and technology and, on its basis, the development of priority trans-professional competences.

The result of a Foresight project is a foresight product, which can be: a forecast, a scenario, a project, a theory, priorities, a model, integrated plans, programs, road maps, etc. This result provides a methodological toolkit, which includes a variety of methods existing in various sciences. The selection of methods should be adequate to the problem and the subject of the research - this determines the quality of the Foresight and its product. The most popular methods include the following: literature review, situation analysis, SWOT analysis, discussion, brainstorming, group discussion, critical technology method, modeling, expert survey, focus groups, Delphi method, etc. The choice of methods for a particular foresight is individual and is determined depending on the goals, desired result, time of

the implementation of the foresight, experience and methodological competence of the circle of performers of the foresight. Since this or that competence is not formed as a result of studying only one discipline, but, as a rule, it is formed during the development of three or four disciplines, the use of such complex technology as foresight is possible when integrating several disciplines.

• Thus, in the implementation of foresight technology, we see enormous opportunities, thanks to its following innovative characteristics:

• implemented on an interdisciplinary basis as an adequate integrative basis of convergent technologies;

• implemented in an active activity form, a form of joint practical activity, involvement in educational relations, as a result of which students - participants of the future prediction / forecasting process - trans-professional competences are formed: system thinking, inter-sectoral communication, work in conditions of uncertainty, ability to work in a team, ability to work with people, developed organizational skills, etc .;

• forms the trans-professional competencies necessary for promising professional activities;

• ensures the co-development of the personality, education and professional activities of students;

• builds on the convergence of educational content and new educational technologies, thereby ensuring the development of trans-professionalism of subjects of educational activities.

Conclusion.

In the conditions of complexity of the implementation of professional activities, the requirements for professional training of specialists change, and therefore the meaning of professionalism is lost, trans-professionalism replaces it.

In order to carry out professional activities and solve professional problems with a high degree of efficiency, the specialist must become a transprofessional.

Transprofessionals must have broad knowledge and demonstrate a wide range of analytical, communicative, prognostic competences in order to successfully adapt to different social and professional communities.

The unique basis for the formation / development of trans-professional competencies of stakeholders is the theory of convergence - interdisciplinary symbiosis of scientific knowledge and new technologies. Determining interdisciplinary and professional interrelations, convergence acts as a factor in the design and approval in the professions of a fundamentally new phenomenon — trans-professionalism.

To ensure the development of trans-professionalism of subjects of educational activity, adequate integrative technology convergence is required, one of which is socio-humanitarian foresight technology.

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中年人的社会心理特征，他们积极参与健身
SOCIO-PSYCHOLOGICAL CHARACTERISTICS OF MIDDLE-AGED PEOPLE, WHO ARE ACTIVELY INVOLVED IN FITNESS

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注解。研究的目的是研究积极参加俱乐部并从事健身的中年人的社会心理特征。国内社会心理学对中年人的吸引力不足，尽管他们扩大并提升了对这一问题的科学理解（Gamezo MV，Petrova EA，Sapogova EE，Rean AA; Rybalko EF），但在实践中，员工健身行业的机构，如果必须引导，那么一般信息。在对中年人的社会心理特征进行有意义的描述的基础上，实际需要在健身行业（健身俱乐部）的机构中建立工作的社会和心理理由。从科学和实践的角度来看，重要的是要研究健身俱乐部参观者的一般和具体特征，了解他们对健身行业机构工作形式和内容的需求和期望。该研究证实了一般假设 - 假设积极参加健身俱乐部和练习健身的中年人与不按照社会化，社会形象，责任，宽容，智力，自我等特征进行健身的人不同。这项研究的科学新颖性和理论意义是补充和完善他的年龄，特别是那些积极参与健身的人的社会心理特征的知识。积极参与健身的中年人的社会心理特征与不从事健身的中年人的社会心理特征之间的显着差异得到确定和经验证实。结果和结论为进一步科学研究中年人的社会心理特征创造了先决条件。

关键词：社会心理学，健身，社会心理特征，中年人，健身和健康生活方式心理学，运动心理学，年龄相关心理学。

Annotation. *The purpose of the research is to study the socio-psychological characteristics of middle-aged people who actively attend the club and are engaged in fitness. The insufficiently active appeal of domestic social psychology to the middle-aged person, although they expanded and advanced the scientific comprehension of this problem (Gamezo M.V., Petrova E.A., Sapogova E.E., Rean A.A.; Rybalko E.F.), however, in practice, employees of institutions of the fitness industry, if they have to be guided, then the general information. There is a practical need for a social and psychological justification for the construction of work in the institutions of the fitness industry (fitness clubs) on the basis of a meaningful*

account of the socio-psychological characteristics of middle-aged people. From a scientific and practical point of view, it is important to study the general and specific characteristics of visitors to fitness clubs, understanding their needs and expectations regarding the forms and content of work of institutions of the fitness industry. The research confirmed the general hypothesis - the assumption that middle-aged people who actively attend a fitness club and practice fitness differ from those who do not practice fitness according to such characteristics as socialization, social appearance, responsibility, tolerance, intellectual efficiency, self-acceptance, self-control, life well-being, etc. The scientific novelty and theoretical significance of this study is to supplement and refine knowledge of the socio-psychological characteristics of individuals his age, and in particular those who are actively engaged in fitness. The significant differences between the socio-psychological characteristics of middle-aged people who are actively involved in fitness and the socio-psychological characteristics of middle-aged people who are not engaged in fitness are determined and empirically substantiated. The results and conclusions create prerequisites for further scientific study of the socio-psychological characteristics of middle-aged people.

***Keywords**: social psychology, fitness, socio-psychological characteristics, middle-aged people, psychology of fitness and healthy lifestyle, sports psychology, age-related psychology.*

1. Introduction.

The relevance of the research of the socio-psychological characteristics of middle-aged people who are actively involved in fitness is due to significant social, cultural, economic and political changes taking place in Russian society at the present stage of development, which lead to the transformation of the previously existing norms and traditions and contribute to changing the style and lifestyle of people including middle-aged people. In this regard, the question of the social adaptation of middle-aged people to changing conditions is particularly acute. The study of the socio-psychological characteristics of middle-aged people as a basis for working with them institutions of the fitness industry (fitness clubs) is of particular relevance. It is necessary to improve the work with this group of the population, making up the majority of visitors to fitness clubs, and dynamically increasing every year.

According to the statistics of the Ministry of Sports of the Russian Federation for 2017, out of all institutions, enterprises, associations and organizations engaged in sports and recreation activities, the number of which amounted to 175,047 units, fitness clubs amounted to 6,308 units, which was in percentage 3,6%.

Of the total number of people engaged in fitness in 2017 - 5,230,550 people engaged in age [30–54 (women) and 59 (men)], there were 2,741,295 people, which was 52.4% in percentage.

The priority directions of development of Russia at the present stage are the health issues of middle-aged people. This is due to the demographic decline and deterioration in the health of the population, its mortality, including that of the mature generation, which makes a real threat to the preservation and reproduction of the human resource as the most important factor in the national security of the state, its intellectual and economic potential.

Main problem. The insufficiently active appeal of social psychology to the middle-aged person, although they expanded and advanced the scientific comprehension of this problem (Gamezo M.V., Petrova E.A., Sapogova E.E., Rean A.A.; Rybalko E.F .), however, in practice, employees of institutions of the fitness industry, if they have to be guided, then general information. There is a practical need for a social and psychological justification for the construction of work in the institutions of the fitness industry (fitness clubs) on the basis of a meaningful account of the socio-psychological characteristics of middle-aged people. From a scientific and practical point of view, it is important to study the general and specific characteristics of visitors to fitness clubs, understanding their needs and expectations regarding the forms and content of work of institutions of the fitness industry.

Object of study: middle-aged people actively involved in fitness.

Subject of research: the socio-psychological characteristics of middle-aged people actively involved in fitness.

The purpose of the research - is to study the socio-psychological characteristics of middle-aged people who are actively visiting the club and engaged in fitness.

Research objectives:

To study the current state of research on the problem of the socio-psychological characteristics of middle-aged people in domestic and foreign social psychology;

Develop a research model and select the socio-psychological tools for the study of the socio-psychological characteristics of middle-aged people who are actively engaged in fitness;

Conduct an empirical study of the socio-psychological characteristics of middle-aged people who are actively involved in fitness and develop recommendations for building the work of the fitness industry institution (fitness club).

The general hypothesis of the research was the assumption that middle-aged people who actively attend a fitness club and practice fitness are different from people who do not practice fitness according to such characteristics as socialization, social appearance, responsibility, tolerance, intellectual efficiency, self-acceptance, self-control, well-being, etc.

2. Methodology.

The following research methods were used in the work: theoretical analysis of literature, questioning, methods of psychological diagnostics, methods of mathe-

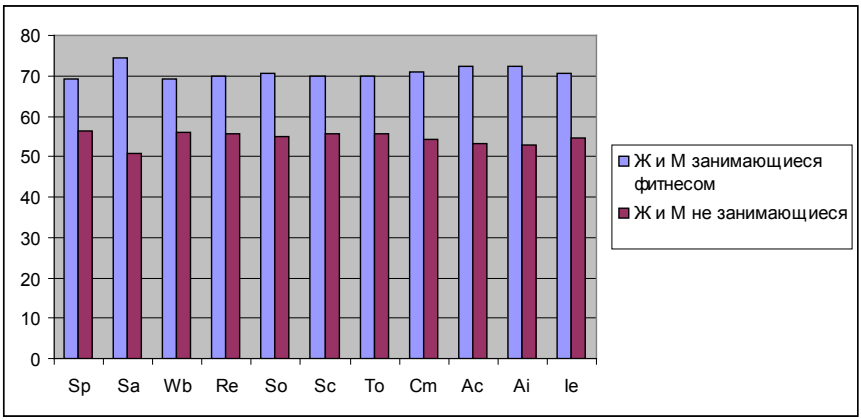
matical statistics. The California Psychological Inventory (CPI) was used to study the socio-psychological characteristics of middle-aged people, both actively engaged in fitness and those not engaged in fitness. For data processing methods of mathematical statistics were used. The significance of differences in the mean values in the groups and subgroups studied was checked using the Mann-Whitney test. Empirical base of research. The research was carried out in 2016 - 2017. on the basis of one of the fitness clubs of Moscow in the Eastern Administrative District (EAD) and also on the basis of LLC Institute for Problems of Bioregulation. A total of 125 people participated in the research. 65 clients of the fitness club (men and women equally) and 60 people not engaged in fitness (30 men and 30 women). All participating in the research of persons of middle age (25 - 35 - 45 years). The level of education is the highest. The research participants were divided into subgroups: people under 35 years old and people after 35 years old.

3. Results.

As a result of the empirical research, we identified the following socio-psychological characteristics of the **control group**: middle-aged people who are not engaged in fitness are executive and enterprising, can run their business, can be actors, politicians or falsifiers. On the other hand, these people are conscientious and responsible, have leadership qualities based on confidence and influence. They are tactful and respectful to others, demonstrate a broad outlook of interests. Among the negative features: trying to adapt to others, and in this regard can not and do not know how to say "no." Too loyal and forget the mistakes of powerful people.

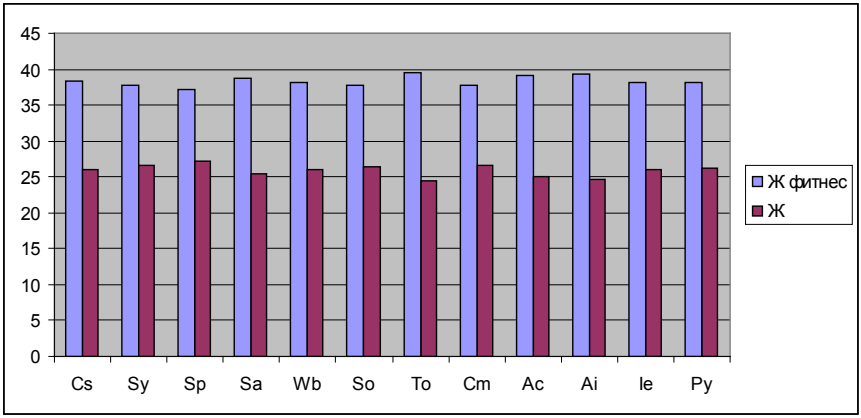
As a result of an empirical research, we identified the socio-psychological characteristics of the **main group**. The following positive characteristics are inherent to middle-aged people who are actively engaged in fitness: the desire to be in the role of an expert, energy, persuasiveness, initiative. They are able to influence other people. Can advise and coordinate them. They are characterized by openness and sincerity, certainty and structuredness. They are stress-resistant and resistant to any pressure at all. These people show ingenuity and perseverance under conditions of rivalry and competition. High intellectual abilities allow them to be creative and innovative. These people are self-disciplined and obligatory. Among the negative features: arrogance, imperiousness, self-centeredness, flattery, selfishness and insolence. They do not like to observe and control themselves. They show indifference to other people. They are characterized by insecurity, fear of failure, and non-recognition of their mistakes. Women have low motivation in sporting achievements or competitions and keep a distance between themselves and other people.

Diagram № 1. *Comparison of CPI indicators in groups of Women and Men who are actively involved in fitness and Women and Men who are not engaged in fitness*



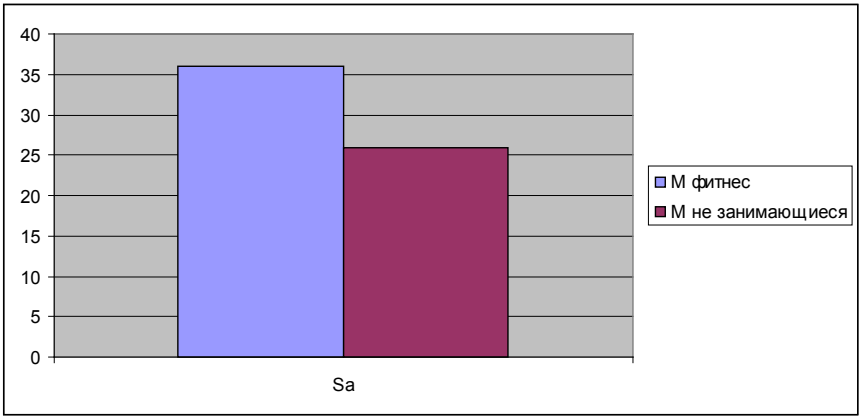
When comparing the CPI indices of the tested men and women of the main and control groups (See diagram No. 1), we identified significant differences: on a scale of "Social Presence" (Sp), the average rank of the main group - 69.16, and the average rank of the control - 56.33 ($p \leq 0.05$); on a scale of "**Self-acceptance**" (**Sa**), he average rank of the main group is 74.35, and the average rank of the control is 50.7 (**$p \leq 0.01$**); on the scale “Sense of Well-Being” (Wb), the average rank of the main group is 69.35, and the average rank of the control group is 56.12 ($p \leq 0.05$); on the scale of "Responsibility" (Re), the average rank of the main group - 69.85, and the average rank of the control - 55.58 ($p \leq 0.05$); on a scale of "Socialization" (So), the average rank of the main group is 70.56, and the average rank of the control is 54.81 ($p \leq 0.05$); on a scale of "self control" (Sc), the average rank of the main group - 69.75, and the average rank of the control - 55.68 ($p \leq 0.05$); on the Tolerance scale (To), the average rank of the main group is 69.93, and the average rank of the control is 55.49 ($p \leq 0.05$); on a scale of **"Communality" (Cm)**, the average rank of the main group - 71.02, and the average rank of the control - 54.31 (**$p \leq 0.01$**); on a scale of **"Achievement via Conformance"** (Ac), the average rank of the main group - 72.18, and the average rank of the control - 53.06 (**$p \leq 0.01$**); on the scale **"Achievement via Independence" (Ai)**, the average rank of the main group is 72.51, and the average rank of the control is 52.7 (**$p \leq 0.01$**); on the scale of "Intellectual efficiency" (Ie), the average rank of the main group - 70.65, and the average rank of the control - 54.71 ($p \leq 0.05$).

Diagram № 2. *Comparison of CPI indicators in groups of women who are actively involved in fitness and women who are not engaged in fitness*



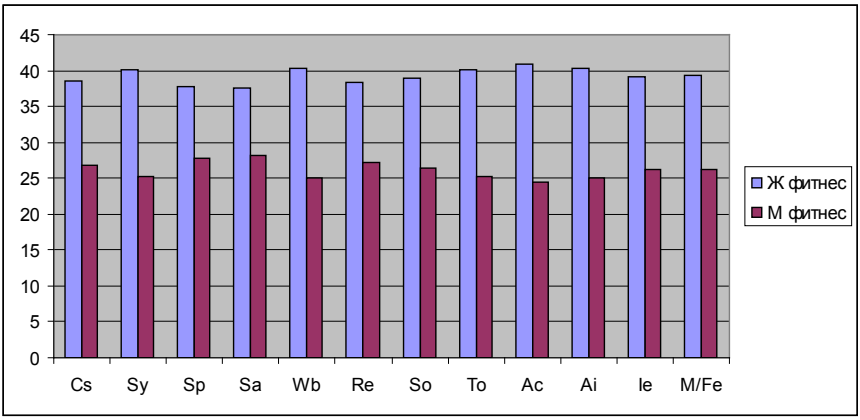
When comparing the CPI of women in the main and control groups (See Diagram 2), we found significant differences: on the scale "**Capacity for Status " (Cs)**, the average rank of the main group is 38.28, and the average rank of the control is 25.95 (**p≤0.01**); on a scale of "Sociability" (Sy), the average rank of the main group - 37.75, and the average rank of the control - 26.55 (p≤0.05); on a scale of "Social Presence" (Sp), the average rank of the main group - 37.12, and the average rank of the control - 27.27 (p≤0.05); on a scale of **"Self-acceptance" (Sa)**, the average rank of the main group - 38.66, and the average rank of the control - 25.52 (**p≤0.01**); on the scale **"**Sense of Well-Being**" (Wb)**, the average rank of the main group - 38.21, and the average rank of the control - 26.03 (**p≤0.01);** on a scale of "Socialization" (So), the average rank of the main group - 37.81, and the average rank of the control - 26.48 (p≤0.05); on the scale **"Tolerance" (To)**, the average rank of the main group is 39.54, and the average rank of the control is 24.52 (**p≤0.01**); on a scale of "Communality" (Cm), the average rank of the main group - 37.71, and the average rank of the control - 26.6 (p≤0.05); on a scale of **"Achievement via Conformance" (Ac)**, the average rank of the main group - 39.06, and the average rank of the control - 25.07 (**p≤0.01**); on a scale of **"Achievement via Independence" (Ai)**, the average rank of the main group - 39.35, and the average rank of the control - 24.73 (**p≤0.01**); on the scale of **"Intellectual efficiency" (Ie)**, the average rank of the main group - 38.25, and the average rank of the control - 25.98 (**p≤0.01**); on the scale of **"Psychological-Mindedness" (Py)**, the average rank of the main group - 38.07, and the average rank of the control - 26.18 (**p≤0.01**).

Diagram № 3. *Comparison of CPI indicators in groups of Men who are actively engaged in fitness and Men who are not engaged in fitness*



When comparing the CPI indicators of men in the main and control groups (See Diagram No. 3), we identified significant differences: on a scale of "self-acceptance" (Sa), the average rank of the main group - 35.95, and the average rank of the control - 25.88 ($p \leq 0.05$).

Diagram № 4. *Comparison of CPI indicators in groups of Women who are actively involved in fitness and Men who are actively involved in fitness*



When comparing the CPI indices of the tested women and men of the main group (See diagram No. 4), we identified significant differences: on the “Capacity for Status” (Cs) scale, the average rank of women is 38.59, and the av-

erage rank of men is 26.87 (p≤0.05); on the scale **"Sociability" (Sy)**, the average rank of women is 40.1, and the average rank of men is 25.21 (**p≤0.01);** on a scale of "Social Presence" (Sp), the average rank of women - 37.78, and the average rank of men - 27.76 (p≤0.05); on the scale "Self-acceptance" (Sa), the average rank of women is 37.47, and the average rank of men is 28.1 (p≤0.05); on the scale **"Sense of Well-Being" (Wb)**, the average rank of women is 40.24, and the average rank of men is 25.06 **(p≤0.01**); on the scale of "Responsibility" (Re), the average rank of women - 38.38, and the average rank of men - 27.1 (p≤0.05); on the scale of "Socialization" (So), the average rank of women - 39.01, and the average rank of men - 26.4 (p≤0.05); on the scale "Tolerance" (To), the average rank of women is 40.1, and the average rank of men is 25.21 (**p≤0.01**); on a scale of **"Achievement via Conformance" (Ac),** the average rank of women - 40.82, and the average rank of men - 24.42 (**p≤0.01);** on the scale **"Achievement via Independence" (Ai)**, the average rank of women is 40.32, and the average rank of men is 24.97 (**p≤0.01**); on the scale of "Intellectual efficiency" (Ie), the average rank of women is 39.16, and the average rank of men is 26.24 (p≤0.05); on the Masculinity / Femininity scale (M / Fe), the average rank of women is 39.26, and the average rank of men is 26.13 (p≤0.05).

4. Discussion.

As a result of the empirical research, we identified the following socio-psychological characteristics of the **control group**: middle-aged people who are not engaged in fitness are executive and enterprising, can run their business, can be actors, politicians or falsifiers. On the other hand, these people are conscientious and responsible, have leadership qualities based on confidence and influence. They are tactful and respectful to others, demonstrate a broad outlook of interests. Among the negative features: trying to adapt to others, and in this regard can not and do not know how to say "no." Too loyal and forget the mistakes of powerful people..

As a result of an empirical research, we identified the socio-psychological characteristics of the **main group**. The following positive characteristics are inherent to middle-aged people who are actively engaged in fitness: the desire to be in the role of an expert, energy, persuasiveness, initiative. They are able to influence other people. Can advise and coordinate them. They are characterized by openness and sincerity, certainty and structuredness. They are stress-resistant and resistant to any pressure at all. These people show ingenuity and perseverance under conditions of rivalry and competition. High intellectual abilities allow them to be creative and innovative. These people are self-disciplined and obligatory. Among the negative features: arrogance, imperiousness, self-centeredness, flattery, selfishness and insolence. They do not like to observe and control themselves. They show indifference to other people. They are characterized by insecurity, fear of failure, and non-recognition of their mistakes. Women have low motivation in

sporting achievements or competitions and keep a distance between themselves and other people.

5. Conclusion.

Middle-aged people who are actively involved in fitness are significantly different from middle-aged people who are not engaged in fitness. In particular, these individuals are more pronounced the following socio-psychological characteristics: social appearance, self-acceptance, life well-being, responsibility, socialization, self-control, tolerance, regularity, achievement through submission, achievement through independence, intellectual efficiency.

Middle-aged women who are actively involved in fitness are significantly different from middle-aged women who are not engaged in fitness. In particular, these individuals are more pronounced the following socio-psychological characteristics: the ability to status, sociability, social appearance, self-acceptance, life well-being, socialization, tolerance, regularity, achievement through submission, achievement through independence, intellectual efficiency, psychology.

Middle-aged men who are actively involved in fitness are significantly different from middle-aged men who are not engaged in fitness. In particular, these individuals are more pronounced such a socio-psychological feature - self-acceptance.

Middle-aged women who are actively involved in fitness are significantly different from middle-aged men who are actively engaged in fitness. In particular, the following socio-psychological characteristics are more pronounced among women: ability to status, sociability, social appearance, self-acceptance, life well-being, responsibility, socialization, tolerance, achievement through submission, achievement through independence, intellectual efficiency, femininity.

The practical significance of the research lies in expanding the practice-oriented knowledge of ways to study the socio-psychological characteristics of middle-aged people, and in particular those who are actively engaged in fitness, as well as the development and testing of the author's questionnaire to study clients of a fitness club, their opinions about the club satisfaction with the quality of fitness services provided. The results of the research can be used as methodological recommendations for psychologists and specialists working with clients in fitness clubs, and can also be used in the educational process as an addition to the course “Age Psychology” and as the basis of the course “Psychology of Fitness and Healthy Lifestyle” . The empirical data obtained during the research and their psychological analysis will be relevant in the process of individual psychological counseling. The theoretical and practical conclusions made on the basis of the research can be a scientifically-verified basis for the process of rendering psychological assistance and support to middle-aged people.

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家庭，事业，爱好 – 作为心理平衡的单一循环
FAMILY, CAREER, HOBBY - AS A SINGLE CYCLE OF PSYCHOLOGICAL BALANCE

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Today, in a dynamically changing world, no one is surprised by a person's desire for learning and career growth. Indeed, the world has changed, on the face of a change in the logic of social behavior. For the first time in a historical period known to us, the rate of renewal of the technological environment or the technosphere exceeded the rate of renewal of generations*. Now, human literacy has become determined not by his ability to read, write or count, but by his ability to quickly learn, relearn and adapt to rapid changes in the world around us. As the scientists say, there was a change in the logic of social behavior. It was the change in the logic of social behavior that led to the crisis** in the minds of many of our contemporaries. This especially affected those people who for some reason did not receive basic knowledge and skills about the balanced realization of their natural potential in three main areas: in the family, professional activity and hobby. It is not difficult to notice that today such a majority. The society is divided into workaholics who have convinced themselves of the need to constantly grow up the career ladder, downshifters who have abandoned career growth in favor of hedonic pastime and those who are unsuccessfully looking for themselves everywhere, being in a state of mental discomfort, despondency, and even depression. A Russian proverb says: "A thing is considered lost as soon as it is started to look for it," so that before looking for ourselves in something or someone, it's important to deal with what we have.

On the Trinity and Importance of Family, Career and Hobby

The triunity of spirit, soul and body is quite juxtaposed with family, career and hobby. Where the family is "soul", comfort, relationships, care, home, children.

*One generation is 25 years old. The average reproductive age of childbearing on planet Earth has not changed over the past few thousand years.

**A crisis is a change in an established system of relations. Based on the definition, a crisis is not something bad, or good. Changes are the natural state of all living things.

Immediately, I note that children in the family are not a goal, but a consequence. The consequence of properly aligned family relationships. The body is matter, material, that is, career. When building a career, we are engaged in any activity for which we receive money. I also note that money should not be the purpose of professional activity. Money is a kind of by-product or consequence of properly organized activity. Without the "matter" of money it will not be possible to live comfortably neither in the family, nor in the hobby. If the realization in your career and family is still somehow understandable, then where is the hobby here, you say? The word hobby has a clearer synonym - leisure. Hobby - this is a useful leisure, whose goal is the formation of discipline and strengthening of volitional qualities. In the hobby there is a word necessary. Hobby also has 6 characteristics. The first sign is payment. For our hobby, in contrast to work, we pay, not us. As soon as we begin to receive money for our hobby, it goes into the category of another career line. The second sign of the hobby requires regular repetitions to achieve the desired result. By regularity is meant 2 or more times a week. The third sign - a hobby brings us positive emotions and a charge of positive energy. The fourth sign is that in a hobby there are always elements of learning, while doing a hobby we definitely learn something. It does not matter whether it is fencing with swords or Spanish. The fifth sign - a hobby is always communication with new motivated people. An additional source of acquaintances, friends and partners. The sixth sign of a hobby is a super task. This sign is often unfairly forgotten. The presence in the hobby of the supertask determines the amount of time required for the planned achievements and the quality of the people around them on the way to achieving the supertask. So, for example, regular going to the gym, “to lose weight,” is not the same as the goal of running a marathon, but learning English “just in case” is not the same as learning a language for passing to the highest certification mark. In a hobby, the result is most often the result of the achievement of the initially set super-task. Hobbies can equally include sports and learning a foreign language, poetry, writing books, playing music, painting or organizing a thematic group. Family and building relationships certainly affects professional growth, its speed and stability. Making a career of neglecting a family is comparable to trying to ride on one wheel of a tricycle. You can try, it can turn out, but not for long, and the final fall will inevitably be tragic. In consequence of this, I recommend considering family, career and hobby as a cycle - the cycle of processes and phenomena in the interim. The cycle formation is the most suitable and stable from the point of view of long-term implementation.

Sequencing

Now consider a simple algorithm for detecting the presence of balance in the family, career and hobby. For this we need to take a sheet of paper and a pen, draw three columns with the same name. Further, if you are married and have one child

or more, draw a plus in the family column. If there is a spouse (a), but there are no children or there is a child, and the spouse (s) do not, then draw a plus and a minus. If you do not have a spouse (s) and no children, then put a minus in the family column. Provided that you are 25 or more years old. We use the same non-tricky scheme for the career scale. If you have a permanent job and a steady income, we draw a plus on the career scale. Now your personal job satisfaction does not really matter, you need to fix the fact that there is a field for career opportunities. If you have a temporary job and (or) business income is not stable, then draw plus and minus on the career scale. If you are not working or you are not paid for an activity, draw a minus in the scale of work. Go to the third scale, a hobby. If you have a leisure time developing you, draw a plus. If not all of the above signs of a hobby are observed in your case, then draw plus and minus. If you do not have a hobby, draw a minus. The balance in our case is three unconditional advantages in the table. Options with plus and minus, as well as minuses, require the concentration of your efforts to bring in a plus state. However, do not rush. When the goal is clear, it is necessary to choose or develop a concept to achieve it. In our case, the concept answers the question "how?", Exactly how is it necessary to translate the minus into the value plus. However strange it may seem, the key to building a family most often lies in a career or hobby, and the key to a career lies in a family or hobby. Hobbies, on the other hand, must be chosen to their liking, based on their individual predisposition. A specialist in the field of developmental psychology and acmeology can help with the choice of a hobby or you can simply try what you like taking into account the social circle revolving around the hobby of interest. There is another interesting triplicity, which we only mention in this article: "wife, lover and friend" or "husband, lover and friend", the presence of three components in one person is the components of balance. Why do we need to know about it? The fact is that productive relationships in a family, career or hobby always begin with friendship, where friendship is the relationship between people united by common values based on love[***], respect[****], mutual sympathy, common interests and hobbies. Only after establishing friendly relations it is reasonable to move to the love stage and so on.

It would not be superfluous to say a few words about the undervalued resources of a hobby and its enormous significance in the life of every person. Even if there are advantages in the scale of work and family, we risk stalling in the work-home-home-work routine with the presence of a minus in the hobby scale. Hobbies are the most powerful source of internal energy, besides increasing self-esteem, improving physical and emotional state. The energy of victory over one-

***"Love is an active interest in the life and development of the love object." E. Frome

****Respect is the voluntary acceptance of another person's sovereign rights to differ from you.

self, overcoming new faces for ourselves makes us shine, literally changing, rejuvenating our appearance and inspiring new and new victories. The same hobby communication function is of paramount importance. Today we live in the world of information, so that constant communication with different people provides us with additional opportunities in various growth zones. In the section, on courses or on a hike, we have the opportunity to closely consider the person we are interested in. Understand how much he is responsible, reliable and hardworking, which is important when choosing a partner both in business and in family relationships. Choosing a hobby, we have the opportunity to choose the level of people who are interested in us socially, intellectually, physically or spiritually.

It should be remembered that people are the main capital, and our thoughts, successes, and failures are largely connected with the circle that surrounds us. It's hard to imagine a family, a career and a hobby without people. The ability to communicate and harmoniously distribute efforts in all three areas of life and there is happiness*****, despite this, you need to remember that balance is what you need to strive for, but living in balance all the time is hardly possible. Even reaching a uniform location of the benefits in all of our three scales, in certain periods of life, it is advisable for different people to concentrate on something more intensively, on something less. However, placing accents in my life, I will certainly use the quote from one of my teachers, Stephen R. Covey, who said: "The most important corporation for which we need to work all our life is family" and, if you have not had time to create your own own family, it is not superfluous to patch up and strengthen relations with their parents, who, regardless of our desires, are our roots, and a tree without ties to the roots can hardly count on a bright future and finding balance.

*****Happiness is one of the meanings of the word "to be with a part."

创造能力与儿童资优的心理支持系统：预测与发展
THE SYSTEM OF PSYCHOLOGICAL SUPPORTING OF CREATIVE ABILITIES AND CHILDREN'S GIFTEDNESS: PREDICTION AND DEVELOPMENT

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注解。 本文描述了以M. I. Glinka命名的马格尼托哥尔斯克国立音乐学院（学院）创造能力预测发展和儿童资优（SRC）科学研究中心的基础的一般规则，理由和目标。 作者分析了在科学和实践中研究和发展创造力和天赋的问题的当代状态。 本文还指出了SRC活动框架内相应方向的复杂心理支持的现状，一流任务和前景。

关键词：创新能力，儿童资优，心理支持，预测与发展，科研中心。

Annotation*. The article describes the general regulations, grounds and goals for foundation of the scientific-research center of prediction development of creative abilities and children's giftedness (SRC) at the Magnitogorsk State Conservatory (Academy) named after M. I. Glinka. The author analyzes the contemporary state of the problems of studying and developing creativity and giftedness in the science and practice. Actuality, first-rate tasks and prospects of complex psychological supporting of corresponding directions in the framework of SRC's activities are also pointed out in the article.*

Keywords*: creative abilities, children's giftedness, psychological supporting, prediction and development, scientific-research center.*

In September 2018 in the Magnitogorsk State Conservatory (Academy) them.

M.I. Glinka the opening of the Research Center for Forecasting the Development of Creative Abilities and Childhood Talent (SIC) took place. The main goals of its creation are dictated by the relevance and necessity of solving a number of the most important strategic tasks facing the Russian state and society. They are legislatively enshrined in the list of "big challenges", in the ideas of building an "image of the future", in defining the ways of the "ideal scenario" and the prospects for the development of national science, art, education and society as a whole [1, 2, 6]. Today, all spheres and levels of education with the same priority are focused on the system of supporting abilities in children and youth, on creating conditions and opportunities for self-realization and revealing the talent of each person. Such progress in science and practice is predictably long-awaited, but at the same time, it is not without contradictions [7].

The concept of "giftedness" as the most general and qualitative characteristic of abilities in the whole variety of definitions is ambiguously interpreted and studied from various angles: as levels of development of the intellect, motivational formations, personal traits. To date, the most well-known psychological theories of creativity and talent took shape in relatively independent areas - cognitive, personal and educational approaches.

In the cognitive approach (J. Guilford's structural model of intelligence, J. Renzulli's triad model, R. Stenberg and T. Lyubart's investment theory, H. Gardner's model of intellectual intelligence, M. Kholodnaya's intellectual talent model) the ratio of creativity and intelligence. By creativity is understood both the highest level of development of the intellect, and one of the important components of the general structure of the intellect, and a complex structure that includes logical intelligence as a component. In this approach, discussions continue about whether creativity is a general or special ability, whether high intelligence is necessary for outstanding achievements. Other important questions focus on special abilities related to music, dancing, sports and other areas of activity, and which of these abilities are needed for outstanding success in these areas. Some psychologists consider creativity and intelligence to be related, but independent factors, others include high intelligence in the structure of creativity or, on the contrary, creativity is considered the highest level of intellectual development. In general, the majority of modern authors conclude that general abilities (intellect) are necessary, but not sufficient to explain outstanding successes and / or creative productivity [3, p.140].

The personal approach (the concept of B. M. Teplov - S. L. Rubinshtein, the K. Heller Munich multifactor model, the dynamic theory of endowments by J. D. Babaeva, the structural-dynamic model of E. I. Scheblanova, etc.) involves the study of the personality as a whole and (or) its individual features. The focus of this approach is on the emotional and motivational aspects of giftedness, identify-

ing and analyzing personal characteristics that develop and are formed at different stages of the ontogenetic development of the individual. In the early stages of the development of children (preschool and primary school age), creative potential acts as a key indicator of giftedness; at later stages (school age and the beginning of vocational training), the dominant signs of endowments are more and more successes and achievements that are ahead of the age and / or educational level. Talent realized in science, art, or other fields of activity at a more mature age, and outstanding achievements valuable to society, give grounds for recognizing the talents of the individual [3, p.139].

In the educational or sociocultural approach (A. Tannenbaum's "starfish" model, the Australian differential model F. Gagne, the concept of creative talent by A.M. Matyushkin; the cultural-psychological ("Siberian") concept of L.I. Larionova, etc.) endowments it is considered mainly from the point of view of external influences of society, in particular - schooling. This approach emphasizes that traditional learning inhibits the development of children's talents, while learning that takes into account their cognitive abilities and the diversity of individual differences significantly increases their mental abilities and solves personal and social problems. Hence, the main principle of developing developmental programs for gifted children is to ensure the compliance of the conditions of upbringing and their special cognitive abilities and needs [7].

A special place among the above approaches was taken by the "Working Concept of Giftedness" (V. D. Shadrikov, D. B. Bogoyavlenskaya and others), according to which "talent is a systemic quality of psyche that develops throughout life, which determines the possibility of achieving more high, outstanding results in one or more activities compared to other people. At the same time, it is the personality, its orientation, the value system that leads to the development of abilities and determine how its potential will be realized" [5].

As a result of the analysis of existing scientific approaches and the proposed practical options for the study and development of creative abilities and talent, it is important to highlight the most pressing issues that are prioritized in the SIC.

First, there is still a shortage of empirical testing of the reliability of many psychodiagnostic methods and techniques that could take into account the dynamic nature of the development of creative abilities. "Endowment, like any other natural phenomenon, has a very complex multi-layered, multi-level device. From the point of view of solving applied both pedagogical and psychological tasks (diagnostics of giftedness, forecasting the development of a gifted person), multifactor models are the most productive. The practice needs not so much strictly verified simple schemes, as much as possible described in detail systems, including many structural elements, highlighting and characterizing as many facets of the mental phenomenon as possible" [3, p. 71]. Therefore, in the research and development

sector of SIC, the complex (systemic) diagnostics of creative abilities and children's talent is improved through the transition from their “selection” methods to “development forecasting” methods, taking into account age-related features, goals and objectives of creative development and aesthetic and artistic education of the individual.

Secondly, the majority of modern parents still need psychological support and advice on early (including adequate) development of the skills and abilities of children. And, despite the fact that today it is rather difficult to predict which specific knowledge, skills or abilities will be most useful for the younger generation, we can say with certainty that only by joint efforts of teachers and parents can we direct a capable and gifted child not only to obtain a certain amount of knowledge, but also on their creative processing. Thus, in the sector of forecasting and analytical services, SIC provides information on the current level and possible dynamics of development of the child’s abilities (groups of children) at the request of parents and teachers; consultation on the creation of favorable conditions for the implementation of the identified abilities.

Thirdly, the introduction of practice-oriented programs and innovative technologies to the educational processes for the creative development of children and young people requires, first of all, competent methodological support for teachers and psychologists. Consequently, one of the most important tasks of SIC is to create a sector of development (growth) of competences for specialists and scientific and pedagogical personnel in order to improve the quality of their training in various segments of the educational system in the field of art and creativity.

The main experimental base of the Magnitogorsk Conservatory is a pre-school child development center - Kindergarten No. 134 "Notka", which for many years conducted an early selection of music-gifted children and their further professionalization in the system of continuous music education. Under the guidance of O. M. Bazanova, on the basis of the kindergarten, scientific and experimental work was also carried out to determine the natural inclinations of children, their ability to be a future poet, musician, mathematician, artist. In addition to sociometric and psychometric tests, using the method of electroencephalography, scientists identified patterns and neurophysiological mechanisms for processing information from performing musicians. Differences in sound and tactile sensitivity, tonic tension of muscles were determined, trainings were developed in order to train and improve the efficiency of musical and performing activities. Today, the achievements of music-gifted children are systematically monitored, an information data bank is being formed on talented children of preschool age in order to track their further personal and professional self-determination. To date, in collaboration with SIC, a questionnaire has been developed for parents, with the help of which information on the presence of a child is compared:

1) genetic prerequisites for the development of abilities (gifted relatives, the degree of kinship);

2) an enriched subject-developing home environment (common family environment and joint enthusiasm for creative activities, favorite games, children's tales, etc.);

3) a clear manifestation of abilities - the creative achievements of the child.

In addition to the questionnaire, parents and teachers fill out the "Giftedness Card" questionnaire (D. Haan and M. Caff in the modification of AI Savenkova) to determine the preschooler's severity of not only musical, but also artistic, artistic, literary, artistic, technical and communication skills. As our research shows, the assessments of teachers and parents for the determination of certain abilities in a child often do not coincide. Therefore, the task of the psychologist is to correlate the adequacy of assessments by parents and teachers in order to further achieve consistency between them and jointly build an individual route for the child's creative development.

In the process of children performing creative tasks in natural game conditions, the psychologist also monitors the child, determining the intensity of the manifestation of his curiosity, cognitive interest in the tasks, focusing on the tasks, initiative, contact, clarity of his thoughts, etc. Psychological diagnostics of a preschool child also includes tests of P. Torrens for the definition of creative thinking - flexibility, fluency, originality, as well as tests for determining the leading modality - the auditory, visual or kinesthetic channel of perception and processing of information. In the aggregate, all the data obtained are compared and conclusions are drawn about the harmonious or disharmonious development of abilities in a child, and a further forecast of their development is made according to the intellectual, academic, artistic, creative, leadership, sports and choreographic type.

In general, we can conclude that the main directions of the SIC activity are the effective formation of a system of complex psychological support for young talents in the unity of research, practice-oriented and socially significant components:

- the creation of a mobile and flexible research infrastructure of the Conservatory and the consolidation of available resources with the ability to integrate general psychological, neuropsychological, psychophysiological, musicological, philosophical and pedagogical knowledge;

- obtaining new fundamental knowledge, new principles and solutions of applied interdisciplinary problems in the field of psychology and pedagogy of music education, psychology and pedagogy of creative activity, artistic and aesthetic education;

- search, selection and development of standardized psychological methods and instrumental psycho-physiological methods for measuring the dynamics of musical and creative personality development;

- introduction and adaptation of research results, innovative developments and stages of the predictive system SIC to the practice of continuous special (musical) education, artistic and aesthetic education of the system of general and supplementary preschool and school education, into the practice of music correctional pedagogy of the inclusive education system;

- rendering predictive-analytical (diagnostic, consulting, informational) services to teachers, parents in deciding on special (musical), general, developing or correctional music education, on the premises, dynamics and results of musical and creative development of a child (group of children);

- Assistance in improving the quality of training specialists and scientific and pedagogical personnel of higher qualification;

- enrichment and dissemination of the existing positive experience and results of many years of successful work with gifted children in the framework of the activities of experimental bases, educational, scientific and methodological departments of the Magnitogorsk Conservatory.

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青少年的免疫形成心理
IMMUNITY FORMATION PSYCHE AT TEENAGERS

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注解。本文致力于解决实际问题之一。这种心理现象在人们中间太受欢迎了。对人们的负面心理影响会产生精神疾病。每个人都需要从这种影响中获得防御体系。

关键词：心理依赖，dezadaptation，青少年

Annotation. *This article is devoted to one of actual problem- sugestion. This psycological phenomen is too popular among people. Negative psycological influence on people can produce psychiatric disorders. Everybody needs to have system of defence from this influence.*

Keywords: *mental resistency, dezadaptation, teenagers*

According to the WHO, there are almost 400 million people suffering from mental disorders in the world today. The term “mental contagion” appeared and got accustomed, which implies a psychological impact on human behavior. It is time to publicly call things by their names; you need to understand the whole meaning of psychic energy and the enormous power of thought.

The term "suggestion", borrowed from everyday life and originally introduced into the circle of the medical specialty under the guise of hypnotic suggestion, is now more understood. Suggestion is one of the ways in which one person influences another, even under normal living conditions. Suggestion is an important factor in social life and is the subject of study of doctors, clinical psychologists and sociologists.

The outstanding domestic psychiatrist V.M. Bekhterev in the article “Different Views on the Nature of Suggestion,” gave a detailed description of the impact

of psychological suggestion on a person and called it a mental contagion: "... in my opinion, it is useful to recall" mental contagio "(" contagium psychicum "), resulting in a psychic contagion, the microbes of which, although not visible under a microscope, nevertheless, like real physical microbes, act everywhere and everywhere and are transmitted through words, gestures and movements of people around them, through books , newspapers, etc. In a word, where would We were not, in the society around us, we are already exposed to the action of mental microbes and, therefore, are in danger of being mentally infected. " This problem seems to be timely and important, as a factor that plays a prominent role in our life, both in the everyday life of individuals and in the social life of nations [2, 11].

The question of the nature of suggestion is one of the most important questions of psychology, which has recently received tremendous practical significance. Despite the enormous practical importance of the suggestion, however, its psychological nature is still very little studied. "Mental contagion" is manifested not only by the psychopathic epidemic, but also by the spread of mental states that cannot be considered pathological in the narrow sense of the word and which undoubtedly play a large role in the history of peoples. One of the clearest examples of short-term mental epidemics is panic, which develops with crowds of people in a crowd.

The conditions for the development of panic are the unexpected appearance of a universally recognized danger and the slightest impulse, acting like suggestion, so that panic develops. Panic attacks often occur in all possible cases that suggest the imminent danger, and, as you know, are often the cause of disasters. In a crowd, feeling prevails over mind, a lack of analysis and a quick transition from inducement to action are noticed. The credulity of the crowd, its impressionability, impatience, and absolutism are explained by the monoidism of the crowd, since the feelings of one are directly transmitted to others, thanks to the "psychic infectiousness." Sigheli said that suggestion in the actions of the crowd is gained by suggestion, thanks to which the word or gesture of one person with lightning speed ignites the crowd. According to the testimony of criminologists, the basis of many crimes committed jointly by two or several persons is the effect of the leader's suggestion on the rest of the group [1, 4, 10].

Mental contagion is a phenomenon of the transmission of human magnetism, there is not just a word, but the subtlest fluid of sensual and mental ema-nations. Attention is drawn to the fact that in recent times especially unmotivated acts are being committed. Next to the phenomenon of psychic contagion and suggestion, there is the problem of suicide, which has been widespread in our days. According to the national British statistics, the number of men aged 25 to 44 years who commit suicide more than doubled and is 26 people per 100 thousand. In our country, the death rate from suicides is also increasing. It is highest in people after the

age of 20 years. But even in children - 5-9 years, the death rate from suicide has doubled in ten years. " "Since the mid-1990s, Russia has consistently been among the top five countries with the highest suicide rates along with Latvia, Lithuania, Estonia and Hungary. Over the past decade, about half a million people have committed suicide. There are about 4 times more suicides in our country than in England and the USA. In the structure of mortality at working age, suicides along with injuries and poisonings occupy one of the first places. " Increasingly, patients hear voices, speak, try to communicate with someone unseen [5, 9].

The problem of the formation of defense mechanisms of the psyche is one of the most urgent problems in the modern world. Personality can be represented as a core surrounded by several layers of accessories: our habits, our masks of a role, our thoughts, our things - all this protects us from the external, not always positively influencing world. As long as the opportunity remains to acquire things, we feel like the master of life. The desire to succeed in material terms is not always the real goal, because there will be other, more successful ones that will upset the psychological balance and psychological balance.

The greatest meaningfulness of life comes from finding a goal, the achievement of which contributes to the development of uniqueness, dissimilarity, and uniqueness of its carrier. James argued that the external material security layer, first of all, should consist of "works of our hands and brain" and not just "big money" received at work, since the works of our blood labor, whether it is a collection of insects or a business created [7, 8].

Being exposed to negative influences from the outside or fearing them - it can be a security threat, experiencing humiliation, and also an external or internal prohibition on the fulfillment of desire - a person often resorts to strange reactions that neutralize an internal conflict, and they flow on an unconscious level. These reactions are issued involuntarily and are called defense mechanisms of the psyche. For the first time described the protective mechanisms of the psyche Sigmund Freud.

The defense mechanisms of the psyche are psychological strategies by which people reduce the intensity of such negative states as internal conflict and frustration. Frustration is a mental state arising from a collision with a real or imaginary obstacle to the achievement of a goal.

Displacement is one of the most well-known and well-described defense mechanisms. For example, young people, and sometimes not very young people, but also with an unsettled personal life, like to visit discos and restaurants where you can relax and dance. Dance is a type of surrogate activity where unrealized sexual energy finds its way out in rhythmic gestures and game touches with a partner. There are two types of offset. The first is called "object displacement", when a person displays a feeling towards an object, which he actually feels towards

another person or object. For example, a person, angry with his boss, may come home and behave aggressively towards children or his wife. Of the majority of feelings inherent in a person, it is the ag-ressia that most often shifts. In the second type of displacement, the object does not change (the target does not change), but the energy associated with one sense transfers into another sense, from the personal one from the original one. A characteristic case of bias in the second type in the practice of psychoanalysis is the shift of the sexual and aggressive drive. This means that the energy associated with sexual arousal, can be expressed as aggression, or, conversely, aggressive energy towards a specific person begins to manifest itself in sexual activity.

The next defense mechanism is regression. Here the individual, exhausted by his experience, as if returns to an earlier stage of development. Private manifestations of regression are situations where an adult person becomes hysterical, spoils things (early childhood, from a year to three), looking at the TV meaninglessly, gnawing at his nails (infancy), etc. The concept of regression suggests that with an obstacle, or experiencing stress, a person returns to that stage of life in which he felt safe, in which he was well and cloudless.

Suppression and repression are the most “simple, direct and artless” defense mechanisms. Suppression is the reaction of removing from consciousness, silencing, rejecting unpleasant information or experience. During suppression, a person denies himself that “it was” with him, that is, the information went into the unconscious and the person ceases to know anything about him. Alcohol abuse is a frequent way of avoiding reality. A capable person who has certain achievements in the past periodically abuses alcohol because he understands that he does not succeed in business.

One of the methods of protecting the psyche is projection or transference. Projection is the attribution of one's motives or personal characteristics to other people, when a person not only supersedes knowledge of one's own desires, but also mixes them beyond the limits of one’s personality. For example, if a person condemns another for actions that were your innermost dream.

The protective mechanisms of the psyche - first, remove negative emotional states; secondly, they distort reality and thirdly, it flows at an unconscious level, so that people usually do not realize their protective mechanisms.

The subject of defense mechanisms of the psyche intersects with Carl Gustav Jung's ideas about the structure of the human person. He created his own theory, calling it analytical. Jung identifies 3 structural components of personality. The first structural component of personality is the Person, or Mask. A person is a public façade of a personality, is a “collectively fit” or “socially fit” artificial personality. This is such a mask that helps an individual to "get a name for himself, titles and titles." This is a convenient form of existence, designed to make the right im-

pression on others. The second structural component of personality according to Jung is called Shadow. Shadow is all asocial, secret impulses, these are powerful powerful instincts, this is the animal nature of man. “Woe to him,” Jung warned, “who was too carried away by his Persona and completely forgot about the existence of the Shadow. "The one who builds himself too good Persona, is paying for it with the excitement of feelings." "To what extent a person has recognized the reality of the Shadow in himself, to such a degree he will be able to free himself from her influence." The "grandmothers" and the "grandfathers" instructing others fall very tightly when their Shadow breaks out. The third structural component of personality, according to Jung, is Anima, or Animus. Anima, Animus is the female side of the personality of a man and the male side of the personality of a woman. Anima and Animus not only make each gender detect in its behavior certain features of the opposite sex, but also encourage them to sympathize and understanding with the other sex. Analyzing the situation, Jung discovered that men who abandoned their Anima are very afraid that they "become women within themselves". Inclusion in the excessive struggle with the crazed aspiration is called reactive formation. Reactive education implies that a person may try to increase the displacement, behaving in a way diametrically opposite to the content of the displaced material [12].

Using protective identification, a person accepts personal traits, behavioral traits, borrows elements of logic and thinking, as well as some accessories of the person who, as it seems from the outside, is lucky in meeting their needs. “Hello, Ivan Ivanovich, this is Grisha! Ah, you are at a meeting with the general. For God's sake, sorry! I'll call you back later. ” Due to the lack of real activity, an individual dissatisfied with his real situation is content with copying external characteristics.

Power and prestige reinforce the individual's false notion of personal significance. The presence of a post removes the incentive state that pushes a person forward to his dream. The individual has the moral right to lead others only when he has already solved his psychological problems, when he has already taken place as a professional: when he, what with a post, what without a post, is equally comfortable and when his personal career plans are much broader than service subordination. Anyone who wants to live life productively, sooner or later will realize that only the most intimate meaningful life tasks are achieved only in creative work [13].

Rationalization is an excuse for one’s behavior, the reason for which is disguised both for others and for oneself. In addition to rationalization, there is also intellectualization - also a protective mechanism. Intellectualization is a thorough analysis, which leads to an increase in the sense of subjective control over the situation rationalization.

One of the catchy methods of protecting the psyche is irony. The irony is clever

(as a sign of a "subtle mind"), noble (as a sign of "greatness of the soul"), elegant (as aesthetic pleasure delivering by its refinement) defense mechanism. Irony is the ability to reflect, to get out of complete preoccupation with the situation. This control of the situation gives strength to the person, gives him an advantage. This is the possibility of exclusion, alienation, the ability to make the problem that has arisen is not entirely his, alien, strange, this is the ability of a new vision of the situation. As a mental state, irony is a modified sign of experiencing a situation, from minus to plus. Anxiety was replaced by confidence, hostility - by condescension ... there is already an opportunity to control this state. The irony as a mental process transforms what seemed scary, intolerable, hostile, disturbing, into the opposite. This salutary and liberating function of irony was very accurately expressed by Voltaire: "What has become ridiculous cannot be dangerous." Knowing about yourself is an unpleasant thing, but this unpleasant thing creates the basis for a new quality of life. “The highest goal of the development of intel-lekta,” wrote Novalis, “is to give a person a perfect knowledge of his“ I ”and power over him”.

Often, even among apparently healthy people there are abnormal mental manifestations, such as rudeness, cynicism, incorrect, provocative behavior, abuse. According to the specialists of the Research Institute of Psychiatry, all layers of the population became much more likely to use swear words in public places. This allowed psychologists to combine the whole problem, especially among adolescents, as a problem of deviant and delicate behavior [6]. Doctors, psychologists, sociologists, employees of law enforcement agencies and prosecutors who are looking for the causes of the phenomenon of destruction of public consciousness, the manifestation of which we are talking about, try to explain the threatening situation in different ways. They talk about crises, about the increasing informatization of society, about drug addiction and the decline of morality, and much more.

At the same time, a problem arises about the formation in a person of a system of protection against the psychological impact of another person on him, the formation of the so-called psychological immunity, and the fostering of healthy skepticism against the proposed information. This topic is most relevant for adolescence. Adolescence is a highly plastic age for the impact of sometimes undesirable harmful information, and to teach him to be resistant to such an impact, to the desire to manipulate his mind is the main task of a teenage psychologist and teacher. In order to solve this problem, you need to be trusted friend of a teenager. The consciousness of a teenager is brought up with examples, a friend, a teacher, parents, heroes of films, books, and other examples. And therefore with whom he meets, in what environment he is brought up and lives and is for adolescence the most important factor of education. It is this personal approach that is the main one and the main one in solving the problem of educating resistance to undesirable psychological effects and the formation of psychological immunity, the system of protection of one's own psyche.

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大欧亚大陆在上海合作组织国家协同作用的空间

THE LANDSCAPE OF GREATER EURASIA IN THE SPACE OF SYNERGY OF THE COUNTRIES OF THE SHANGHAI COOPERATION ORGANIZATION

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注解。自20世纪90年代以来，世界目睹了大欧亚地区内部关系本质的巨大变化。它始于苏联解体和东欧的激进变革，然后在新世纪得到强大的推动。所有这些都表明大欧亚大陆的地缘政治和地缘经济格局发生了深刻的变化。它不仅包括扩大欧洲联盟对东方的利益，而且还包括一些与区域经济和政治合作以及称为丝绸之路的竞争有关的提案和协议的出现。上海合作组织国家在自己的国家边界和传统次区域之外建立了一个不同的构想空间，继续将议程上的这一问题视为最重要的问题。

上述时间和空间的变化表明，与欧亚问题有关的所有想法，概念，提议，战略甚至具体行动已成为当前全球经济和政治生活中极为重要的一个方面，并将影响未来全球发展趋势。世界。大欧亚大陆的未来是否会依赖于参与者的凝聚力和更密切的合作 – 上海合作组织国家，还是会陷入国际争端的混乱中，是否有可能将这两种趋势混为一谈？ – 今天解决这些问题是相关的。如果在分析中使用，包括系统协同处理所研究问题的方法，那么来自不同领域的政治家和科学家的知识和智慧只会增加。

关键词：上海合作组织，大欧亚大陆，欧亚经济联盟，哈萨克斯坦新经济政策“Nurly Zhol”，中国项目“丝绸之路经济带”，系统协同方法，对话。

Annotation*. Since the 1990s, the world has witnessed dramatic changes in the nature of relations within the Greater Eurasian space. It begins with the collapse of the Soviet Union and radical changes in Eastern Europe, then it receives a powerful impetus in the new century. All demonstrate profound changes in the geopolitical and geo-economic landscape of Greater Eurasia. It includes not only*

the expansion of the interests of the European Union towards the east, but also the emergence of a number of proposals and agreements relating to regional economic and political cooperation and competition called the Silk Road. The SCO countries, having built a differently conceived space beyond their own national-state borders and traditional subregions, continue to consider this issue on the agenda as the most important.

The above changes in time and space show that all ideas, concepts, proposals, strategies and even concrete actions relating to Eurasian issues have become an extremely important aspect of the current global economic and political life and will influence future global trends in the development of the world. Will the future of Greater Eurasia depend on cohesion and closer cooperation of the participants - the SCO countries, or will it plunge into the chaos of international disputes, and is it possible to mix these two trends? - The solution of these issues today is relevant. The knowledge and wisdom of politicians and scientists from various fields in this matter will only increase if used in the analysis, including the system-synergetic approach to the problem under study.

***Keywords**: Shanghai Cooperation Organization, Big Eurasia, Eurasian Economic Union, New Economic Policy of Kazakhstan "Nurly Zhol", Chinese project "Economic Belt along the Silk Road", system-synergetic approach, dialogue.*

Honesty in politics is the result of strength,
hypocrisy is the result of weakness.
Vladimir Ilyich Lenin

Imperialism and all reactionaries are paper tigers.
Mao Zedong

It is said that politics is the second oldest profession.
But I came to the conclusion that she had much more in common with the first.
Ronald Reagan

Transit is an area where geo-economics
closely intertwined with geopolitics.

At present, the complication of society occurs not so much due to an increase in the number of subsystems, but rather due to an increase in the number and profound changes in the quality of interconnections between them. This factor is one of the examples of "invasion" of technology into the previously sacred area of biological engineering, when reproductive technologies act as a commodity,

and the biological floor has lost signs of immutability and stability. This phenomenon of the "medicalized body" has become a manifestation of the dependence of physicality on sociality, allowing the biological (sex) and social (gender) sex to shift and act as interchangeable, loose (M. Foucault) [1]. In this case, it was the technology that opened up unprecedented possibilities of *communication*, both direct economic, physical, and informational. Note that this process of increasing connections is avalanche-like, far exceeding the capabilities of traditional technologies. Of course, these processes did not bypass any country in the world, including the Eurasian region, and could not but impose a specific imprint on its current historical development. This process is associated with the perception of the deployment and self-realization of *geo-economic and geopolitical* processes as discrete, not determined by a set of causal relationships and subject to a different logic of development. Appealing to a fundamentally *new logic* of understanding development in the conditions of overflow of society with information leads to the formulation of new research tasks in the field of system dialogue of the SCO countries, since it is clear that such complex social entities and not only technological, and such rapid development require high and highly qualified subjects modern history. Under the conditions of the self-reproduction of society, the concept of "development" acquires a different meaning, and "technical progress" should pursue other goals. These problems are still poorly understood by mankind.

Since the beginning of the XXI century, the tendency of formation on the planet of a multipolar world is growing. An important role in this process is played by the integration of Greater Eurasia based on the synergy of the strategies of the Shanghai Cooperation Organization, the Eurasian Economic Union, the New Economic Policy Nurly Zhol of Kazakhstan and the Chinese project "Economic Belt along the Silk Road".

This cooperation is especially important for multi-ethnic and multi-religious state formations, which are the Republic of Kazakhstan, the Russian Federation and the People's Republic of China. This will help ensure that strong nation-states can resist globalism and participate in the processes of true globalization.

The core of the integration programs, including the creation of efficient transport and logistics corridors in Kazakhstan. Regional transport hubs of the country will help Kazakhstan become a key distribution point for cargo to the Russian and Central Asian markets.

These strategies have become an extremely important aspect of the current economic and political life of the Eurasian society: "think globally, in order to act locally effectively". The evolution of technology at the same time today is increasingly becoming the driving force of changes that have an impact on many components of the social life of Greater Eurasia.

Forecasting the future of technological trends, the profitability of new products

or services and the related employment and unemployment trends in the aspect of integration programs is one of the difficult but necessary tasks that managers and politicians now face. However, it should be understood that the models of life, mind and society often depend on the philosophical concepts of nature and the historical standards of technology (K. Mainzer) [2].

An analysis of the integration of regions and general globalization shows that these processes carry an internal contradiction between free self-organization, on the one hand, and "administrative-power" management, on the other hand, due to which the range of development options currently remains limited. From this it is clear that it is necessary to abandon traditional logic and build, as M. Foucault said, a "new logic of development" adequate to the most ambiguous development. Like any process or phenomenon, self-organization has its own patterns of percolation and natural limitations, internal structure, etc. The concept proposed by V.Klyucharev, in our opinion, significantly expands and changes the theoretical basis for the study of self-organization processes and its practical application, the essence of which can be defined as the division of the system development process (previously considered to be uniform) into two stages - adaptation and self-organization different from each other. "In the course of adaptation, proceeding under the action of the prevailing external force, the maternal body is called upon to ensure functionally only itself and can even die, turning into something else. In the act of self-development, it is obliged to save itself and to provide a supply of energy for the body of the person being born. That is why self-development, always associated with the need to have an excess supply of energy, is thermodynamically vulnerable compared to adaptation. ... The border that cannot be crossed is the energy reserve, which is necessary for a living system for self-development" [3, p. 74]. "... it becomes clear that in living systems there arises a special, synergistic level of control, the subject of which is the interaction of adaptation and self-development. The main goal of such management is to reduce the energy of self-development and, thus, the thermodynamic vulnerability of life" [3, p. 76]. The power, remaining even now somewhat authoritarian, creates some problems. "In the set of unstable systems, classical logics, as decision rules, generally lose their force" [4, p. 229].

Developing this thought, Michel Foucault notes that "such rhizomatism of power manifests itself in the inability of every moment to reproduce itself, to be everywhere, in everything and to embrace everything, to be not rationalized to bodily practices, economic processes and relations of knowledge, but immanent to them" [1, p. . 128]. That is, it is clear that the same duality in the demand for "stable development" also manifests itself here - power, as a structure, as an institution, which must be changed to stability, must be changed in order to be adequate to the object of management. The control actions corresponding to the

new developmental logic are often paradoxical in nature: “manage imperceptibly,” “the strongest impact is the absence of impact,” etc. [5, p. 217], to which, as is not difficult to see, the modern system of sociopolitical and economic management, to put it mildly, is weakly consistent. The creation in the future of a new model of dialogue within the landscape of Greater Eurasia, based, among other things, on a new model of management system, will require the highest culture, qualification and responsibility of the subjects of power.

As an example of the non-linearity of geo-economic and geopolitical interaction processes, let us point out such a system-synergistic effect — coherence, taking into account the necessary presence of a “social activator” and “inhibitor” [2, p. 142-143]. In communities, “coherent behavior” may occur at distances significantly exceeding the radius of direct influence of the holder of an economic and political pattern. Such phenomena “reflect numerous regulatory and coordination processes, so they are usually called the term“ systemic behavior ”[6, p. 481]. The theory of dissipative structures shows that “under certain conditions, among which is a sufficient remoteness of the system from equilibrium” [6, p. 488], one can obtain a new ordered structure characterized by a large correlation radius, or coherence. The coherence created by non-equilibrium structures is always characterized by a supra-element, “supergenetic” scale, which results in a restructuring of the social structure and an inverse relationship between the structure and elements of the system, on the one hand, and the evolution of the system, on the other. The main difficulty in applying such a theory of structural stability to the problems of social evolution is “connected with the choice of the corresponding variables” [6, p. 488]. As the theory of dissipative structures shows, under certain conditions, including sufficient system distance from equilibrium, i.e., its instability, internal intensity, dynamics, it is possible to obtain a new ordered structure, characterized by a large correlation radius, and therefore, the mutual influence of geo-economic and geopolitical processes far distant in space and time.

So, the freedom of individual elements, subsystems and interconnections in a complex system is a necessary condition for an emergent self-organization, structuring and development. Another, more precisely, the first condition for progress is the openness of the system, the presence of external organizing factors, for example, the flow of energy, the “press” of natural selection in nature, competition in the economy and crises, etc. The third condition is the “complexity” of the system - a sufficient amount and diversity elements and subsystems, and relationships in it. Elements and subsystems in such a system can behave relatively freely and independently, which is often not observed in modern intercultural relations, in dialogue, for example, but from this “chaos” spontaneously, emergently, according to the laws of synergetics, structure and order arise. Methodologically, the non-linearity of sociocultural processes means a three-way interaction scheme,

the aforementioned trinitarian image of a multidimensional phase space [7], on which geo-economic and geopolitical processes take place. So, for a conditional community, united by certain traditions of the dialogue, the triad of stationary, non-equilibrium and chaotic interaction, sustainable and unstable development, can be represented as follows [8, p. 89]: 1) the flow of information relevant to potential carriers of a certain social tradition; 2) the community of its subjects of intercultural relations with a certain current number; 3) the flow of geo-economic and geopolitical patterns created, perceived and reproduced by the community.

The so-called BRI project, which has a different name - "New Silk Road" and "One-Belt-One-Road", which is recognized as an initiative to promote intercontinental trade, geo-economic integration and global prosperity. In a speech titled "Promoting friendship between people and creating a better future," delivered at Nazarbayev University in Kazakhstan on September 7, 2013, PRC Chairman Xi Jinping first proposed building an Silk Road economic belt. China and Kazakhstan signed an agreement on 51 major cooperation projects worth $ 27 billion.

Later, on October 23, 2013, Chairman Xi Jinping delivered a speech entitled "Co-creating a community of indigenous peoples of China and ASEAN" in the Indonesian parliament and for the first time proposed to build a 21st century maritime silk road. Together, the two projects constitute the main components of BRI, which are often known internationally as One Belt, One Road (OBOR).

In May 2015, Xi Jinping and Vladimir Putin made a joint statement on the integration of the "One Belt and One Road" project and the Eurasian Economic Union (EAEU).

Since the beginning of the XXI century. The growing trend of forming a multipolar world on the planet thus led to the idea of synergy and overcoming unipolarity in a Eurasian way, namely synchronizing the Eurasian Economic Union, the New Economic Policy of Kazakhstan Nurly Zhol and the Chinese project Economic Silk Road Belt.

All these programs were carried out and are being implemented in the context of the growing need for Greater Eurasia in infrastructure spending to support development. The Asian Development Bank valued them at about $ 1.7 trillion per year between 2016 and 2030.

As Dr. Ying Zhang noted, there are no eternal friends, and there are no enemies / rivals forever in the Chinese saying. The desire for joint prosperity and just work on it is what matters.

The future is the future for all communities, not just for a specific member or a particular club. BRI, as a platform on different continents, with the aim of promoting global common prosperity, can be used as a tool for developing the future society in terms of an equitable socioeconomic environment and can be used to improve the principle of such a setting in the "Support-Trust" cycle. -support".

East and West should have a BRI concept and be more responsible and attentive to synchronize with each other. Both parties should cooperate in finding solutions to existing problems that eliminate a common protective and competitive mentality and create a joint basis for the future agenda. These tasks, as a condition for BRI, should be not only on the shoulders of the governments of countries, but also on the shoulders of business, research institutes, education and each of the people. By taking both sides of the force from different stakeholders, you can create a systematic "road map" for an equality-oriented society. But something that we always need to keep in mind is that differences are a source of controversy, but this is also the origin of creativity, as well as the motivation for us, aimed at creating a harmonious global community [9].

Thus, we already have new geo-economic, political, technological and cultural networks of cooperation in Greater Eurasia, which allow us to develop together, despite the reactions and contradictions in the political reality. And here the important role is played, and the issues of responsibility for decisions and actions under non-linearity and random events will play, as the laws of synergetics warn. That is, it is not enough to have good personal intentions of the participants of the new strategies, it is necessary to consider their non-linear consequences, "says Klaus Mainzer. In other words, the classical principle of superposition loses its strength in the complex and non-linear world in which we live, where the whole is not equal to the sum of the parts, it is qualitatively different compared to the parts that are integrated into it. In addition, the whole modifies the parts.

In our opinion, precisely this approach to understanding the nature of the landscape of Greater Eurasia's integration strategy suggests that it will be a combination of not rigidly established, fixed structures, but structures with different "age", at different levels and stages of economic development any other. Such a synthesis will allow for the coevolution of various systems as the transformation of all subsystems through mechanisms for establishing coherent communication, that is, the mutual coordination of the parameters of their evolution.

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在俄罗斯打击腐败
THE FIGHT AGAINST CORRUPTION IN RUSSIA

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抽象。众所周知，腐败是一种蔑视所有国家和民族的危害，危害经济和道德。贿赂，贪污，官员滥用职权，近年来腐败的这些组成部分，经常谈论很多。对任何社会来说，这都是一个问题：在某些事情非常严重的情况下，问题就不那么严重了。在几乎任何市场经济中，商品 - 货币关系的首要地位，腐败成分非常大。但几乎没有人可以提供有效的方法来处理它。特别是如果像俄罗斯那样的腐败采取系统形成因素的形式。

关键词：腐败，犯罪，市场经济，商品 - 货币关系，官方，官方立场，产权，反腐败，政治意愿。

Abstract*. It is known that corruption is an evil which defies all countries and peoples, harms the economy and morality. Bribery, embezzlement, abuse of officials by their official position, these components of corruption in recent years, talking a lot and constantly. This is a problem for any society: it is less of a problem where something is quite serious. In almost any market economy, where the primacy of commodity-money relations, the corruption component is very large. But hardly someone from them can offer effective ways of dealing with it. Especially if corruption, as in Russia, takes the form of a system-forming factor.*

Keywords*: corruption, crime, market economy, commodity-money relations, official, official position, property rights, fighting corruption, political will.*

Corruption (from the Latin. Corruptio - bribery, defacement, depravity, corruption, decomposition) is a crime consisting, on the one hand, of an official's use of the rights presented to him in office for unlawful acts (damage, damage) for personal gain ; on the other hand, in bribing a crime by an ordering officer of an official for the purpose of obtaining an unlawful benefit.

According to the Federal Anti-Corruption Act No. 273-FZ of December 25, 2008, corruption is abuse of office, giving a bribe, receiving a bribe, abuse of authority, commercial bribery or other unlawful use by an individual of his official

position contrary to the legitimate interests of society and the state , in order to obtain benefits in the form of money, valuables, other property or property services, other property rights for oneself or for third parties, or unlawful provision Which benefits specified person other individuals.

From the above definitions it follows that in the corruption case there are mainly two subjects - the customer, the initiator of the crime, and the perpetrator, the official. And a corruption offense is determined, as a rule, not by the principle of the official, but by the price that the customer is able to offer. Therefore, the termination of the criminal activity of the customer is a priority in the fight against corruption, and the issue is resolved automatically with the perpetrators.

In practice, there are two types of corruption - household (on the roads, in medicine, education, etc.) and business corruption, in which officials and businessmen participate [1]. Business corruption crime is that businessmen give bribes to officials for various services that will improve the conditions for the conduct and development of their business compared to other businessmen. And such actions inevitably lead to the elimination of market competition, which does not allow "the invisible hand of the market to adjust everything," as the representatives of the Russian government are constantly saying.

In Russia recently there have been numerous various corruption exposures that are so deafening that it is already difficult to understand: either this is a sudden fight against real corruption, or it is an autopsy of the long-standing abscesses of the social reality of modern Russia. Figures of revelations are, as a rule, ministers, governors, heads of cities and districts, just officials. And this indicates that corruption has eaten through the state machine of modern Russia. Massive predation became the norm and even the basis for the existence of influential segments of society. Moreover, corruption is not a vice of individual representatives of state power, but an integral part of it, a kind of lubricant, without which this machine does not work. A wild, rampant embezzlement occurs amid claims that “there is no money, but you hold on” (D.A. Medvedev). And if the government begins to "rot" from the head and there are bad processes there, then nothing can be done at the state level for the fight against corruption to be effective.

Here is an example with the so-called problem “defrauded real estate investors”. In the early 90s, people were convinced that in the conditions of market relations, new housing is no longer a problem. It is enough to take part in the shared construction (co-investor) of apartment buildings - and get the desired meters. Citizens believed and the offices of the developers suffered their savings. And they, under market conditions, began to multiply like mushrooms after rain. Then - suddenly go bankrupt and disappear in an unknown direction, and with them disappear and the collected money, which amounts to millions and billions of rubles. At the same time, neither criminal cases nor even criminal cases are initiated

against developers or their managers. They are not excited because any form of construction companies is registered as a private business, and it is forbidden to "nightmare" in Russia.

The need to create high-tech production in Russia, which would increase the quality of products and ensured a multiple increase in labor productivity, has been repeatedly proclaimed from the high stands over the past 15 years. The tasks were set to double the GDP, freeze prices and tariffs, a decent salary and a comfortable life, and create 25 million new high-tech jobs. More on the implementation of the May presidential decrees (2012) did not bother how to work hard, and then put forward new May presidential decrees (2018). But this does not mean at all that the country's leadership does not want and does not try to carry out modernization and solve these problems. Just in practice, nothing happens. Why? On this question, ex-President D. Medvedev once said that the "modernization officials" and entrepreneurs who "do nothing", that is, interfere with the modernization process as a whole. officials and businessmen are blocking modernization because they are not interested in it. And it also indicates that corruption in Russia has permeated all aspects of life.

Corruption, developing among the upper layers of the country's leadership, like gangrene, like a cancer tumor began to spread downward, decomposing the lowest floors of the state machine, destructively acting on people's morality and ethics. Today, as practice shows, everything in Russia is bought and sold: from school assessments to buying a deputy's seat in the State Duma of the Russian Federation. In her speech at the IV Eurasian Anti-Corruption Forum on the topic "Preventing Corruption: New Approaches," the Chairman of the Accounts Chamber of the Russian Federation, T. Golikova, noted that the procedure of privatization of state and municipal property, the sphere of state property management, the contract system in public procurement are subject to particular corruption risk. Also, a serious element of corruption is the offshore economy, low-tax jurisdictions are used to obtain unreasonable preferences [4]. However, on the basis of the available official information on the prevalence of corruption, it is impossible to give a complete picture in reality. According to law enforcement practitioners, as noted in the newspaper "Soviet Russia" (dated June 26, 2016), no more than 0.5 percent of all bribes are registered in the country.

Since corruption has no boundaries, the fight against it belongs to the problem of not only domestic but also international law. In order to increase its effectiveness in the fight against corruption, the Russian Federation on March 8, 2006 ratified the UN Convention against Corruption. And in 2008-2013, a number of federal laws and amendments to them were adopted, bringing the anti-corruption legislation of the Russian Federation into compliance with this Convention: the National Anti-Corruption Plan was approved on July 31, 2008, the Federal Law

"On Combating Corruption" was signed on December 25, 2008, the National The anti-corruption strategy and the National Anti-Corruption Plan for 2010-2011 were approved on April 13, 2010. Similar National anti-corruption plans were approved by the President of the Russian Federation for 2012-2013, for 2014-2015 and for 2016-2017.

In particular, according to the law "On Control over the Compliance of Expenditures of Persons Replacing Public Positions and Other Persons with Their Income", employees of state and municipal bodies and candidates for these posts now have to file declarations about themselves and their close relatives about their income and property; parliamentarians are not allowed to have real estate or bank accounts abroad; strict control over political activities financed from abroad has been introduced; Banks are required to provide information on the movement of funds in the accounts of officials.

Of course, the measures taken in the fight against corruption gave a positive effect, but it turned out to be rather modest. According to statistics, the number of bribes in Russia has indeed decreased, but its average size has increased. This indicates that officials do not want to risk small things in the face of government attack on corruption.

It is obvious that the fight against corruption should be coordinated, organized and conducted by a special law enforcement structure. But the authorities of Russia about the creation of such a department have fears, since it may be above all. But then the authority of such a department can be entrusted to the prosecutor's office, since it is the prosecutor's office that is legally the coordinator of law enforcement agencies in the fight against crime. However, fears of the authorities over the possibility of a law enforcement monster in Russia led to the fact that Federal Law No. 87-FL of June 5, 2007 took away most of the powers in the field of supervision of the investigation and transferred them to the directors of the investigating authorities.

The adoption of this law, according to many researchers, led to a significant increase in abuse and corruption in law enforcement agencies. Today, in court cases, there is actually no extra-departmental control in the form of prosecutorial oversight, and therefore the investigator decides the fate of the criminal case together with his immediate superior. An example of this is the well-known case of the leading workers of the Moscow Central Board of the RF IC, when on July 19, 2016, the first deputy head of the Moscow cupola D. Nikandrov, the head of the department's own security service M. Maksimenko and his deputy A. Lamonov were taken into custody. All of them are suspected of abuse of office and accepting bribes from representatives of the criminal community.

Detention for bribery and abuse of the head of one of the divisions of the Ministry of Internal Affairs of the Russian Federation D. Zakharchenko, from whom

billions of rubles were seized during the search, can also be considered as an example of law enforcement in the absence of elementary prosecutorial supervision.

All these and other numerous examples show that in modern Russia, those structures of government bodies that must fight against corruption are themselves engaged in corruption affairs. And then what are the positive results in the fight against corruption in modern Russia?

The Commissioner for Human Rights in the Russian Federation, T. Moskalkova, in her annual report (for 2016) rightly noted that "the most dangerous and dramatic factor that levels the fight against corruption and sometimes drives this fight into a dead end is corruption corruption of the law enforcement system itself and all sorts supervisory and inspection bodies. As a result, man-made and other disasters, industrial building collapses, building collapses, heating mains breakthroughs, road accidents, poor food poisoning, fires and many other tragedies resulting in human victims "[5].

Of course, corruption is an old problem. And this is internal enemies. And if you do not fight it, then you lose confidence not only in individual officials and employees, but also in the entire government, in all public and political organizations. Therefore, the work on countering and eradicating corruption in the structural divisions of power, party and public organizations, in whatever form it manifests itself, must be fought regularly and tirelessly by the relevant authorities.

Under the conditions when Federal Law No. 87-FZ of June 5, 2007, the prosecutor took away most of the powers in oversight of the investigation, on December 3, 2013, the President of the Russian Federation signed the Decree on the formation of the Anti-Corruption Administration of the Presidential Administration, whose functions include: conduct anti-corruption checks, analyze information about the income and expenditure of high-level officials, engage in analytical and legal work (monitor the implementation of presidential decrees, laws in the field of countering factions, etc.), responsible for international cooperation in organizations such as GRECO (Group of States against Corruption). The emergence of this Decree indicates that the President leads the legislative policy on anti-corruption issues and does not lose sight of the activities of the administration in this area. And questions about the fate of bribe-takers from among the top officials are decided on the initiative of the president. But if the first person of the state manages everything personally, including corruption, will this not lead to bureaucracy and formalism in the fight against corruption?

In this regard, attention is drawn to the National Anti-Corruption Plan for 2016-2017, which was approved by the President. This plan provided for ministries and statements, including the Government, the Ministry of Internal Affairs, the Ministry of Justice, the Ministry of Foreign Affairs, the Central Bank, as well as the Union of Journalists of Russia, the Knowledge Society and the Association

of Lawyers of Russia to submit, within two years, 36 reports on various plan positions.

Accurately assessing the hidden part of corruption activity in Russia under the conditions of its ramification according to the charges, on the basis of which high-ranking heads of departments and representatives of power structures are currently arrested, is rather difficult. However, the shamelessness of the political elite of the country involved in corruption cases becomes especially clear on the example of the children of all kinds of officials and leading Russian politicians: this is the acquisition of shares of major concerns, and positions in senior positions, and all their children get away with it, including killing random people who fall under their arm, etc. etc. Their children acquire super-expensive cars, drive at exorbitant speeds, regardless of the rules of the road, nor with other motorists, or with pedestrians. For accidents, assaults, including deaths, they get off with symbolic fines, arrogantly behave in the courts, knowing that they are under jurisdiction and will pay for themselves. But also on the basis of the corruption activity that turned out to be on the surface, it can be argued that corruption in Russia is manifested mainly in crime, impunity, and involvement in crime of leaders of different levels.

The head of the Investigative Committee of Russia, A. Bastrykin, on the eve of the five-year anniversary of the creation of the committee — and it was created on January 15, 2011 — gave a long interview to the Rossiyskaya Gazeta. From this interview it follows that over the five-year period of work of the Investigative Committee, 740,000 criminal cases were initiated, of which 120,000 are related to corruption. Out of all the excited, more than 520 thousand reached the court, of which 50 thousand are connected with corruption. But how many of them came to a conviction and how serious these sentences are in the interview is not specified.

The statistics that A. Bastrykin cites in an interview provide a graphic idea not only of the scale of crime in modern Russia, but also show that corruption has covered all levels of Russian power. And this reasonably suggests that corruption in Russia is a system-forming factor. Only those who occupy leading bureaucratic positions or are deputies and have a special legal status, as noted in the newspaper Pravda (July 19-20, 2016), were indicted 3,360 people. Including mayors and district heads - 1113, deputies of local authorities - 1133, investigators and heads of investigative bodies - 395, lawyers - 286, prosecutors - 82, deputies of regional level - 58, judge - 23. And how many facts of crimes are not revealed and not investigated in principle? How many cases do not go to court, fall apart or end up with inadequate weights of imputed sentences? And this concerns, of course, not only corruption cases.

According to Kremlin estimates, corruption among officials is costing Russia more than $ 30 billion a year [2]. But for some reason, the Russian Federation still refuses to ratify the 20th article of the UN Anti-Corruption Convention, according

to which for officials who are unable to explain the discrepancies between their expenses and official revenues, they automatically submit criminal charges to them. In other words, for some reason, refuses to ratify the article, according to which officials are obliged to declare not only income, but also expenses.

Before the upcoming presidential elections in 2018, V. Putin periodically began to carry out rearrangements in the highest echelons of Russian power, which indicates the current opposition in the leadership of the country and is caused by instability of the general political situation. The creation of militarized units of the "National Guard" (April 5, 2016) and the implementation of significant personnel changes in the higher echelons of power (July 28, 2016) indicates a keen political struggle to preserve and redistribute before the presidential election. Regardless of the result of the struggle in the presidential elections in 2018, it can be firmly noted that in the conditions of market relations with their cult of money, there is always corruption in the winners. The same one that the Prosecutor General's Office of the Russian Federation, the Investigation Committee, the Interior Ministry, and the FSB are fighting with so much in words.

And it is not just words. At one time, V. Rashkin, a State Duma deputy, made a parliamentary inquiry about the allegations of corruption made by A. Navalny against the Prime Minister of the Russian Federation. Earlier, charges were filed against the prosecutor general and his family members, and they were more serious. So what? The following reaction followed all of their accusations: in 2017, the State Duma adopted new amendments in respect of persons who are granted state protection by law - the President, the Prime Minister, the Prosecutor General, the Chairman of the Investigative Committee, the Speakers of both Houses of Parliament, as well as their family members, it is allowed to freely hide information about bank accounts, real estate, including abroad, any other property. And this list of persons by the decision of the president may be expanded. And in the new version of the law it will be called "the protection of personal data of objects of state protection and their families."

What is the result? Persons whose activities must be accountable to society and are as transparent as possible are classified. A privileged caste is created from among dignitaries in the country, who do not fall under public and journalistic control. And all the data of the privileged caste will now be hidden, and nobody will explain anything to their corruption affairs to the society. And as a result, those who are accused of corruption, and those who conduct investigations and write about it, will be under attack. And since the law provides for the Federal Security Service to demand that the data of high-ranking officials and their family members be removed from public access, now the Russian elite will be able to build palaces, buy yachts and divert money to their foreign accounts without any regard for public control. And this directly contradicts the proclaimed installation of an anti-corruption policy.

In modern Russia, along with traditional types of corruption activities, its special type is used - the administrative resource of state bodies. Its essence lies in the fact that the staff of these bodies arrange their personal affairs, using their official position. In addition, using their public positions, they take bribes for the performance or non-fulfillment of their direct official duties, or, due to the use of imperfect laws and collision procedures, create conditions when the failure to bribe becomes almost impossible.

However, this type of corruption should not be confused with lobbying. Lobbyism (from the English lobby - lobby) is when the administrative resource puts pressure on deputies and officials in promoting the solution of certain issues. At the same time, authority is also used to increase the chances of reassigning or moving up the ranks in exchange for acting in the interests of certain individuals (or groups of individuals). But lobbying differs from corruption in the following three conditions: there are no secret or side payments; clients and agents are independent of each other in the sense that no group receives a share of the profits earned by another group; the process of influencing an official is competitive in nature and follows the rules that are known to all participants [3]. It is these differences that allow lobbyism to be considered only as an integral part of corruption.

The most complete administrative resource as a special type of corruption manifests itself in elections to various authorities at all levels. The authorities, using their position, in exchange for their dismissal from the work of public sector employees, force them to vote for the authorities. By this, the government shows that it forcibly forces public sector employees to become bribe takers and bribe givers. Namely, state employees from the government receive a bribe in the form of preserving jobs, and at the same time, they themselves give a bribe in the form of a vote for those whom the authorities indicate.

Certainly, by this, the government shows that for the sake of its own sake, it involves public sector employees in corrupt activities. And that qualifies as a crime. And as a double crime - against the state and against the people. And since in modern Russia, corrupt officials themselves are fighting against corruption, we cannot expect any positive results.

The so-called early resignation of governors before the election, accompanied by the Russian President by the inevitable appointment of their temporary acting, should be attributed to this type of corruption. Since, with such resignations, the administrative resource remains in the hands of the governor, he tries to use it without risking his career, and therefore successfully passes the re-election procedure. And when the presidential elections of the Russian Federation are held, the governors, proving their loyalty to the authorities, make extensive use of the administrative resource in the interests of preserving the highest authorities intact. And this shows that at high levels of government both bribe-takers and bribe-givers are also present in the same person.

All this points to the need to consider the administrative resource of state bodies as a special type of corruption, and therefore it is necessary to make appropriate amendments to the law on combating corruption and to provide for the most stringent measures of responsibility and punishment.

As a conclusion, it should be said that in order to conduct an effective fight against corruption in Russia, it is necessary:

- ratify art. 20 of the UN Convention against Corruption, introducing the concept of "illegal enrichment" and providing for punishment in the form of confiscation of the loot;

- suppress pressure on independent economic activity, but not restriction of control (sanitary, fire, construction and technical, etc.), but strict suppression of extortion by regulatory authorities (when reducing requirements from regulatory authorities to a reasonable, unambiguously understood formalized minimum). Caught on proven extortion to use cruel criminal punishment, including a life ban on participation in the management of state property and to engage in work in government bodies;

- confiscate all property, prohibit amnesty and pardon and for life the subsequent occupation of public office and participation in the management of state property for officials convicted of crimes of corruption. Particularly tough - not for relative “trifles”, but for middle and high-ranking officials (for example, starting with a salary level above the double regional level of the average salary);

- introduce special measures for cronyism, since the work of people bound by kinship in one state structure creates preconditions for corruption or other abuses of official position. In the USSR, for example, they fought against cronyism with the prohibition for close relatives to work in senior positions in one state institution;

- to consider the wealth illegally acquired, which is not supported by a tax return or does not correspond to the income received, and it should be confiscated if the citizen cannot give a reasonable explanation for the origin of his wealth in the form of real estate, bank accounts, etc. in Russia and abroad.

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中国的反腐败斗争
THE FIGHT AGAINST CORRUPTION IN CHINA

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注解。除了对俄罗斯反腐败斗争的描述（参见本集“俄罗斯反腐败斗争”中的文章），有必要对中国反腐败斗争进行描述。这是合理的，因为这些国家几乎同时开始进行经济改革，以发展市场经济中的商品 – 货币关系：中国自1978年以来，自1986年以来的俄罗斯。在改革年代，中国的经济潜力增长了17.7%，到目前为止，俄罗斯工业和农业产品的数量在1990年赶上了样本。这种戏剧性的结果可以解释为中国进行改革，依靠自己的力量，而不是寄希望于“隐形”市场的一方面，以及在西方的口述和“食谱”下进行的俄罗斯改革，带来了市场的“看不见的手”，使国家陷入停滞。这是第一位的。其次，在市场经济中需要发展商品 – 货币关系的反腐败的方法和途径是什么，这些国家存在显着差异，本文对其进行了描述。

关键词：腐败，犯罪，市场经济，商品 – 货币关系，官方，官职，产权，反腐败，政治意愿。

***Annotation**. Along with the description of the fight against corruption in Russia (see the article in this collection "the Fight against corruption in Russia") it is necessary to give a description of the fight against corruption in China. This is justified by the fact that in these countries almost simultaneously began to carry out economic reform towards development of commodity-money relations in a market economy: China since 1978, Russia since 1986. During the reform years China its economic potential increased 17.7%, while Russia in volume of products of industry and agriculture to this day catches up to itself of the sample in 1990. Such dramatic results are explained by the fact that China conducted its reforms, relying on their own strength and without laying hopes on the "invisible hand" of the market, and Russia reforms carried out under the dictation and by "recipes" of the West, bringing the "invisible hand" of the market brought the country to a standstill. It's in the first place. And secondly, what methods and ways of fight against corruption, which entails the development of commodity-money relations in a market economy, these countries have significant differences, the description of which is given in this article.*

***Key words**: corruption, crime, market economy, commodity-money relations, official, official position, property rights, fighting corruption, political will.*

It must be admitted that in any country in the world where commodity-money relations are developing in one way or another and a market economy is functioning, there is corruption in various forms and scales. And in the fight against this evil very different methods are used. For example, in the United States, Great Britain, Russia and other countries, the conviction reigns that if the police and government officials are given very high salaries and all sorts of benefits in pensions, they will not be willing or afraid to take bribes. But in China they do not consider it right to give too much privileges for officials and for law enforcement officers and to pay them too much salary. And therefore, the Chinese leadership uses rather radical methods in the fight against corruption. In the fight against corruption, China does not leave a "living place", one by one destroying corruption elements. If during such a struggle, officials fear control, then the people are pleased.

In China, doing business by law is not prohibited by officials, city mayors, provincial leaders, ministry employees, and even army officers. Any executive in charge of the initiative he has taken, in proposing something new, in introducing new forms of organization of rural or urban industry is entitled to a certain remuneration, and not just to regular wages. It is not forbidden to any functionary from government bodies to help the work of some commercial enterprises or export-import structures, helping them to negotiate and facilitate the conclusion of certain transactions. Government interests on the boards of directors of large and medium-sized corporations can also be represented by officials at various levels, which brings them additional and, perhaps, very large revenues. However, income in all cases is under the strict control of party committees or army leadership structures. And if it turns out that this kind of commercial activity of officials is carried out in secret from the party or from the army, then it becomes a serious crime.

Of course, for all those who work in the state system of China, there is a system of various incentives, which is combined with intensive ideological education and control, as well as a system of extremely harsh punishments for bribe-takers, regardless of the positions held in the hierarchy of power. For officials of any rank who are found guilty of corruption, the usual sentence is execution or life imprisonment.

Here is an example published in the newspaper "Soviet Russia" on July 5, 2016. Lin Jihua, who was the senior assistant to the ex-chairman of the People's Republic of China Hu Jintao, in 2016, the court sentenced him to life imprisonment for corruption cases. He had fallen into disgrace since 2012, when his son in a car Ferrari 458 Spider provoked a traffic accident: his son died, and the two

girls who accompanied him survived. As noted in the Chinese media, all those in the car were naked.

After this incident, Jihua's career went down: first, she was lowered to the post of head of the office of the CPC Central Committee, and then to the head of the United Front section of the CPC Central Committee. In 2013, he was again lowered - to the second deputy chairman of the All-China Committee of the People's Political Consultative Council of China. This body in China is responsible for coordinating the Communist Party with small political parties and trade unions.

In July 2015, Jihua was arrested on charges of corruption and violation of party discipline - he was suspected of accepting bribes, abusing power, and illegally obtaining information constituting state secrets. The investigation lasted almost a year. Since the charges affected state secrets, the court hearing was held in secrecy on June 7, 2016. The defendant pleaded guilty.

The Russian media, in particular the Rossiyskaya Gazeta for June 25, 2009, referring to Chinese data, reported that during the period from 2000 to 2008, 10 thousand officials of various levels were shot on corruption charges in China and 120 thousand were convicted of long prison sentences.

Among those sentenced to death for corruption were well-known names in China. For example, Liu Zhihua, a former vice mayor of the city of Beijing, was sentenced to death in January 2009 (with a delay in the execution of the sentence). Chinese oligarch Huang Guanyu for illegal activities was sentenced to many years in prison. In this case, the mayor of the city of Shenzhen, Xu Zuheng, was arrested, who encouraged and covered the criminal business of the oligarch. In 2009 alone, almost 14,000 cases of financial crimes and damage to the state in the amount of 3.3 billion yuan were investigated [1].

The Chinese press writes a lot about the fight against corruption in its country, noting that the main struggle is still ahead. With the appointment to the post of PRC Chairman Xi Jinping (2012), a large-scale anti-corruption campaign began in China. And therefore, today the most vehement critics of the head of China Xi Jinping are opponents of his resolute struggle against corruption. The fact that in socialist China there are a huge number of millionaires is a known fact. Businessmen with a fortune of over a million dollars, there are about 500 thousand people. But at the same time, the number of members of the Communist Party who were punished for corruption under Xi Jinping increased 2.5 times. And let the term "punished" not confuse anyone - they say, buy off and the punishment will be forgotten. Punishment for corruption in China means political death - excommunication from the "social elevator" and moving to a more than modest level of being.

In the PRC, party organizations operate in all enterprises and in all organizations, regardless of the form of ownership. Any entrepreneur can not get a loan if the application is not worth the signature of the party leader. In case of failure of

the transaction, the businessman will incur losses, and the personnel officer may go into political non-existence.

Cases of bribery from 50,000 yuan (about 8,000 dollars) and misuse of public funds of more than 100,000 yuan are closely watched by the prosecution authorities of the PRC. The punishments are different, even the death penalty.

The CPC Central Commission for Discipline Inspection (CCDI) is the headquarters of the anti-corruption war. She has a very modest staff, which employs the most competent experts in the person of former ministers. They find it difficult to confuse their heads with vague excuses. In addition, in order to prevent the slightest violations from being concealed, the local investigators of the commission inform both the local authorities and the directors of the CCDI in Beijing about their actions.

The chairman of the CCDI is currently the "strict man" Wang Qishan. The Chinese press with reference to the CCDI publishes very decisive statements: “plunging corrupt officials into an abyss of fear, awe at them,” so that members of the party “did not want, did not dare and could not commit corruption cases”. That is the purpose of the CCDI.

The CPC Central Commission for Discipline Inspection checks a lot of signals about possible violations. The places where the signals came from, leave her mobile groups and communicate directly with the people. Of course, the complete eradication of corruption in China is the task of the future, and today corrupt officials are still working, including in very high positions. But judging by the degree of increasing hatred of Wang Qishan in the camp of his opponents, and how people's sympathy for him becomes more tangible, we can say that the CCDI has become a serious factor in the anti-corruption policy of the “fifth generation of leaders” headed by Xi Jinping.

Some oppositionists claim that Wang Qishan is a direct protege of Xi Jinping, and therefore he acts according to his instructions, and the whole fight against corruption is started to strengthen Xi Jinping’s personal power. But, first of all, no one hides their closeness: views and approaches to solving complex problems, as knowledgeable people assert, they are close and identical. And, secondly, it is unlikely that the central control service of the party would act without coordinating its actions with the leadership of this party. And the intensity of the political struggle in China is unlikely to decrease, since the opponents of Secretary General Xi Jinping are serious, and the compromises here are problematic.

It must be admitted that the development of the economy and the relentless struggle against corruption in China go in parallel, that the sails of Chinese private enterprise are filled with a fair wind. However, the movement of the ship directs the state steering wheel, behind which is a highly experienced helmsman and based on the working masses - the Chinese Communist Party [2].

It was noted above that the legendary CCDI gained enormous influence in the fight against corruption. Its usual business is to leave a small group of employees headed by a high party leader in a city where the signal of a corruption threat has arrived from, and on-site analysis of the situation is carried out. Certainly, such blitz visits of the commission induce “fear and awe” on corrupt officials. And with this, the commission solves the main task: to ensure that members of the party "did not want, did not dare, and could not commit corruption cases."

Over the past 3.5 years, 7,000 corrupt officials have fled from China to the United States, who have taken out $ 50 billion. In order to increase the effectiveness of the fight against corruption, China has decided to expand the field of activity at the expense of the struggle and against turning foreign countries into a paradise for Chinese corrupt officials. To this end, Beijing has already concluded 52 international treaties on assistance in criminal matters (including economic ones) and 39 extradition treaties. Only in 2014, according to these treaties, 749 suspected of misconduct were arrested.

In China, the prosecution of fugitive officials and the return of their illegally acquired property from abroad is actively dealt with by a special office at the Coordination Group on Combating Corruption of the CPC Central Committee. In the fear of keeping the crooks and merciless CCDI. All this anti-corruption machine is constantly gaining momentum, which does not allow corrupt officials to live freely in the PRC. All measures taken in the fight against corruption at the state level, as well as its results, suggest that China is not in words, but in fact leads an irreconcilable struggle against such evil, which is called corruption.

In order to catch abroad and return fugitive corruption officials and members of the CPC, China annually, beginning in April 2015, began to carry out a campaign called “The Sky Network”. To carry out such an operation, the PRC authorities are transferring to Interpol a list of the hundred most wanted fugitive criminals suspected of corruption. Operations “Heavenly Network 2015” and “Heavenly Network 2016” showed the high effectiveness of the fight against corruption. For example, as part of Operation Heavenly Network 2016, 1,032 fugitive officials, including 134 government officials, were returned from over 70 countries and regions of the world. At the same time, 2.4 billion yuan was returned.

On March 7, 2017, the launch of Operation Heavenly Network 2017 was announced, in which several government agencies participate, including the CPC Central Committee Department for Organizational Work, the People’s Prosecutor’s Office of the People’s Republic of China, the Ministry of Public Security of the People’s Republic of China and the People’s Bank of China (Central Bank). Under the leadership of the Supreme People’s Court, the Supreme People’s Prosecutor’s Office and the Ministry of Public Security, a special operation was carried out to return illegally acquired property from abroad to fugitive officials.

Since the start of Operation Heavenly Network 2017, the first fugitive official who was returned from the United States to his homeland and turned himself in to the authorities was Wang Jiazzh. In the list of the hundred most corrupt officials wanted by the Chinese authorities, he was number 40.

Thus, after the election of the Secretary General of the CPC Central Committee, Xi Jinping, as the PRC Chairman in 2012, China demonstrates unprecedented determination and seriousness in the fight against corruption. Harassment of fugitive officials and the return of their illegally acquired property from abroad are becoming an important part of the implementation of strict intra-party governance and the fight against corruption. And with this, China has shown that in the fight against corruption, the political will of the country's leader is important.

Over the past five years, over one and a half million CCP members have been arrested and convicted for bribery and other economic crimes, over 13,000 officers and generals of the People's Liberation Army of China have been suspected of corruption acts and have been removed from their posts, arrested, imprisoned and death sentences sentences. All this is a consequence of the anti-corruption campaign, widely deployed by the first person of China Xi Jinping.

Not all corruption cases go to court. For example, in 2017, the former head of the political work department of the PRC Central Military Council, General Zhang Yang, hanged himself in his house in Beijing. And in 2014, after interrogation, two admirals brought scores to life. Against all of them, strong accusations of bribes on a large scale were made. Thus, an episode of $ 3.7 million was associated with General Zhang Yang, and expensive items were found in his house that could not be given a reasonable explanation for their purchase. What did these "parquet" generals and admirals make profit of? It turned out that they created their wealth mainly by trading posts.

"Corruption is our main enemy," said the Chinese leader from the rostrum of the 19th CPC Congress, which was held in Pekin from October 18-24, 2017. And this congress gave the following assessment to China's leader Xi Jinping in his fight against corruption: first, he was re-elected CCP Secretary-General for the next five years and, second, a new wording was added to the CCP Charter - "...the wealth of Xi Jinping ideas in a new era of socialism with Chinese characteristics." This indicates that for the uncompromising and serious fight against corruption, the current leader of the Middle Kingdom is placed on a par with Mao Zedong and Deng Xiaoping.

In general, examples of the fight against corruption in China, and in many other countries, show that, where it was pushed out, the following methods were key in overcoming it: 1) the creation of specialized government agencies to combat corruption; 2) expansion of the control functions of the parliament; 3) toughening penalties for corruption crimes; 4) the creation of a legislative framework for the

use of economic instruments and sanctions to combat corruption; 5) overcoming of political monopoly in the country, as a condition for the successful fight against corruption.

Known universal recipe for combating corruption, and it is the most powerful tool - the confiscation of property. And full. It should be introduced as a punishment in the fight against corruption.

There is also the experience of fighting corruption in Singapore, which is recognized worldwide as successful. The father of the Singapore miracle, Lee Kuan Yew, instructed: “Having begun to fight bribery, first of all plant three friends. You know exactly why, and they know why. ”The effective fight against corruption and the successful development of the Chinese economy shows that they are interrelated: the successful development of the economy depends largely on the results of the effectiveness of the fight against corruption. And the results of the effectiveness of the fight against corruption largely depend on the political will of the country's leader.

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教育旅游框架下的地理环境教育
GEOGRAPHICAL, ENVIRONMENTAL EDUCATION IN THE FRAMEWORK OF EDUCATIONAL TOURISM

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注解。通过教育旅游的地理，环境教育可以获得新知识，增加学生在学科中的兴趣。利用俄罗斯教育旅游的各种资源，特别是在莫斯科市等受保护的自然领土，有助于形成地理和生态前景。

关键词：地理教育，环境教育，教育旅游，特别保护的自然领土。

Annotation. *Geographical, environmental education by means of educational tourism allows to obtain new knowledge, to increase the interest of students in the studied disciplines. The use of the various resources of educational tourism in Russia, especially protected natural territories, including in the city of Moscow, contributes to the formation of the geographical and ecological outlook.*

Key words: *geographical education, environmental education, educational tourism, specially protected natural territories.*

New technologies in education make it possible to improve the quality of education, contribute to the formation of necessary competences in students, and raise the level of work of a teacher. Application in education, including geographic, environmental technology, educational tourism diversifies the teaching of geographical, environmental disciplines, allows students to gain new knowledge, skills, and abilities.

Educational tourism is one of the types of tourism that allows you to get new interesting information about regions, countries, knowledge in various areas of geography, biology, ecology, history.

In geographic, ecological education, an important role is played by program-oriented educational tourism, which, by definition, V.L. Pogodinoy et al. [3] cognitive tours carried out in order to fulfill the tasks defined by the curricula of educational institutions.

In this case, by means of educational tourism not only the goals of geographic education are achieved, but also opportunities for in-depth study of geographic disciplines are realized. Excursions, trips with tourist and educational goals to various regions of the country, to other countries allow students - future teachers - to acquire new geographical knowledge, to acquire the skills necessary for further professional activity not only in geography, biology, but also ecology and environmental education. .

Trips within the framework of educational tourism have a more significant emotional impact on the whole educational process in comparison with traditional lessons due to direct perception, individual impressions of natural, cultural and historical objects.

Resources of educational tourism in Russia are diverse and numerous. The location of the country in several landscape zones (from the Arctic desert, tundra, taiga and mixed forests to forest-steppe, steppe and semi-desert) in varying degrees modified by anthropogenic activity makes it possible to study the components of natural complexes and compare natural conditions.

The system of specially protected natural areas in Russia plays a key role in the preservation of biological diversity, environmental education, and the development of educational tourism. For example, in the Arctic region of Russia, according to the data for 2012, there are more than 400 specially protected natural territories - reserves, national parks with a total area of over 94 million hectares, which is about 16% of the total area of the Russian Arctic. At the same time, more than 100 “hot spots” (impact areas) of accumulated environmental damage associated with industrial facilities in which the ecological situation has reached a crisis or pre-crisis state have been identified in the region [1]. Given the current trends in climate change [4], the environmental situation in the Russian sector of the Arctic is quite tense.

In the forest-steppe regions of the Kursk and Voronezh regions within the biosphere reserves - the Central Chernozem, Voronezh — virgin vegetation of the forest-steppe, unique black-earth soils.

In the Central Chernozem region, natural-anthropogenic complexes of agricultural forest-steppe have been formed - for example, in the Stone Steppe of the Voronezh Region. As a result of forest reclamation works on drought control, carried out at the turn of the XIX-XX centuries. V.V. Dokuchaev and his students, arid due to the irrational anthropogenic activities of the steppe were transformed into rational agricultural landscapes.

On the example of technogenic complexes of quarries and dumps of the Kursk Magnetic Anomaly - Mikhailovsky, Lebedinsky - it is possible to obtain information about the geological structure of the territory, the scale of the mining activity and its consequences for the landscapes of the Black Earth regions.

In Moscow, more than 100 specially protected natural areas have been created and function - the national park of federal significance "Elk Island", natural and historical parks, landscape, complex natural reserves, and natural monuments. They have environmental value, preserving the biodiversity of ecosystems, recreational value, providing city residents with opportunities for outdoor recreation [2].

In specially protected natural areas of the city there are various possibilities for the implementation of environmental education of students and the population of the city. Thanks to ecological paths, sold-out ecological, geographical information becomes accessible to the population. Protected area ecosystems have rich and diverse resources of ecological and educational tourism. In Moscow, it is planned to create 12 botanical, ornithological, faunal reserves, which will contribute to the preservation of natural complexes, flora, fauna and environmental education of the population.

The given examples show various possibilities for geographical and ecological formation in various natural and natural-anthropogenic landscapes, in reserves and national parks.

Thus, geographical, environmental education using the opportunities of educational tourism gives students the opportunity to gain new knowledge, contributes to the formation of geographical and ecological outlook.

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塞瓦斯托波尔湾 – 研究和管理影响区域的透视对象
THE SEBASTOPOL BAY - PERSPECTIVE OBJECT OF STUDYING AND MANAGEMENT THE IMPACT AREA

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注解。具有各种强烈的人为负荷的海洋沿海地区是界面复合体，其中难以诊断的效果和后果难以确定。更多的是，根据指标生物指示标志，对污染物质的类型定义了负面影响。为了接收对生态状况的估计，有必要建立目标监测系统，同时考虑到对生态系统过程，自然和人为控制系统的影响程度。

关键词：污染;分区;管理

Annotation*. Sea coastal regions with various and intensive anthropogenous loading are the interfaced complexes, effects in which difficultly diagnosed, and consequences are difficultly defined. More often negative effects are defined on types of polluting substances on the basis of indicators bioindication signs. For the purpose of reception of an estimation of an ecological situation, it is necessary to develop systems of target monitoring taking into account degree of influence on processes in ecosystems, control systems natural and anthropogenous.*

Keywords*: pollution; zoning; management*

The environmental problems arising in sea in coastal zones are a consequence of influence of various anthropogenous activity. For reception of a complex esti-

mation of an ecological situation, it is necessary to estimate the separate effects arising in structural links of an ecosystem. For this purpose it is necessary to develop not only data gathering techniques, but also the scheme of carrying out of monitoring, gathering of the information and methods of its processing and an estimation. On the basis of a complex estimation on group of indicators it is possible to estimate and characterize an ecological situation in research region for the certain time period of studying.

Having investigated a circle of environmental problems of the Sebastopol bay, priorities for studying have been allocated: pollution sources; pollution types; ecological situations; dynamics of changes.

According to hydro chemical characteristics, the Sebastopol bay the oligotrophic area [1; 2]. In a bay there is a spawning and growth of food fishes. Anthropogenous and technogenic factors have negative influence on processes of reproduction and increase in populations. The biological indications testify that chronic pollution (most of all mineral oil) leads to changes on population-biocenotic, specific level. For years of intensive pollution, the general of specific structure population, number and biomass decrease macrozoobenthos's bays is marked. Thus, in ground биоценозах there are kinds steadiest against pollution and элиминация many бентосных the organisms serving by a forage reserve for гидробионтов of the higher trophic levels, thus, change of number of the general specific variety of an ecosystem of a bay is marked.

For the Sebastopol bay it is characteristic two basic types of pollution:

- Primary for the account: benthonic releases of sewage; from courts; atmospheric dust pollution and deposits.

- Secondary at the expense of saved up (deposited) pollutions.

The substances-pollution arriving in the sea environment, are non-uniformly distributed on bay water area, despite its small extent. Distribution of their concentration depends on natural factors: hydrodynamic processes - currents, temperature jumps; superficial wind currents, wave processes, and as a river confluence Black, a storm mode at which the height of waves and intensity of hashing of waters of sea horizons depends at most and wind directions.

The basic sources of hydrocarbon pollution of the Sebastopol bay among on degree of reduction of a share of their polluting influence, it is possible will allocate the following:

1. Vessels.
2. Industrial sewage.
3. City sewage.
4. Economic-household sewage.

Ashore the oil base to which many years occurred receipt in water area of a bay of hydrocarbonics, as a result of their infiltration through soil horizons is located.

The general tendency of receipt of mineral oil in the Sebastopol bay on years was analyzed according to Black Sea of the sanitary epidemiological service and researches of ecological service of the Black Sea Fleet. It has been revealed that during 1987 - the frequent phenomenon was 2003 emergency pollution of water area by mineral oil, black oil and oil. As a result in water area of the Sebastopol bay there were local extreme ecological situations.

The current state of fauna and flora in water area of the Sebastopol bay is defined by natural and antropogenno-technogenic factors. Long time was marked:

- dump in coastal waters of crude sewage;
- coastal fortification and other works in the coastal zone, spent with infringement of nature protection norms;
- The pollution connected with activity of sea transport and navy fleet;
- Extensive use of biological resources;

Among natural factors:

- Process of destruction of a shore;
- Installation of kinds new to Black sea and occurrence around Sevastopol of the kinds which earlier here are not observed;
- The hydrodynamic phenomena:
- An atmospheric precipitation.

Decrease biological a variety of water area of the Sebastopol region, disappearance of many, before widespread and numerous kinds of seaweed has been as a result fixed, беспозвоночных and fishes, infringements морфофизиологических and biochemical characteristics in population of kinds, anomaly of development, sharp reduction of an aggregate number of kinds and decrease in a stock of trade kinds are diagnosed.

The system of the Sevastopol bay represents a number of the interfaced subsystems: the sea - a land - an antropogenno-technogenic complex (Fig. 1). On intensity and a variety of types of influence on a sea ecosystem, the Sevastopol bay - an example the impact area of a sea coastal geoecosystem. Thus, the most expressed negative effects are shown in a sea ecosystem.

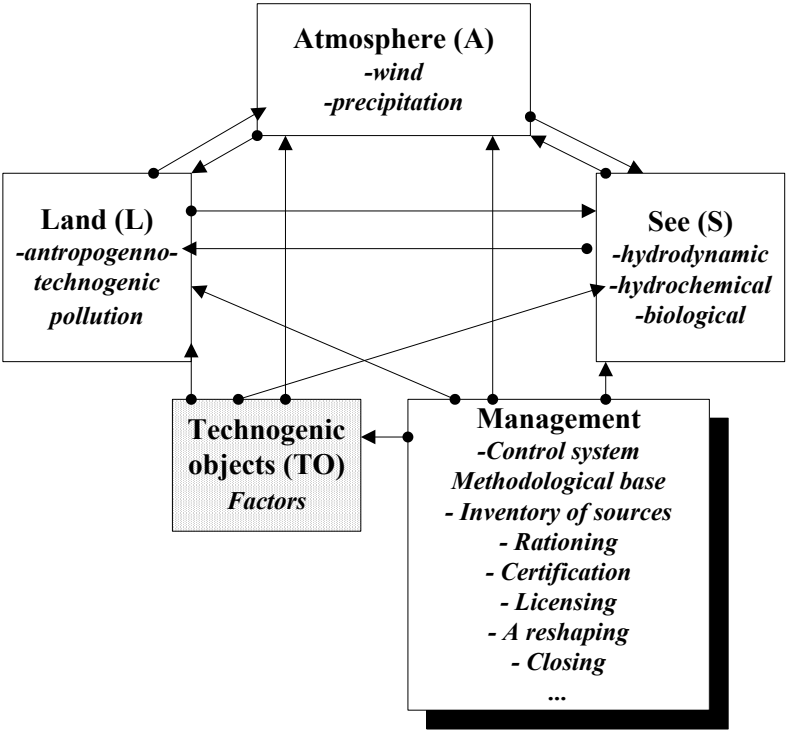

Fig. 1. *The Block of considered information indicators of the interfaced subsystems of the Sevastopol bay.*

Influence studying загрязнителей is expedient for spending on the basis of block researches under structural modelling schemes (Fig. 1). In blocks informative indicators of systems are systematised and pay off. They are considered in models [3; 4; 5]. On a basis: the monitoring data; the system analysis; under modelling block diagrammes (conceptual models), according to type of antropogenno-technogenic loading on zone areas биотопов, the bays generated in investigated sites, on the basic points of dump of polluting substances, on points of stations of sampling, taking into account a geographical arrangement of the basic sources of pollution - are under construction cards of distribution of pollution on the basis of methods of geoinformation modelling.

Quality and volume of the pollution arriving in the sea environment, characterise the data on the fixed dumps. Thus pollution by the substances getting to the sea environment with storm, city drains, with an atmospheric precipitation or as a result of the natural spontaneous phenomena are not considered. A number

загрязнителей, getting to the sea environment, appear not considered, and in the general calculations of an estimation of harm, the error is fixed.

Indicators enter into an estimation of chemical pollution: technogenic chemical pollution; an index of total pollution; index NDK; degree of the share contribution to pollution, etc. Besides these indicators, consider абиотические indicators of a sea ecosystem: a transparency; pH; oxidability; biochemical requirement for oxygen (BPK); presence and concentration of organic, mineral substances, enzymes and vitamin and т.д. Physicomechanical indicators Are considered also: indicators массопереноса; мутность; the weighed substances; the hydrodynamic and temperature mode, power indicators etc. concerns biological indicators the whole complex of parametres taking into account a specific variety which are fixed depending on the purpose and research problems or monitoring.

In water area of the Sebastopol bay, besides natural ecosystems, biological artificial settlements of mussels and oysters are created. In a bay Martynovoj, "Soyuz consult"conducts regular researches of a condition the mussels and oysters artificial reefs, with the account:

- Biological indicators: a gain; reproduction; ability to reproduction; intensity of subsidence of their larvae on artificial substrata; formations of dimensional and sexual structure of settlements of molluscs;

- Influences of a hydrological and hydrochemical mode and their seasonal dynamics.

In the presence of financing creation of oyster nursery that is necessary for revival oyster breeding in Sebastopol and in Crimea is possible.

For the purpose of efficient control an ecological situation, it is necessary to spend water area division into districts. Thus, zones which will be allocated will be sated by natural dominating biological complexes and is artificial the created objects.

Division into districts problems:

1. Revealing in structures of natural complexes.

2. Mapping of complexes and division into districts.

3. Studying of structure and features of functioning of technogenical complexes.

4. Communication studying between separate natural components and technogenical complexes.

5. Revealing of changes under the influence of natural and antropogenno-technogenical factors.

6. Development of actions for rational use of natural resources.

7. Working out of methods of situational management.

For division into districts carrying out it is necessary to choose criteria, to spend their comparison by a territorial principle. Thus, it is allocated two kinds of

division into districts: typological - revealing of similarity, analogues or definition of types of the geographical environment (Dokuchayev V.V., Semenov-Tjanshansky P.P., Polynov B.B., Gerasimov I.P., Perelman A.I.); regional - allocation of specific, "individual" lines of investigated territorial unit (Milkov F.N., 1967) [3; 4; 5; 6].

Division into districts principles:

1. Allocation of specific characteristics according to a parity: ash value - azones and provinciality.

2. The territorial generality, is based on individuality of the physico-geographical complexes united in uniform system.

3. Genetic - it is based on a uniform origin of allocated territories with similar development (Grigorev A.A., 1966; Milkov F.N.; Solntsev N.A.).

4. Integrated approach - the account of all a component forming natural unit.

5. Relative uniformity of the allocated complexes.

6. Recreational use.

Application at method division into districts depends on the purpose, research problems and from quality and quantity, availability of an information material.

The qualitative methods of division into districts used at division into districts of a natural-territorial sea coastal complex of the Sevastopol bay.

1. A paleographic method.

It was used at research of geological last Crimea. The literary data has been used.

2. Rather descriptive method.

Sea coastal systems it is difficult systems which consist of the subsystems connected in a uniform complex. Studying of their structure, structure, features of the processes occurring in them, allows to reveal laws of functioning and an orientation of evolution of natural systems in the conditions of antropogenno-technogenic influence. Sea coastal regions have features, the nobility which it is necessary for increase of profitability of resources. The estimation of resource base of sea regions is important for the economic purposes.

They include researches on revealing of dynamics, mechanisms, factors and laws of development dangerous natural and technogenic processes, for the forecast of their development, and as danger and risk estimations. Management of risk and preventive actions for decrease in consequences of catastrophic processes include programs on working out of protection of a sea ecosystem and working out of mechanisms of management depending on degree of intensity of an ecological situation. Steady ecologically safe development of a sea coastal complex is directly connected with management of situations.

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在各种治疗方法的条件下，胫骨及其骨折的解剖和功能恢复
ANATOMICAL AND FUNCTIONAL RESTORATION OF THE TIBIA WITH ITS FRACTURES IN CONDITIONS OF VARIOUS TREATMENT METHODS

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注解。对66名年轻，第一和第二成熟年龄的男性进行了调查，结果显示腿部干骺端骨折的后果，采用各种方法治疗。 35名男性应用了经骨质压缩骨缝合术，22 – 石膏绷带和9个外部金属板。在大腿静脉闭塞的物理休息状态和大腿动脉闭塞的3分钟测试之后以及测试之后确定小腿的血液供应强度。同时阻塞大腿动脉和小腿肌肉的节奏。研究了胫骨静脉，中间三分之一胫骨周围的压迫压力，受伤足部背侧屈肌的最大肌力矩和完整肢体。已经确定，用Ilizarov装置治疗的门诊治疗的最短持续时间对于后板治疗是最高的。在手术和完整肢体的身体休息状态下胫骨的体积血流速度没有显着差异。

关键词：腿骨骨折，血液供应，肌肉力量的后果。

Annotation. *Surveyed 66 men of youthful, first and second mature age with the consequences of closed diaphyseal fractures of the bones of the leg, treated with various methods. 35 men were applied the method of transosseous compression osteosynthesis, 22 - a plaster bandage and in 9 external metal plates were used. The intensity of the blood supply to the lower leg was determined in the state of physical rest with the occlusion of the veins of the thigh and after a 3-minute test with the occlusion of the arteries of the thigh, as well as after the test with the simultaneous occlusion of the arteries of the thigh and the rhythmic work of the muscles of the lower leg. The compression pressure in the veins of both tibia, the circumference of the tibia in the middle third, the maximum muscle moment of the dorsal flexor of the foot of the injured and intact limbs were studied. It has been established that the shortest duration of outpatient treatment for treatment with the Ilizarov apparatus is the highest for treatment with posterior plates. The volu-*

metric blood flow velocity of the tibia in the state of physical rest of the operated and intact limbs did not differ significantly.

Keywords: *consequences of fracture of the bones of the leg, blood supply, muscle strength.*

Relevance. For a long time, closed diaphyseal fractures of the shin bones occupy one of the first places in injuries of the human musculoskeletal system and have no tendency to decrease [1, 7]. The main task of the rehabilitation of victims with fractures of the shin bones is not only the anatomical and functional recovery of the injured limb [2, 8, 10, 11, 12], but also the quickest possible return to professional labor and sports activities [3, 4, 5, 6].

Objective: to compare the anatomical and functional restoration of the lower leg during its diaphyseal fractures under the conditions of using various treatment methods.

Material and methods. 66 victims with the consequences of closed diaphyseal fractures of the bones of the leg were treated by various methods, divided into three groups. The first group consisted of 35 men of age from 18 to 50 (41.4±1.5) years after the end of treatment using the method of transosseous compression osteosynthesis from 4 to 36 months (22.4±2.3 months). The second group consisted of 22 men from 18 to 46 (30.7±2.4) years who were treated with the use of a plaster cast, after which the treatment had passed from 0.6 to 70 (28.6±5.3) months. The third group consisted of 9 men from 18 to 49 (40.1±1.8) years, with osteosynthesis of the tibia who used external metal plates. The term after the end of treatment is from 1 to 39 months. (22.5±1.8 months).

The intensity of the blood supply to the lower leg was determined in the state of physical rest with the occlusion of the veins of the thigh and after a 3-minute test with the occlusion of the arteries of the thigh, and also after the test with the simultaneous occlusion of the arteries of the thigh and the rhythmic work of the muscles of the lower limbs (flexion and extension of the foot in the ankle joint). The compression pressure in the veins of both tibia was determined, as well as the girth of the tibia in the middle third. With the help of a dynamometer, the maximum moment of muscle strength of the dorsal flexors of the foot of the injured and intact limbs was determined.

The results of the study are processed by the methods of mathematical statistics using t-student criterion. The study was conducted in accordance with the ethical standards set out in the Helsinki Declaration (2013), as well as the Order of the Ministry of Health of the Russian Federation No. 226 of June 19, 2003 "Rules of Clinical Practice in the Russian Federation." The principles of voluntariness, rights and personal freedoms guaranteed by Articles 21.2 and 22.1 of the Constitution of the Russian Federation are observed.

Results and discussion. The duration of treatment for patients of the 1st group was 81.7±4.5 days, using a plaster cast by 19% longer (96.4±9.7 days), using the back plates - 100.6±10.1 days (+23 %). Post-traumatic soft tissue atrophy, assessed by the difference in girth sizes of the patient and intact tibia in the three groups of examined men, was –0.25, respectively; –0.42 and –0.33 cm. Venous compression pressure, measured by an increase in vein filling with an increase in pressure in the proximal vessels, was relatively less in the injured leg in all groups (the asymmetry coefficient was 9%, 13%, and 11%, respectively). Patients of group 1 on the operated leg had venous pressure higher than in group 2 at 3 mm Hg. Art. (p£ 0.02).

Объёмная скорость кровотока голени в состоянии физического покоя оперированной и интактной конечностях достоверно не отличались. Тем не менее, при проведении функциональной ишемической пробы с окклюзией артерий бедра, прирост показателей был выше у обследуемых 1 группы (табл. 1).

Table 1

*The volumetric blood flow velocity of the leg (ml/min*100 cm^3)*

Patient groups	Resting blood flow (ml/min*100 cm^3)		Peak blood flow after 3-minute occlusion of the hip arteries		Blood flow after occlusion of arteries and muscle work	
	Intact	Sick	Intact	Sick	Intact	Sick
1. The Ilizarov apparatus	2,0±0,12	2,2±0,13	7,6±0,60	8,0±0,57	8,0±0,63	10,3±0,82
2. Plaster cast	2,1±0,17	2,1±0,16	6,4±0,53	6,6±0,94	6,5±0,40	6,8±0,35
3. Plate	2,1±0,33	2,1±0,23	5,8±1,23	6,4±0,72	4,5±1,02	4,7±0,56

Even greater differences in blood flow indicators were revealed after the test with the work of ischemic muscles "to failure". In patients treated with the Ilizarov apparatus, the blood flow rate increased to 10.3 ml/min per 100 cm^3 of tissue, whereas for those treated with a plaster cast, the increase in blood flow velocity was 35% less (p£0.001). In patients of group 3, the increase was lower than in the first group of patients by 55% (p£0.001).

We believe that the detection of higher peak blood flow in the leg muscles in patients of the first group is not an accident. As is known, the effect of the stimulating effect of the compression-distraction osteosynthesis according to Ilizarov on the blood supply to the extremities has, in particular, been used in the treatment of obliterating diseases of the extremities [9].

The range of motion in the ankle joint is restored within 6 months after the cessation of fixation, including in patients treated with a plaster cast (Fig. 1).

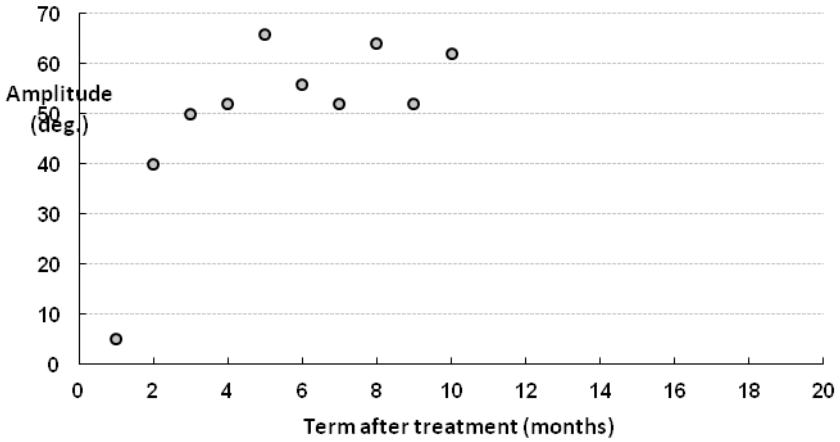

Fig. 1. *Dynamics of recovery of the amplitude of movements in the ankle joint after the end of treatment of patients using a plaster cast*

A more complete recovery of muscle strength after treatment in patients of the 2nd group, compared with patients of the 1st group, can be explained, in particular, by the fact that in this group of patients the average age of patients was 10 years less (Table 2).

Table 2

The index of the moment of force of the muscles of the back of the flexor of the foot (kg)

Extremity	1 group	2 group	3 group
Intact	47,2±1,1	55,4±1,9	52,3±3,6
Injured	39,4±1,3	48,1±1,8	35,5±7,3
Ratio of indicators (%)	83,4% p £ 0,001	86,8% p£ 0,05	67,8% p>0,05

Conclusions.

1. In the long-term after treatment of victims with closed diaphyseal fractures of the shin bones under the conditions of using various methods, the lowest rates of muscle strength recovery and the amplitude of movements in the joints, and the reserve capabilities of the vascular tibia were revealed using metal osteosynthesis.

2. The application of the Ilizarov method allows not only to shorten the terms of treatment of patients with fractures of the shin bones, but also to expand the functionality of the limb, as measured by the degree of increase in peak blood flow.

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评估工作条件符合卫生立法标准的模型
MODEL FOR ASSESSING THE COMPLIANCE OF WORKING CONDITIONS WITH SANITARY LEGISLATION STANDARDS

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说明：采用过程方法评估工作人员的工作条件是否符合哈萨克斯坦共和国卫生立法的要求。在过程的入口处是工作条件，对于其中有超过一百个法律文件的评估。在退出 – 减少工作人员的发生率，缺乏工业伤害，职业发病率和残疾。

关键词：工作条件生产设施认证，评估方法，绩效标准

Annotation*: A process approach was used to assess the compliance of the working conditions of staff with the requirements of the sanitary legislation of the Republic of Kazakhstan. At the entrance to the process are working conditions, for the evaluation of which there are more than a hundred legal documents. At the exit - reducing the incidence of staff, lack of industrial injuries, occupational morbidity and disability.*

Keywords*: certification of production facilities for working conditions, assessment methodology, performance criteria*

Certification of production facilities for labor conditions in accordance with the Labor Code of the Republic Kazakhstan should be carried out 1 time in 5 years at each enterprise [5]. The system of sanitary rationing includes a significant number of regulatory legal documents: Guideline P2.2.755-99 [4], 120 State standards of the occupational safety system, standards Republican GOST 1149-2002 [13], 1150-2002 [14], 1151-2002 [15], republican Sanitary regulation No. 168 [9], No. 169 [10], Order of the Minister of Health No. 359 [7], methods of research MVI-4215-017-56591409-2011[6] and others. In these conditions, the development of a model for assessing the compliance of working conditions at workplaces with the requirements of sanitary legislation is **actual**, **theoretically and practically important**.

Objective: model creation for assessing the compliance of working conditions at workplaces with the requirements of sanitary legislation.

Tasks:

- to systematize the studied factors of working conditions;
- determine the criteria for evaluating these factors and the results of the assessment;
-to work out methods to improve working conditions;
- define the performance criteria for the evaluation process.

Results of the research: ten years of experience in certifying production facilities in terms of working conditions at enterprises of the oil and gas industry, the nuclear industry, in the telecommunications sector and others allows us to single out the most frequently determined factors at workplaces during certification.

These are, first of all, microclimate, wave physical phenomena: lighting, noise, vibration, electromagnetic fields (EMF), radiation, harmful substances in the air of workplaces. Criteria for assessing the impact of these factors on personnel are shown in Figure 1. The results are presented in Guideline P2.2.755-99 [4] and include classes of working conditions: optimal, permissible — not harmful for the workers, and harmful classes 3.1, 3.2, 3.4, and hazardous to health class 4. Corrective action in case of identifying harmful factors is the use of personal protective equipment (PPE), the allocation of milk, food, additional leave and other benefits.

The criteria for the effectiveness of corrective measures is the assessment of the state of health of the personnel - the absence of occupational morbidity, industrial injuries and disability. In general, the outlined model for assessing the compliance of working conditions with the requirements of sanitary legislation is outlined in Figure 1.

All the above allows to draw conclusions:

1. We study the working conditions, as a rule, by microclimate, wave physical factors, harmful substances in the air of workplaces.

2. For factors affecting personnel at workplaces, various assessment criteria have been identified, allowing them to be systematized into:

- Optimal and permissible - not causing harmful effects on the employee's body,
- Harmful class 3.1, 3.2, 3.3, 3.4 and dangerous - class 4 - causing negative changes in the employee's body before the development of occupational diseases and occupational disabilities.

3. Legally fixed methods of improving working conditions include PPE, more than 120 GOSTs SSBT, allotment of nutrition, preferential holidays and additional payments.

4. The effectiveness of the use of corrective measures is determined by the decrease in the incidence rate with temporary disability, the absence of cases of occupational morbidity, industrial injuries and professional disability

Entrance	Parameters of production facilities for measuring	Criteria for evaluation	Conformity results criteria	Criteria for evaluating results, classes of working conditions	Performance criteria	Corrective actions	Result
Certification of production facilities for labor conditions 1 time in 5 years. Results of measurements, questionnaires. Production control	Microclimate	Energy consumption, degree of physical activity	Eligibility	Optimal, allowable	Preservation of health and disability	Not held	Preservation of health and disability
	Lighting	Size of the object of discrimination					
	Noise	Maximum permissible level					
	Vibration	Technological, transport, mixed					
	Electromagnetic fields	Technically achievable level of radiation from computers	Not eligible	harmful 3.1, harmful 3.2, harmful 3.3, harmful 3.4, dangerous 4	Loss of health, occupational diseases, industrial injuries, professional disability	Guaranteed by the state, performed by the employer: providing staff with personal protective equipment, food, additional leave. Recommended by the attestation commission. Special: noise screens, EMI shielding and others	
	Radiation	Radiation dose received by staff					
	Harmful substances in the air	Maximum permissible level in the air					
	Personnel questionnaire, determination of the severity of labor						

FEEDBACK

Figure 1. *Conformity assessment of production facilities with the requirements of sanitary legislation*

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2. GOST 12.1.005-88 General sanitary and hygienic requirements for air in the working area.

3. GOST 24940-96 Buildings and facilities. Methods of measuring illumination.

4. Guideline R 2.2.755-99 Hygienic criteria for the assessment and classification of working conditions according to the indicators of hazard and danger of factors of the working environment, the severity and intensity of the labor process.

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13. ST RK 1149-2002 Electrostatic Fields. Permissible levels and requirements for the control.

14. ST RK № 1150-2002 Electromagnetic fields of industrial frequency. Permissible levels of tension and requirements for the control.

15. ST RK №1151-2002 Electromagnetic fields of radio frequencies. Acceptable Levels of Tension and Monitoring Requirements.

单原子醇形成的焓。拓扑方法
ENTHALPY OF FORMATION OF ONE-ATOMIC ALCOHOLS. TOPOLOGICAL APPROACH

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注解。讨论了拓扑方法构建计算和预测的附加方案的可能性。推导出用于计算一原子醇的形成焓的工作式。在接收的公式上，对应于实验值的数值计算。

关键词：分子图，拓扑指

Annotation.*The possibilities of topological approach to the construction of additive schemes for calculation and prediction are discussed. Working formulas are derived for calculating the enthalpy of formation of one-atomic alcohols are removed. On the received formulas the numerical calculations that correspond to experimental values.*

Keywords: *molecular graphs, topological indices, enthalpy of formation.*

To find the relationship between structure and properties, different methods of mathematical modeling are used. Currently, methods based on graph theory are often used to solve the structure-property problem.

In the graph-theoretic approach, the molecule is depicted as a molecular graph (MG), where the vertices correspond to atoms, and edges – to chemical bonds In this case, only skeletal atoms are considered [1; 2], and graphs of heteronuclear systems have polytypic tops and the differing edges (fig. 1).

Fig.1. *Propanol-2:*
a - structural formula, b - molecule graph

The “structure-property” correlations are studied in the graph-theoretic approach [3-5], through topological indices (TI).

Consider some TI:

1. p_l, the number of paths of length l = 1, 2, 3, ...);
2. R is the number of triples of adjacent edges with a common vertex;
3. The Wiener number (W),

$$W = \sum_{i=1}^{n} d_{ii} + \left(\frac{1}{2}\right)\sum_{i,j=1}^{n} d_{ij} \quad (1)$$

(d_{ii}, d_{ij} - elements of the distance matrix);

4. Number W'

$$W' = \sum_{i=1}^{n} (d_{ii})^2 + \left(\frac{1}{2}\right)\sum_{i,j=1}^{n} (d_{ij})^2 \quad (2)$$

5. Harari Index H

$$H = \sum_{i=1}^{n} (d_{ii})^{-2} + \left(\frac{1}{2}\right)\sum_{i,j=1}^{n} (d_{ij})^{-2}, \quad (3)$$

and so on (see. Table 1)

Table 1

Topological indices of a number of one-atomic alcohols

№	Compound	p_2	p^*_2	W	W'	H
1.	CH_3OH	0	0	1	0,625	17,7778
2.	CH_3CH_2OH	0	1	3,75	4,388	19,1043
3.	$CH_3CH_2CH_2OH$	1	1	9,5	17,250	20,4856
4.	$(CH_3)_2CHOH$	1	2	8,5	12,750	20,6808
5.	$CH_3(CH_2)_2CH_2OH$	2	1	19,25	45,313	21,9178
6.	$CH_3CHOHCH_2CH_3$	2	2	17,25	34,313	22,1723
7.	$(CH_3)_2CHCH_2OH$	3	1	17,25	33,813	22,1178
8.	$(CH_3)_3COH$	3	3	15,25	24,813	22,5046
9.	$CH_3(CH_2)_3CH_2OH$	3	1	34	92,875	23,3857
10.	$CH_3(CH_2)_2CHOHCH_3$	3	2	31	78,375	23,6670
11.	$(CH_3CH_2)_2CHOH$	3	2	30	71,875	23,7281
12.	$C_2H_5CH(CH_3)CH_2OH$	4	2	30	70,875	23,6611
13.	$(CH_3)_2CHCH_2CH_2OH$	4	1	31	77,375	23,6
14.	$(CH_3)_2COHCH_2CH_3$	4	3	27	55,375	24,109
15.	$(CH_3)_2CHCHOHCH_3$	4	2	28	59,875	23,9156
16.	$CH_3(CH_2)_4CH_2OH$	4	1	54,75	185,938	24,8795
17.	$CH_3(CH_2)_5CH_2OH$	5	1	82,5	322,5	26,3428
18.	$CH_3(CH_2)_6CH_2OH$	6	1	118,25	529,563	27,9212

Topological indexes can be used as parameters in schemes of calculations.

In the fourth approximation, the mutual influence of atoms removed no later than four skeletal atoms along the molecule chain is considered.

$$P_{C_nH_{2n+1}OH} = p_1 p_{C-C} + p_1^* p_{C-OH} + p_2 \Gamma_{CC} + p_2^* \Gamma_{COH} + R\Delta_{CCC} + R^* \Delta_{CCOH} + \\ + p_3 \tau_{CC} + p_3 \tau_{COH} . + p_4 \omega_{CC} + p_4^* \omega_{COH} + p_5 \nu_{CC} + p_5^* \nu_{COH}$$

(4)

According to the scheme (4) we executed calculation of an enthalpy of formation of a number of one-atomic alcohols.

The parameters of schemes of calculation of the considered connections used by us are specified in tab. 2.

In tab. 3. are presented, the values of enthalpy parameters and results of calculation of enthalpies of formation of a number of one-atomic alcohols on scheme (4) found the method of the smallest squares (MSS).

Table 2

Parameters of schemes of calculation of an enthalpy of formation of one-atomic alcohols

Compound	Parameter											
	$p_{сон}$	$p_{сс}$	$\Gamma_{сс}$	$\Gamma_{сон}$	$\Delta_{ссс}$	$\Delta_{ссон}$	$\tau_{сс}$	$\tau_{сон}$	$\omega_{сс}$	$\omega_{сон}$	$\nu_{сс}$	$\nu_{сон}$
CH_3OH	1	0	0	0	0	0	0	0	0	0	0	0
CH_3CH_2OH	1	1	0	1	0	0	0	0	0	0	0	0
$CH_3CH_2CH_2OH$	1	2	1	1	0	0	0	1	0	0	0	0
$(CH_3)_2CHOH$	1	2	1	2	0	1	0	0	0	0	0	0
$CH_3(CH_2)_2CH_2OH$	1	3	2	1	0	0	1	1	0	1	0	0
$CH_3CHOHCH_2CH_3$	1	3	2	2	0	1	1	1	0	0	0	0
$(CH_3)_2CHCH_2OH$	1	3	3	1	1	0	0	2	0	0	0	0
$(CH_3)_3COH$	1	3	3	3	1	3	0	0	0	0	0	0
$CH_3(CH_2)_3CH_2OH$	1	4	3	1	0	0	2	1	1	1	0	1
$CH_3(CH_2)_2CHOHCH_3$	1	4	3	2	0	1	2	1	1	1	0	0
$(CH_3CH_2)_2CHOH$	1	4	3	2	0	1	2	2	1	0	0	0
$C_2H_5CH(CH_3)CH_2OH$	1	4	4	2	1	0	2	2	0	1	0	0
$(CH_3)_2CHCH_2CH_2OH$	1	4	4	1	1	0	2	1	0	2	0	0
$(CH_3)_2COHCH_2CH_3$	1	4	4	3	1	3	2	1	0	0	0	0
$(CH_3)_2CHCHOHCH_3$	1	4	4	2	1	1	2	2	0	0	0	0
$CH_3(CH_2)_4CH_2OH$	1	5	4	1	0	0	3	1	2	1	1	1
$CH_3(CH_2)_5CH_2OH$	1	6	5	1	0	0	4	1	3	1	2	1
$CH_3(CH_2)_6CH_2OH$	1	7	6	1	0	0	5	1	4	1	3	1

Table 3.

Parameters of schemes and results of calculation of enthalpies of formation of one-atomic alcohols (in kJ/mol) in different approximations

Parameter	$\Delta_f H^o$ (g, 298 K)					
	2	**4**	**6**	**8**	**10**	**12**
p_{cc}	-21,081	-18,182	-28,435	-27,378	-27,778	-32,118
$p_{сон}$	-221,246	-201,959	-201,500	-201,500	-201,500	-201,500
Γ_{cc}	-	-1,774	8,521	6,010	8,410	-5,720
$\Gamma_{сон}$	-	-16,204	-7,323	-5,610	-5,918	-1,336
Δ_{ccc}	-	-	-10,652	-6,003	-9,411	0,327
$\Delta_{ccон}$	-	-	-6,686	-8,303	-8,966	1,991
τ_{cc}	-	-	-	1,920	1,835	1,845
$\tau_{сон}$	-	-	-	-2,563	-3,898	16,296
ω_{cc}	-	-	-	-	-2,131	-3,727
$\omega_{сон}$	-	-	-	-	-1,285	16,916
ν_{cc}	-	-	-	-	-	19,100
$\nu_{сон}$	-	-	-	-	-	20,624
$\overline{\lvert \varepsilon \rvert}$ ε_{max}	11,0 28,0	2,2 -12,2	2,3 6,2	2,0 4,0	2,0 4,2	0,9 2,4

The calculated sizes will be coordinated with experimental and allow to predict missing values of properties of members of the studied row within experience errors.

Results of calculation of an enthalpy of formation of one-atomic alcohols from C1-C6 on formula (4) are presented in tab. 4.

Table 4.

Results from calculating the enthalpies of the formation of one-atomic alcohols (kJ/mol)

№	Compound	$\Delta_f H^0 298$ (g)	
		Experiment	Calculation
1.	CH_3OH	-201,5 ± 0,3 [6]	-201,5
2.	CH_3CH_2OH	-235,2 [7]	-235,0
3.	$CH_3CH_2CH_2OH$	-255,1 [7]	-256,5
4.	$(CH_3)_2CHOH$	-272,8 [7]	-272,1
5.	$CH_3(CH_2)_2CH_2OH$	-275,0 [7]	-275,6
6.	$CH_3CH(OH)CH_2CH_3$	-292,9 [7]	-291,8
7.	$(CH_3)_2CHCH_2OH$	-283,9 [7]	-283,4
8.	$(CH_3)_3COH$	-312,5 [7]	-312,7
9.	$CH_3(CH_2)_3CH_2OH$	-294,7 [7]	-294,7
10.	$CH_3(CH_2)_2CH(OH)CH_3$	-312,7 [7]	-314,6
11.	$(CH_3CH_2)_2CHOH$	-317,2 [7]	-315,3
12.	$C_2H_5CH(CH_3)CH_2OH$	-302,0 [7]	-302,0
13.	$(CH_3)_2CHCH_2CH_2OH$	-301,3 [7]	-300,0
14.	$(CH_3)_2C(OH)CH_2CH_3$	-330,8 [7]	-330,6
15.	$(CH_3)_2CHCH(OH)CH_3$	-315,2 [7]	-316,9
16.	$(CH_3)_3CCH_2OH$	-	-310,4
17.	$CH_3(CH_2)_4CH_2OH$	-315,8 [7]	-315,3
18.	$CH_3(CH_2)_3CH(OH)CH_3$	-	-314,6
19.	$CH_3(CH_2)_2CH(OH)CH_2CH_3$	-	-319,0
20.	$(CH_3)_2CHCH_2CH_2CH_2OH$	-	-319,2
21.	$(CH_3)_2CHCH_2CH(OH)CH_3$	-	-342,8
22.	$(CH_3)_2CHCH(OH)CH_2CH_3$	-	-344,1
23.	$(CH_3)_2C(OH)CH_2CH_2CH_3$	-	-357,1
24.	$CH_2(OH)(CH_3)CHCH_2CH_2CH_3$	-	-323,6
25.	$CH_3CH_2CH(CH_3)CH_2CH_2OH$	-	-317,3
26.	$CH_3CH_2CH(CH_3)CH(OH)CH_3$	-	-342,9
27.	$CH_3CH_2C(OH)(CH_3)CH_2CH_3$	-	-352,2
28.	$(CH_3)_2CHCH(CH_3)CH_2OH$	-	-323,3
29.	$(CH_3)_2CHC(OH)(CH_3)CH_3$	-	-353,8
30.	$(CH_3)_3CCH_2CH_2OH$	-	-329,6
31.	$(CH_3)_3CCH(OH)CH_3$	-	-349,7
32.	$CH_3CH_2C(CH_3)_2CH_2OH$	-	-340,8

At a research of dependences P =f (TI) the equations answering to the most close correlation connection between an education enthalpy (in kJ/mol) one-atomic alcohols and TI were revealed:

$$\Delta_f H^0_{(г,\ 298\ K)} = -14{,}481\ H + 1{,}166\ \Gamma_{сс} - 13{,}647\ \Gamma_{сон} + 53{,}542 \qquad (5)$$

Average absolute error of calculation ($\overline{|\ \varepsilon\ |}$) and the maximum deviation (ε_{max}) 1.7 kJ/mol and 7.0 kJ/mol are respectively equal.

$$\Delta_f H^0_{(г,\ 298\ K)} = 4{,}837\ W - 0{,}736\ W' - 33{,}622\ H + 394{,}699 \qquad (6)$$

$$(|\ \overline{\varepsilon}\ | = 4{,}0\ \text{kJ/mol};\ \varepsilon_{max} = -7{,}5\ \text{kJ/mol}).$$

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IT行业面临第四次工业 – 数字革命的挑战
CHALLENGES OF IT-INDUSTRY ON THE WAY TO THE FOURTH INDUSTRIAL-DIGITAL REVOLUTION

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注解。 考虑到信息化对社会的积极和消极影响。 信息技术的引入导致了社会结构的转变。 结果表明，工业 – 数字革命引发全球竞争并导致人员革命。 确定突破性技术及其实施领域。

关键词：数字化，人员革命，竞争力，信息突破技术

Annotation*. Considered the positive and negative effects of informatization on society. The introduction of information technology has led to the transformation of the very structure of society. It is shown that the industrial-digital revolution makes global competition and leads to a personnel revolution. Identified breakthrough technologies and areas of their implementation.*

Keywords*: digitalization, personnel revolution, competitiveness, information-breakthrough technologies*

We, the inhabitants of the Planet, are experiencing an amazing time when fantasy becomes reality. We have witnessed transformation processes that have led the post-industrial society to an information society. The fourth industrial-digital revolution is coming - it is the massive introduction of cyber-physical systems in production, serving human needs, including life, work and leisure. The revolution will affect all of humanity and change all the way people live, work and communicate with each other. The changes will cover various aspects of life: the labor market, the living environment, political systems, technological order, human identity and others. The most important driving force of these processes is informatization: the deep penetration of information and telecommunication technologies into all spheres of human life and activity. Today, a well-established distributed network of information and computing complexes can play no less a role in public life than the one that electrification, telephone, radio and television together have played in

their time. Evidence of this was the global Internet. Today, the Internet initiates the process of creating a new virtual environment of civilization.

In today's world, the key to success lies in the skillful management of information opportunities and resources. The information sphere actively influences the state of the political, economic, defense and other components of the security of states, and this dependence is increasing. The active and comprehensive introduction of information technology has led to the transformation of the very structure of society. Modern society is largely free of national borders. In all areas of activity, new functional structures have emerged, which are based on a common information electronic space. These are transnational corporations and associations of research teams working on a single problem, but physically located in different parts of the planet. There were network universities, consortia. The terms "student", "student" have become international.

But the changes affected the shadow side of human life. Network structures have become the basis of world crime and terrorism.

In addition, with the development of computer technology, there is a change in the person himself - the percentage of emotionally poor people is growing, because live communication is replaced by virtual, and this happens even between members of the same family.

At the same time, there is also a positive influence of informatization on society. The information society is more developed, any person has access to huge amounts of information, therefore the society as a whole is becoming more and more educated. With the development of information technology, absolutely new phenomena burst into our lives with great speed. So, in 1996, one of the main sensations in Japan, and then all over the world, was the appearance of Tomagochi, a simple three-button video game whose goal was to bring up and care for an electronic pet. The name, translated from Japanese, sounded like an "egg demanding love." Sales of new products in Asia and the United States brought huge profits to the manufacturing company. Information technologies gave impetus to the development of a new era of business, production at a new level, changed the system of education and training, accelerated the process of obtaining scientific results. A new level of development is being formed on the same basis, and this leap of change cannot be rapid at once in all spheres. Unfortunately, in our country today there is a small influx of young people in the field of science, there is an aging of scientific personnel and, as a result, problems of chronic shortage of engineers, designers, technologists. The fourth industrial revolution, the breath of which we feel, makes the previous labor skills and many professions simply unnecessary. In place of bank employees, personnel managers, office managers, administrative staff, insurers, accountants come digital technology and artificial intelligence is no longer an assistant in the work, but a competitor. Electronic document manage-

ment is already in operation today and in the future will lead to the reduction of many specialists. According to forecasts, within 10 years the number of accountants will be reduced by 90%. More and more employees of organizations and specialists will work remotely. A large number of specialists will have to learn again. By 2025, about 10 million Russians will have to be retrained. Currently, there are about 70 million economically employed citizens in Russia. This means that the problem of digitalization will affect every seventh. In the next five to ten years, there will be a “polarization of qualifications”: professions with the highest and lowest qualifications will be in demand. At the same time, the number of middle-level jobs will be under the most severe pressure from new technologies. The problem is not only that it is necessary to retrain. The market is currently lacking an adequate proposal for a system of accelerated training. Standards of institutions responsible for this, do not have time to respond to the challenges of the time. Throughout the country, creation of centers for advanced professional training is required. Thus, a big personnel revolution is awaiting Russia in the very near future. Some professions will completely disappear, others will be replaced by robots. To remain competitive in the era of digitalization, people will have to abandon the concept that we learn in life only once, after which we work. But in Russia there is still a good start for this, which is vital for us to preserve. All over the world, today they recognize that the Soviet and Russian educational technologies inheriting them are very effective. Moreover, Russia looks very good in many professions in the field of information technology. Russian information technology experts (and even hackers) are a world-famous Russian brand. Today, instead of the classic Russian brands “Black Caviar” and “Russian Vodka”, it is the “Russian hackers” brand that conquers the planet, and Western journalists talk about the incredible feats of Russian keyboard magicians literally every day.

The digital revolution today makes global competition. Undergraduate and graduate students have access to the educational resources of the world's best universities, so competition is becoming a key factor in the survival of universities. This includes, inter alia, IT-specialties and areas of training. Today, students of IT specialties combine the creation of their business and education. They protect diplomas on the basis of their own "startups". Representatives of the industry, venture investors, “business angels”, who evaluate the projects of graduate masters, are included in the State Examination Commissions of Russian universities.

Today, in the structure of the Russian IT market, as compared with European indicators, the share of small businesses is small, at least in the legal sector. Of course, students must be given the opportunity to grow professionally.

The Ministry of Labor of Russia announced a personnel shortage. The number of vacancies is growing. Especially in demand "IT professionals." In the near future, in the labor market, IT specialists will be in demand first of all: IT-doctors,

biotechnologies, cosmobiology, additive technologies (these are specialists in the field of 3D-prototyping). 3 D-printers will produce household items, weapons, prostheses, bones from titanium powder, heart muscle tissue, gas turbine blades and even cars and buildings.

And the latest invention in the field of IT technologies is that the Chinese have completed the development and promise to soon introduce the world's first quantum computer to the market and perform quantum computing. In addition, the Chinese are launching in the near future an X-ray telescope to observe neutron stars, black holes, and also the Milky Way galaxy.

A feature of the fourth industrial revolution is the introduction of new technology with great speed and, of course, strong competition. Robotics, neurotechnologies, implantation technologies, 3D bio printing in healthcare will be further developed, smart cities will appear (with a population of more than 50 thousand people and without traffic lights), cars without drivers (automobiles-robots), designed creatures and supercomputers here. in the pocket. Breakthrough technologies will be noted in areas such as materials science, nanotechnology, artificial intelligence and decision making, the accumulation and storage of energy.

These are the challenges the IT industry is making on the eve of the industrial - digital revolution in order to change the world for the better.

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使用数学模型预测点火浓度极限

PREDICTION OF IGNITION CONCENTRATION LIMITS USING MATHEMATICAL MODELS

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注解。基于信息和电荷描述符的使用，考虑了用于预测各类化学品的点火浓度极限的回归模型。这些描述符由物质的结构式自动计算。与实验相比，预测制品中获得的点火浓度极限的结果给出了不显着的误差。

关键词：预测，上下限浓度限制，描述符，线性回归分析。

Annotation*. Regression models for predicting the concentration limits of ignition of chemicals of various classes, based on the use of information and charge descriptors, are considered. These descriptors are calculated automatically by the structural formula of the substance. The results of predicting the concentration limits of ignition obtained in the article give an insignificant error as compared with the experiment.*

Keywords*: prediction, upper and lower ignition concentration limits, descriptors, linear regression analysis.*

Introduction

This paper studies a promising approach to predicting the concentration limits of chemical ignition, which is based on the use of charge and information descriptors. Studies [1-2] presented studies on the prediction of the fire-hazardous properties of chemicals on limited sample sizes for certain classes using regression and neural network models [4]. The aim of the work is to create effective models for predicting concentration limits for various classes of chemicals. To accomplish this goal, the following tasks are solved: automatic calculation of charge and data descriptors associated with fire properties; development of regression models for establishing links between these descriptors and concentration limits; creation of computer programs for the implementation of models; creating databases that contain experimental data to test the effectiveness of the developed models and the chosen method of description.

1. Prediction of the lower concentration limit

In order to identify the connection of fire-hazardous properties of chemical compounds with their structure, a method is proposed using the average number of electrons on the outer shell of atoms in a molecule as a factor indicator of a molecule: $Z = \sum_{i=1}^{N} n_i Z_i / N$, where n_i – number of atoms *i*-th grade with the number of valence electrons Z_i (the number of electrons in the outer shell of an atom). Summation is performed on all atoms in the molecule; N – total number of atoms. Further study of the relationship "structure - fire properties" is associated with the information function of Shannon: $H = -\sum_{i=1}^{N} p_i \log_2 p_i$, where $p_i = n_i / N$, moreover, for the p_i following relations hold: $0 \le p_i \le 1$, n_i – the number of atoms of a sort *i* in a molecule, N – total number of atoms in a molecule. The ratio n_i / N gives the share of the *i*-th kind of atom in the molecule. For a sample of 763 chemical elements of various classes [3], the number of atoms was calculated, the fraction of each atom in the structure of a substance was calculated, and then the average number of electrons in the outer shell of atoms in the *z* molecule was calculated. To search for the equation, 649 substances were selected from the specified sample. The remaining part of the sample (114 elements) was used as a test for the prediction of the lower concentration limit of ignition (LCLI). To predict the dependence of LCLI on the information factor *H*, on the same test and test samples, the fraction of each atom in the molecule and the value $\log_2 p_i$ were calculated, and then the value of the Shannon information function was calculated. To predict the dependence of LCLI on *z* and on *H*, 9 regression equations were developed: linear $y = a + bx$; quadratic $y = a + bx + cx^2$; cubic $y = a + bx + cx^2 + dx^3$; logarithmic $y = a + b\ln x$; hyperbolic $y = a + \frac{b}{x}$; power $y = a \cdot x^b$; indicative $y = a \cdot b^x$; S-curve $y = e^{a + \frac{b}{x}}$; exponential $y = a + e^{bx}$. For each of these equations, the mean square errors were calculated, the models with the smallest error were chosen. As a result of the research, the following models were obtained for studying the dependence of LCLI on *z*: a linear function $y = 1{,}127Z - 1{,}242$; quadratic $y = 0{,}838 - 0{,}473Z + 0{,}298Z^2$; cubic $y = 4{,}844 - 4{,}901Z + 1{,}879Z^2 - 0{,}182Z^3$; logarithmic $y = 2{,}827 \ln Z - 0{,}979$; hyperbolic $y = 4{,}339 - \frac{6{,}747}{Z}$; power

$y = 0{,}331 \cdot Z^{1{,}554}$; indicative $y = 0{,}295 \cdot 1{,}833^{Z}$; S-curve $y = e^{1{,}846 - \frac{3{,}779}{Z}}$; exponential $y = 0{,}295 \cdot e^{0{,}606Z}$. To study the dependence of LCLI on *H*, the models were obtained: linear function $y = 1{,}992H - 0{,}96$; quadratic $y = 0{,}353 - 0{,}129H + 0{,}829H^2$; power $y = 0{,}96 \cdot H^{1{,}49}$; cubic $y = 13{,}882 - 31{,}64H + 24{,}467H^2 - 5{,}709H^3$; S-curve $y = e^{1{,}676 - \frac{1{,}698}{H}}$; logarithmic $y = 2{,}378 \ln H + 1{,}035$; hyperbolic $y = 3{,}74 - \frac{2{,}683}{H}$; indicative $y = 0{,}282 \cdot 3{,}433^{H}$; exponential $y = 0{,}282 \cdot e^{1{,}234H}$. A sample of 659 chemicals was used in the training. The mean square error for each model was calculated. The smallest value of this indicator was in the quadratic and linear models. For the LCLI dependence on *z*, the error of the linear regression model was 0.823, and for the quadratic regression model, the error was 0.814. For the dependence of LCLI on *H*, the error of the linear regression model was 0.823, and for the quadratic regression model, the error was 0.818. After analyzing the regression residuals for each substance in each model, the substances that give the largest increase in the mean square error for the entire model were identified. They were excluded from the training set. The following models were obtained on the remaining sample elements. For LCLI's dependence on *z*, this is a linear function $y = 0{,}972Z - 0{,}918$ and quadratic $y = 0{,}467 - 0{,}098Z + 0{,}2Z^2$. For LCLI's dependence on H, this is a linear function $y = 1{,}786H - 0{,}774$ and quadratic $y = 0{,}66 - 0{,}529H + 0{,}905H^2$. RMS errors of these models are presented in Table 1 in column II stage. The obtained models were tested on an examination sample consisting of 114 elements, and quadratic models also showed the best error — 0.529 and 0.481 for the dependence on *z* and *H*, respectively.

Table 1

LCLI standard error of z and H

Prediction models	Root mean square errors					
	LCLI of z			LCLI of H		
	Training		Exam	Training		Exam
	Stage I	Stage II		Stage I	Stage II	
Sample size	659	650	114	659	649	114
Linear	0,823	0,697	0,533	0,823	0,642	0,487
Quadratic	0,814	0,691	0,529	0,818	0,635	0,481
Cubic	0,827			0,948		
Logarithmic	0,845			9,856		
Hyperbolic	0,857			0,850		
Power	0,837			0,837		
Indicative	0,833			0,836		
S-curve	0,842			0,847		
Exponential	0,833			0,836		

2. Prediction of the upper concentration limit

To predict the dependence of the upper concentration limit of ignition (UCLI) on z and H, 9 regression equations were compiled and the standard deviations were calculated. As a result of the study at the first stage, the following models were obtained for the study of the dependence of the UCLI on *z*: a linear function $y = 5{,}685Z - 4{,}136$; quadratic $y = -4{,}166 + 5{,}708Z - 0{,}04Z^2$; cubic $y = 1{,}043 - 0{,}056Z + 2{,}051Z^2 - 0{,}235Z^3$; logarithmic $y = 14{,}603 \ln Z - 3{,}084$; hyperbolic $y = 24{,}585 - \frac{35{,}311}{Z}$; power $y = 2{,}794 \cdot Z^{1{,}291}$; indicative $y = 2{,}583 \cdot 1{,}643^Z$; S-curve $y = e^{3{,}487 - \frac{3{,}154}{Z}}$; exponential $y = 2{,}583 \cdot e^{0{,}496Z}$.

To study the dependence of UCLI on *H*, the following models were obtained: linear function $y = 10{,}384H - 3{,}186$; quadratic $y = 8{,}012 - 8{,}03H + 7{,}338H^2$; logarithmic $y = 12{,}049 \ln H + 7{,}266$; hyperbolic $y = 20{,}68 - \frac{13{,}263}{H}$; power $y = 6{,}891 \cdot H^{1{,}137}$; indicative $y = 2{,}607 \cdot 2{,}633^H$; S-curve $y = e^{3{,}208 - \frac{1{,}266}{H}}$; exponential $y = 2{,}607 \cdot e^{0{,}968H}$; cubic $y = 68{,}698 - 151{,}08H + 115{,}902H^2 - 26{,}516H^3$. A sample of 440 chemicals was used in the training. Mean square errors for each model were calculated. The smallest value of this indicator 4,761 was in the linear, quadratic and cubic models. After analyzing the regression residues for each substance in each model, such

substances were found that give a large increase in the mean square error of the entire model. They were excluded from the training set. For the remaining samples, the following models were obtained: for the dependence of UCLI on *z*: linear function $y = 3{,}987Z - 1{,}199$; quadratic $y = -1{,}276 + 4{,}047Z - 0{,}011Z^2$ and cubic $y = -1{,}353 + 4{,}077Z - 0{,}004Z^3$; for UCLI dependency on *H*: linear function $y = 7{,}846H - 1{,}13$; cubic $y = 41{,}595 - 86{,}953H + 66{,}956H^2 - 14{,}983H^3$ and quadratic $y = 7{,}067 - 5{,}696H + 5{,}425H^2$. RMS errors of these models are presented in Table 2 in column II stage. The resulting models were tested on an exam sample consisting of 64 elements. For the *H* dependence, the cubic model showed the best root mean square error — 1.841. For the z dependence, all three models (linear, quadratic, and cubic) showed the same error — 1.881.

Table 2

UCLI standard error of z and H

Prediction models	Root mean square errors					
	UCLI of z			UCLI of H		
	Training		Exam	Training		Exam
	Stage I	Stage II		Stage I	Stage I	Stage II
Sample size	440	410	64	440	410	64
Linear	4,761	2,51	1,881	4,767	2,568	1,941
Quadratic	4,766	2,51	1,881	4,739	2,541	2,183
Cubic	4,761	2,51	1,881	4,691	2,512	1,841
Logarithmic	4,880			5,089		
Hyperbolic	4.797			4,855		
Power	4,838			4,853		
Indicative	4,847			4,823		
S-curve	4,856			4,902		
Exponential	4,849			4,823		

As a result of a comparative analysis, it was found that the most accurate LCLI prediction is obtained using a quadratic model using the factors *H* and *z*. The most accurate UCLI prediction is obtained from a cubic model using factors *H* and *z*.

Conclusion

Regression models for predicting the concentration limits of chemical ignition are proposed and investigated. It is shown that the developed regression models in which information and charge descriptors are used give a qualitative forecast of the concentration limits of ignition.

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