



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

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这些会议文结合了会议的材料 – 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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贸易企业的信息技术和人力资源管理
**INFORMATION TECHNOLOGY AND HUMAN RESOURCES
MANAGEMENT IN TRADING ENTERPRISES**

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摘要：本文对零售企业的人力资源管理系统进行了分析，并提出了一种改进企业人事政策的算法，旨在提高企业人事及人事政策的效率。文章还介绍了一款软件工具——专业的薪资优化计算器。该计算器是一个综合分析系统，由四个相互关联的模块组成，能够提供完整的劳动力成本管理周期，并包含用于实施旨在降低成本的灵活人事策略的算法。

关键词：人事政策，人事策略，数字技术，薪资资金优化。

Abstract. *This article presents an analysis of the human resources management systems of retail enterprises. It presents an algorithm for improving the enterprise's personnel policy, which aims to increase the efficiency of the enterprise's personnel and personnel policy. The article proposes a software tool, a specialized payroll optimization calculator, which is a comprehensive analytical system consisting of four interconnected modules that provide a full cycle of labor cost management, as well as algorithms for implementing flexible personnel strategies aimed at reducing costs.*

Keywords: *personnel policy, personnel strategies, digital technologies, and optimization of the payroll fund.*

In an era when the quality of goods is no longer a unique competitive advantage, it is personnel policy that is becoming the key differentiating factor ensuring the long-term sustainability of companies in the retail sector.

The scientific significance of the work is determined by the need for an in-depth analysis of the relationship between personnel policy and the economic results of companies in the retail sector. Despite the availability of research in the field of personnel management, there remains a shortage of applied solutions adapted to the specifics of the industry. For example, aspects such as motivation in the context of digitalization, methods to reduce staff turnover and professional development of employees in a rapidly changing environment require additional study.

The theoretical and methodological works of S.M. Vasiliev [3], N.V. Ponomareva [1], O.V. Smirnova [2] and others are devoted to the processes of personnel management in the retail sector and the analysis of the costs of organizing the work of enterprises in retail.

The research of scientists T.V. Ivanova [7], A.V. Kozlov [5,6], E.S. Petrova [9], A.P. Semenov [4] and others is devoted to the problems of introducing innovations in personnel policy and improving personnel in retail trade. It is worth highlighting the research of D. V. Romanov [8] and S.N. Vasiliev on the digitalization of trade processes and the digital transformation of retail. However, numerous studies do not sufficiently reveal the problems of applying electronic and mathematical modeling of personnel management processes, which determined the purpose of the study.

The purpose of the research is to develop an algorithm for improving personnel policy and a software tool for optimizing the payroll for a retail company.

The importance of optimizing personnel in retail lies not only in achieving cost savings and improving financial results, but also in creating a more efficient and harmonious workflow, which is ensured by correctly distributing functional responsibilities among employees, optimizing their skill level and setting clear, measurable performance expectations. These measures help to improve the quality of work. motivation and employee satisfaction, in addition, in conditions of traditionally high staff turnover, Typical for the retail sector, optimization makes it possible to maximize the use of existing human resources and contributes to the retention of qualified specialists.

The criteria of efficiency and labor productivity act as fundamental metrics for evaluating the effectiveness of personnel activities and, ultimately, determining the level of success of the enterprise as a whole, since these criteria provide the management with up-to-date analytical information on the degree of effectiveness of business processes, as well as identify problem areas and identify promising areas for further optimization of activities.

Evaluation of the effectiveness of personnel policy should include quantitative metrics (sales, turnover) and qualitative aspects (moral climate, motivation).

Companies that flexibly adapt HR management to market changes strengthen their positions in a competitive environment.

The correlation between employee satisfaction and their performance in retail confirms the importance of psychological factors in personnel policy. Satisfaction generated by working conditions, salary, career opportunities, and corporate culture enhances motivation and reduces turnover. Research shows that satisfied employees are more likely to take the initiative, exceeding standard responsibilities, which has a positive effect on sales and customer loyalty. However, the relationship is not always linear — stress or a toxic atmosphere reduce productivity even with high salaries. Measuring satisfaction through surveys, turnover analysis, and attendance takes time to identify sustainable trends. Managing this relationship makes it possible to increase the effectiveness of personnel policy, turning personnel into a strategic asset.

The analysis of practices for improving the effectiveness of personnel policy in retail trade reveals the key approaches of successful companies. Regular feedback from employees through surveys helps to resolve problems in a timely manner. Investing in training and individual career plans increases engagement by reducing turnover. Flexible work hours improve the balance between personal life and responsibilities, strengthening loyalty. Reward systems that combine financial and non-material incentives (bonuses, recognition of merit) motivate to achieve goals. Automation of routine tasks frees up HR departments' time to work with staff, while preserving the human factor in decision-making. The focus on diversity and inclusivity creates a culture where employees feel valued, increasing overall efficiency.

The effects of staff turnover in the retail industry cannot be overestimated. The constant change of employees hits the budget: the cost of finding and training newcomers often exceeds the cost of retaining experienced employees. The quality of customer service is declining as new employees take longer to delve into processes, and frequent changes in the team destroy teamwork. In addition, the company is losing its accumulated knowledge and skills, which is especially critical in niches with high expertise, for example, in the sale of equipment or premium goods.

An unstable team undermines the trust of customers. Customers appreciate recognizable faces — if there's a new cashier at the checkout every month, it creates a sense of unprofessionalism. To identify the reasons for the departure of employees, companies conduct surveys and face-to-face conversations. Problems often lie in congestion, low wages, or lack of clear instructions from management.

The implementation of staff retention programs, including transparent career paths, professional development and workflow optimization, forms the basis

for strengthening the competitiveness of retail companies, ensuring long-term sustainability in a dynamic market.

Research in the field of personnel management is based on a combination of various techniques that combine qualitative and quantitative approaches to analyze and improve the human resources of organizations.

Qualitative methods such as in-depth interviews, focus groups, and ethnographic observations are aimed at identifying employee motivation, their non-obvious needs, and hidden problems that remain outside the statistical data [10]. These tools allow you to gain a detailed understanding of the human factor that is not available when using purely numerical metrics. For example, an in-depth interview allows you to identify non-obvious conflicts or barriers in communication.

Quantitative methods, by contrast, focus on statistical data: surveys, questionnaires, and assessment scales provide numerical indicators of satisfaction, engagement, and productivity. Clear formulation of questions in such studies minimizes the risks of data distortion, and their results allow you to track the dynamics, for example, how changes in working conditions affect staff turnover.

After analyzing the metrics and tools of human resource management, it is concluded that improving the personnel policy of a trading company requires an integrated approach, which consists of several stages aimed at reducing turnover and increasing the stability of the workforce (Table 1).

Table 1.
Algorithm for improving the personnel policy of the enterprise

Stages	Events	Components
Review of the adaptation and probation system	Implementation of a structured program for the adaptation of new employees lasting at least 3 months with clear stages, goals and mentoring.	Intermediate interviews with the newcomer are required (on day 1, after 1 week, 1 month) to identify problems.
	Revision of the criteria for passing the probation period: focus on assessing not only professional skills, but also psychological compatibility with the team, resistance to stress.	Introducing feedback from the newcomer about his satisfaction with the conditions.
	Development of a «support package» for beginners: a temporary reduction in production standards, psychological consultations, a system for quickly resolving administrative issues (registration, access, workwear).	Creating a comfortable environment at the enterprise.
	Accounting of working hours in the most problematic units (warehouses, sales halls, utility rooms, economic departments) to determine the actual workload.	Adjustment of maintenance/production rates based on actual completeness.

	The introduction of a flexible remuneration system that includes a significant bonus portion tied to achievable KPIs (not only for revenue, but also for quality, error-free, and loyalty indicators).	Special attention is paid to additional payments for working under incomplete conditions.
	Development of a non-financial motivation program: career tracks for line staff, «employee of the month», corporate events, improvement of living conditions at workplaces (restrooms, quality food).	Management of labor productivity.
Strengthening HR analytics and preventive measures	Creating a system for early identification of «high-risk» turnover: employees with less than 1 year of experience, those working under excessive workload, those with low satisfaction rates in surveys.	Implement regular (quarterly) anonymous surveys to measure engagement and identify hidden issues.
	Mandatory conducting in-depth interviews with employees who are leaving (with an independent interviewer) to identify the true reasons for leaving and systemic problems in specific departments/locations.	Data analysis and management actions.
	Establishing personal KPIs for HR managers and department heads based on turnover rates (especially among newcomers) and the time it takes to fill vacancies.	The relationship between KPIs and bonuses.
Strengthening corporate culture and communications	Formation of internal PR programs that emphasize the value of each employee, the success story of the company, and the importance of a stable team.	Regular notification of changes for the better (based on feedback).
	Creation of effective feedback channels from ordinary employees to top management (anonymous hotlines, digital platforms for suggestions).	Reviewing issues and providing feedback.
	The development of a mentoring institute is not only for beginners, but also as an element of growth for experienced employees.	Providing additional remuneration to mentors.
Strategic number planning	Development of detailed staffing plans, taking into account seasonality, plans for opening new locations and forecasting natural turnover.	Creation of a personnel reserve for key positions.
	Investments in automation of routine and most difficult operations (loading/unloading, inventory, reporting).	Reducing the physical and emotional burden on staff.

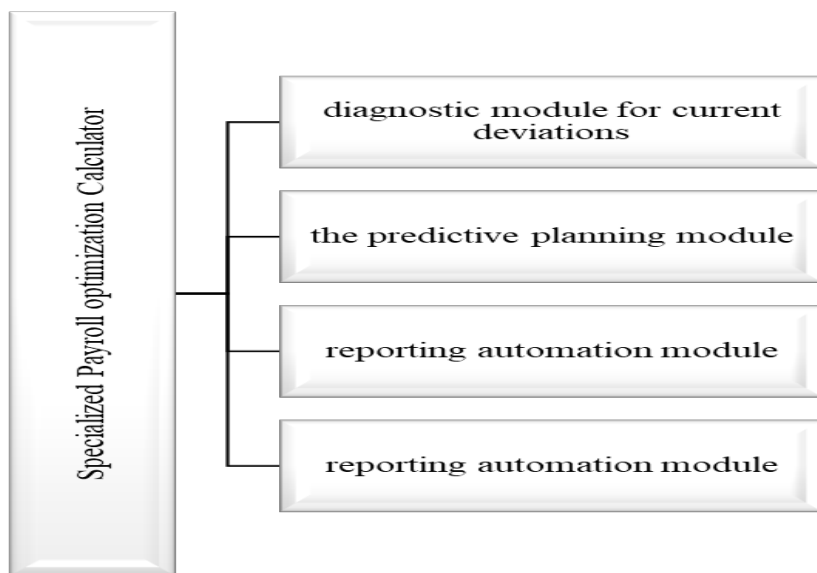
Source: compiled by the authors

The conducted research has shown that a systematic approach to improving personnel policy contributes not only to employee engagement in the production

process, but also to increased productivity. It should be noted that such indicators as the working time fund, its cost and the wage fund play an important role.

Often, enterprises do not analyze the ratio of the wage fund and the actual time worked by employees, as well as the impact of these indicators on turnover, revenue and profit, which negatively affects the company's activities. The key indicator is the indicator of actual productivity (turnover per unit of working time), which demonstrates the achievement or non-achievement of planned values.

In order to offset the systemic problems of personnel costs, it is proposed to introduce a specialized payroll optimization calculator, which is a comprehensive analytical system consisting of four interconnected modules that provide a full cycle of labor cost management.



Source: compiled by the authors

Figure 1. *A model of a specialized payroll optimization calculator*

The first module is a module for diagnosing current deviations, which automatically identifies areas of inefficient use of labor resources. The system compares the actual working time (HRT) with the standard working time fund (165 hours per month), analyzes discrepancies between planned and actual productivity (revenue per person-hour), and calculates the share of HRT in turnover for each outlet. This tool allows you to identify overspending of working hours and corresponding financial losses.

The second module is the predictive planning module, which allows you to model various scenarios for optimizing personnel costs. Users can evaluate the impact of changes in turnover on the required number of staff, analyze the consequences of adjusting work schedules, and optimize the distribution of work hours between departments. The results can be both a reduction in the working time fund (FRF) and the introduction of cross-training, resulting in savings in financial resources, even when investing in staff training.

The third module is the reporting automation module, which allows you to generate a set of analytical materials, including summary tables of network deviations, ratings of retail outlets for the efficiency of using digital assets and calculations of savings potential with detailed cost items. This reduces the reporting time for management decision-making from a few days to a few minutes.

The fourth module provides integration with the accounting systems of the enterprise, including 1C databases (data on turnover and staffing table), time management systems and staff turnover indicators. This ensures that the information used is up-to-date and eliminates the need for manual data entry.

The implementation process of a specialized calculator includes four stages:

- training of heads of retail outlets (1 week, responsible - HR department);
- integration with accounting systems (2 weeks, IT department);
- pilot operation in several locations (1 month, Chief Operating Officer);
- Full-scale implementation (1st quarter, Finance Director).

The implementation of the calculator will allow achieving such results as:

- decrease in the share of photos in the turnover;
- annual savings on personnel costs;
- increasing the validity of decisions when opening new outlets;
- increase the transparency of personnel planning.

The developed tool shifts human resource management from a problem response mode to a proactive strategic planning mode.

Photo optimization in a retail network should not be limited only to cost reduction. This is a complex process that requires a revision of operational models, the introduction of digital tools (WFM, BI, automation) and increased flexibility in workforce management (flexible schedules, versatility, part-time employment). A key condition for success is the use of detailed data (hourly workload, KPIs) to make informed management decisions for each specific outlet.

The developed HR management calculator is a software tool integrated with 1C accounting systems that allows real-time identification of overspending of labor resources, modeling scenarios for reorganizing the staffing table and automatically generating reports on the effectiveness of personnel costs.

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从现代全球经济发展趋势的视角审视国家经济利益
**NATIONAL ECONOMIC INTERESTS IN THE PRISM OF MODERN
GLOBAL ECONOMIC DEVELOPMENT TRENDS**

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注释。21世纪以来，世界贸易和经济格局、资源和市场争夺进入了一个新阶段。全球化使这些进程呈现出新的格局，表现为第四次工业革命的技术参数与各国经济特征之间的差异、跨国公司对发展中国家资源环境的大规模渗透以及国家和地区间不平等的加剧。在此背景下，应重视运用国家导向的经济发展要素，并在社会结构层面进行适当的制度改革。这种结构的基础在于将经济发展的先决条件和要素整合到一个统一的制度环境中，以实现国家经济利益，并使其与政治、法律和社会利益紧密相关。本文认为，国家经济利益是发展自给自足、具有竞争力的经济体的最有效起点。

关键词：经济利益，制度体系，结构性改革，发展模式，人力潜能。

Annotation. *The 21st century has seen the beginning of a new stage in the struggle for the trade and economic division of the world, for its resources and markets. Globalization has given these processes new configurations in the form of a discrepancy between the technological parameters of the 4th industrial revolution and the national characteristics of economies, the massive penetration of TNCs into the resource environment of developing countries, and the increase in inequality between states and regions. In this situation, the practice of using factors of nationally oriented economic development, as well as adequate Institutional changes at the level of the model structure of society. Such a structure is based on the consolidation of the prerequisites and factors of economic development into a unified institutional environment for the realization of national economic interests, closely correlated with political, legal, and social interests. In this regard, national economic interests are considered in the article as the most effective beginning in the process of developing a self-sufficient and competitive economy.*

Keywords: *economic interests, institutional system, structural reforms, development models, human potential.*

National economic interests have always served as the leading guideline for the development of countries worldwide. This stems from the fact that without this concept, it is virtually impossible to develop scientifically sound conceptual programs and strategies for socioeconomic transformation, form effective national economic models, determine macroeconomic priorities, and select optimal foreign economic policy options. Research into national economic interests is required to ensure targeted coordination of the activities of all economic entities across society. Therefore, when characterizing national economic interests, one should proceed from the premise that this category expresses an objective tendency toward integrated interaction of production factors, where the nation serves as the unifying concept, with interests that are deeper and more general than those of any social group, class, or organization. National economic interests can also be defined as a factor in maintaining and increasing national wealth for many generations of citizens, ensuring the long-term self-affirmation of the national economy as an integral and competitive organism in the context of globalization.

Self-affirmation, and above all in the sphere of the global economy, is an essential prerequisite for progress in all areas of development. The impetus for development is primarily found in those countries and nations driven by production and consumption, as well as national values, for development. Thus, criteria are established for the selection and absorption of those forms and methods of production that ensure the effective realization of national economic interests.

The specific nature of economic life, stemming from the characteristic national localization of cultures and traditions (including production), is reflected in the various current models of national economies. In modern conditions, this development is almost unambiguously linked to market principles. But the main question is how these principles should manifest or be modified in the conditions of a given country to best facilitate the realization of national economic interests. After all, “once the existence of nations with their conditions of existence and their interests is recognized, it is necessary to allow for changes in the economy of human society in accordance with them,” as Fr. Liszt wrote [1].

It should be emphasized that the concept of “national economic interests” does not refer exclusively to the interests of a single nation. It is consistent with such generally accepted categories of macroeconomics at the level of a sovereign state as “the system of national accounts,” “national wage level,” “national wealth,” and “national income.” When speaking of national economic interests, firstly, it is understood that the primary area of interests of economic agents is the territory of a specific country. Secondly, these interests are closely intertwined with all spheres of public life. Thirdly, they essentially lead to the formation of international economic relations (regional and global), which are designed to ensure more effective forms of realizing national economic interests. Therefore, in the

analysis of national economic interests, one should not view them as autarkic, but as integration meaning.

National economic interests are, first and foremost, the interests of individuals, and more specifically, the citizens of the country. They are multifaceted and imply not only production growth but also development, which requires a comprehensive picture of economic, socio-cultural, political, and spiritual interests. In this sense, one can only agree with the opinion that the importance of the socio-cultural specification of economic processes is increasing as the global transition to a production paradigm dominated by the human factor takes place. At the same time, it is increasingly necessary to consider that human activity is based on both economic and moral values, and that “the substitution of moral principles for economic ones represents the main threat to the stability of modern society” [2]. In the figure below, national economic interests are considered in the integrative context of the confluence of virtually all spheres of human activity.

National interests	Economic life	Social life	Political life	Spiritual life
Economic	GDP growth, ensuring competitiveness economic capacity	Population welfare, increase in HDI	National economic security	Spiritual technologies in economics
Social	Social transfers from the state and at the corporate level	Protecting the family and the interests of current and future generations	Formation of civil society	Maintaining the traditions and values of the national mentality
Political and state	Government regulation economy	Ensuring the right to work, education, and healthcare	Strengthening the sovereignty and territorial integrity of the state	Patriotic education new generations
Spiritual and moral	Asserting the role of informal institutions in the economy	Combination of traditions and innovations.	National priorities in foreign economic activity	Formation of national thinking

Figure 1. *Interactivity of national interests in various spheres life of society*

When considered in this complementary manner, national economic interests apply equally to all residents of the country. Here, the overall significance of such areas of national economic interest as:

1. natural resources, health, cultural values.
2. intellectual and production potential of the country.
3. parameters of macroeconomic equilibrium.

4. competitiveness of domestic products.
5. favorable investment climate.
6. economic rights of citizens.
7. access to material and spiritual goods.

All of them express the function of social welfare, that is, they directly correlate the interests of society with the interests of its members. While benefiting everyone, indicators of national economic interests do not harm anyone's healthy interests and, taken together, implement the compositional plan for building a socially balanced economic system. Each sphere of national interest creates conditions for others, serves as a potential for advancing specific goals, and, most importantly, makes them achievable. Thus, national economic interests are closely linked to other subdivisions of national interests, either through their prerequisites, the formulation of goals, or as the means to achieve them. For example, the political interest in ensuring the sovereignty and territorial integrity of the country is an essential prerequisite for the fulfillment of all other interests, while spiritual interests in preserving and enhancing national cultural values are directly correlated with imparting a perceived quality to people's well-being. In such a balance of interests, individuals and their behavior are understood not only within the "dialectic of productive forces and production relations" but also as the product of a distinct national (economic, spiritual, and political) world, to which they address practical challenges and development prospects. From this perspective, the economy appears as not only a sphere of manifestation of the material world but also of the spiritual world of people. From this perspective, national economic interests should be viewed as production interactions that are part of the entire complex of national relations between people.

The national economy, by and large, is a cultural phenomenon, from which one can conclude that economic forms outside of national conditions are a reflection of the logic of theoretical constructs abstracted from reality, while the conditions in forms represent the evolution of production processes in specific socio-economic circumstances. Moreover, in the development of each society there is Mega-trends emerge, denoting universal human methods of adapting to the environment and organizing production. They have universal significance and are reinforced by formal institutions (property, monetary circulation, distribution mechanisms). But the question of which institutions and in what form will be established in a given society is initiated by national economic interests. At the same time, the economic laws of a general (mega-trend) nature inevitably align with the real environment of common values where they manifest, modifying themselves in forms optimal for achieving the economic interests of specific economic entities.

Some production or technological innovations may be introduced into the economy from outside, but in practical terms, it's not the parameters of their

“progressiveness” in a general sense, divorced from specific conditions, that will matter, but rather how they are perceived within a given national economic environment. Such an environment is unique, primarily due to informal institutions, and consequently, economic activity is carried out based on the adapted norms and rules characteristic of each given country. All of this lends particular importance to studying the role of informal institutions, under whose influence economic interactions in modern society are structured not only according to market principles but also in accordance with national forms of life. From this perspective, it’s important to analyze the environment for realizing the economic interests of economic entities, where innovation and tradition, individual growth incentives and social development goals, specific management methods within economic units and state regulatory mechanisms, are organically combined.

The global economy thus emerges as a sphere of contradictory interaction between national economic models. Global economic interests (environmental, food, energy, etc.) emerge within this interaction, but they are secondary to national interests. First, countries’ ability to participate in solving global economic problems is linked to the extent to which they realize their own national economic interests. Second, in the global economic space, each country’s national economic interests face intense competition, which most clearly reveals the strengths and weaknesses of national economies. The question of how the inevitability of inclusion in global economic relations can be accompanied by a positive effect in the form of an increased degree of realization of national economic interests is quite debatable. Thomas Pugel on this about notes that the global economy does not have a global government, so while it is true that there are international organizations that try to manage aspects of the global economy (especially the WTO, IMF, UN, WB), each country has the right and opportunity to ignore or disregard these global institutions [3].

National economic interests are dynamic and goal-oriented on a specific social scale, which makes them effective. In this regard, it’s worth recalling the words of W. Sombart, who, speaking about the economic development of the United States at the beginning of the 20th century, wrote that the country’s overall progress is linked to “identifying itself with the country” (We can make progress only by identifying itself with the State) [4]. A similar contextual approach must be developed in relation to the globalization challenges of each country. This is primarily important for the effectiveness of foreign economic policy, which integrates the processes of realizing national economic interests through global connections into a single target framework. This approach combines the advantages of both the national and global economies. Thus, it is possible to implement subject-motivated and nationally oriented practices in international economic relations, the achievement of which serves the country’s economic self-assertion in the global world.

In these conditions, the primary goal is the realization of national economic interests through: a) organic interaction in the national economic model of formal and informal institutions; b) holistic, but not fragmented, development of the economy; c) optimal, but not absolute or chaotic, openness in foreign economic relations; d) competitive, but not opportunistic, advantages in world markets.

Only national economic interests provide a permanent and real basis for achieving the interests of the present and future generations of economic entities in the country, the coordinated expansion of their production potential, and the solution of society's social problems.

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高科技产品供应链管理系统有效性评价方法
**METHODOLOGY FOR EVALUATING THE EFFECTIVENESS OF
THE SUPPLY CHAIN MANAGEMENT SYSTEM FOR HIGH-TECH
PRODUCTS**

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摘要：本文提出了一种对高科技产品生产企业的供应链管理系统（SCM）有效性进行综合评估的方法。文章论证了整合经济、数字化和组织指标以构建综合效率指数的必要性。文章分析了高科技供应链的运行特点，并确定了关键指标组（生产与物流、创新与技术、信息与数字化以及经济）。文章提出了一种应用该方法的算法，并给出了一个综合指数实际计算的实例。

关键词：供应链，高科技产品，效率，综合指标，KPI，数字化，创新。

Annotation. *The article presents a methodology for a comprehensive assessment of the effectiveness of the supply chain management system (SCM) of enterprises producing high-tech products. The necessity of integrating economic, digital and organizational indicators for the formation of an integral efficiency index is substantiated. The features of the functioning of high-tech supply chains are considered, and key groups of indicators (production and logistics, innovation and technology, information and digital, and economic) are identified. An algorithm for applying the technique is proposed and an example of practical calculation of the integral index is shown.*

Keywords: *supply chain, high-tech products, efficiency, integral indicator, KPI, digitalization, innovation.*

Introduction

In today's reality, advanced enterprises operate in an environment characterized by significant volatility, rapid technological progress, and increased standards for timely and perfect product delivery. The operational management of supply

chains has transformed from an ordinary component of logistics into a critically important factor determining the stability and competitiveness of an organization in the market.

The specifics of creating products using advanced technologies, such as aviation technology, radio electronics, and energy equipment, place special demands on the construction of a supply chain. These features include the complex structure of manufactured products, lengthy stages of research and development work, limited volume of mass production and the predominance of individual orders. These factors make it ineffective to apply standard approaches to evaluating the effectiveness of supply management, which are mainly focused on minimizing costs and meeting time limits.

In this regard, there is a need to create a new methodology for evaluating the effectiveness of supply chain management (SCM), which will take into account not only economic indicators, but also innovative, technological and digital characteristics of a functioning system.

The present study is aimed at developing a comprehensive methodology for evaluating the effectiveness of SCM for enterprises specializing in the production of high-tech products. The developed methodology will allow for a more accurate assessment and optimization of supply chain management processes in this sector of the economy.

1. Theoretical foundations of supply chain management

Supply Chain Management (SCM) is a comprehensive system covering the planning, coordination and monitoring of the movement of material resources, information flows and financial resources throughout the journey from the primary supplier to the final consumer. A key factor in the effectiveness of SCM is the harmonization of the activities of all participants, the level of availability and accuracy of data, as well as the ability of the supply chain to respond quickly to fluctuations in market conditions and external influences. The higher the level of integration and synchronization of processes, the more efficiently the entire chain functions, which reduces costs, improves product quality and meets consumer needs.

The **SCOR (Supply Chain Operations Reference)** model identifies five basic components of supply chain efficiency:

1. Reliability;
2. Responsiveness;
3. Agility;
4. Cost;
5. Assets.

However, when adapting the SCOR model to the conditions of high-tech enterprises, its modification and expansion are required. These enterprises are characterized by the following features:

- high technological complexity;
- long terms of design and cooperation;
- Dependence on digital management systems and interagency cooperation;
- the need to ensure the innovative readiness of suppliers.

In this regard, the assessment of the effectiveness of supply chain management (SCM) in high-tech industries should cover not only traditional indicators related to logistics and finance, but also take into account aspects such as the level of implementation of digital technologies in processes, the degree of cooperation in innovation, the adaptability of project teams and resistance to various types of risks.

2. Features of SCM functioning in high-tech industries

The supply chains of high-tech industries have a number of specific characteristics:

Feature	Impact on SCM
Low circulation and high customization of products	Increased planning flexibility requirements
Long cycles of design and testing	The need to integrate R&D and production chains
Multilevel cooperation and dependence on narrow suppliers	Increased sensitivity to failures and delays
High cost of mistakes	The requirement for digital control and monitoring of data
Sanctions and technological restrictions	The need for adaptive management and import substitution

Consequently, the coordination of supply chains in these sectors requires the use of a set of digital tools and analytical approaches that guarantee the monitoring, foresight and stability of the entire system.

3. Approaches to evaluating the effectiveness of SCM

Traditionally, the effectiveness of SCM is measured in three ways:

1. **Operational indicators:** delivery cycle time, forecasting accuracy, customer service level.
2. **Financial indicators:** logistics costs, inventory turnover, cost of inventory ownership.
3. **Integration indicators:** the degree of interaction between chain participants, the use of common information systems.

However, for high—tech industries, the addition of a **fourth block is required** - *innovative and digital*, which includes indicators of digitalization, adaptability and technological readiness.

4. Methodology for evaluating the effectiveness of SCM

The algorithm under consideration is based on a combined review, where effectiveness is determined by the final participation of four sets of characteristics.

$$E_{sum} = \sum_{i=1}^n w_i X_i^*$$

where:

E_{sum} — integral SCM Efficiency index;

w_i — the weighting factor of the indicator;

X_i^* — normalized KPI value.

Stages of application of the methodology:

1. **Defining the goals and structure of the supply chain.** Participants, roles, and critical processes are analyzed.
 2. **The choice of the system of indicators.** A set of KPIs is formed for each group of criteria.
 3. **Data collection and normalization. The indicators are adjusted to a single 0-1 scale.**
 4. **Definition of weights.** The Hierarchy Analysis (AHP) method or expert assessment is used.
 5. **Calculation of the integral index.** Based on normalized values.
 6. **Interpretation of the results.** The strengths and weaknesses of SCM are assessed and development directions are formed.
- 5. Groups of indicators and evaluation criteria**

Group of indicators	Examples of KPIs	Purpose of the assessment
1. Production and logistics	Average delivery cycle time; percentage of timely deliveries; capacity utilization rate	Assessment of stability and rhythmicity of processes
2. Innovative and technological	The speed of reaction to changes in the specification; the share of R&D-oriented suppliers; the degree of introduction of new technologies	Assessment of adaptability and innovativeness
3. Information and digital	The level of ERP–MES integration; the share of automated processes; the use of digital twins	SCM Digital Maturity Assessment
4. Economic	The level of logistics costs; inventory turnover; profitability of the supply chain	Assessment of economic sustainability

Each indicator is assigned a weighting factor depending on the company's priorities. For example, **reliability of supply and digital integration** are of high importance for the aviation industry, while economic metrics are more important for mass production.

6. An example of practical application of the methodology

Let's consider a hypothetical example of an enterprise producing small-scale aircraft engines. Based on the internal audit data, the values of standardized KPIs were determined:

Group	The average indicator	Weight
Production and logistics	0,78	0,30
Innovative and technological	0,55	0,25
Information and digital	0,75	0,25
Economic	0,70	0,20

The integral index is calculated using the formula:

$$E_{sum} = 0,3(0,78) + 0,25(0,55) + 0,25(0,75) + 0,2(0,70) = 0,685$$

The numerical value of 0.685 indicates the **adequate efficiency of the logistics operations management system** but implies the need to **use digital technologies** to optimize it. To achieve high efficiency ($E > 0.8$), it is necessary to intensify automation of resource planning processes and ensure closer integration of information flows.

7. Recommendations for improving the effectiveness of SCM

1. **Integration of digital platforms.** Combining ERP, PLM, and MES systems into a single digital environment.
2. **Implementation of analytics based on artificial intelligence.** Using Big Data and ML to predict failures and optimize inventor.
3. **Developing partnerships with suppliers.** The transition from a transactional model to a cooperative one that ensures the exchange of information in real time.
4. **4. The use of digital supply chain doubles.** Simulation of functioning scenarios for stress testing of resilience.
5. **Development of an adaptive management strategy.** Creation of backup supply channels and scenarios for rapid changeover of production facilities.

Conclusion

A comprehensive methodology for analyzing the effectiveness of supply chain management, designed for high-tech companies, offers in-depth analytical tools for assessing the logistics structure, with a focus on the impact of innovation and digitalization. This tool allows you not only to numerically evaluate performance, but also to identify priority areas for optimization.

A holistic approach ensures a harmonious combination of economic, technological and organizational factors, which is critically important for enterprises operating under conditions of sanctions restrictions and technological dependence.

The prospects for the development of the proposed methodology are related to the automation of calculations in the digital environment of the enterprise, the introduction of intelligent data analysis modules and integration with corporate production process management systems.

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公关公司组织文化：变革影响下的重组、适应与新视野
**ORGANIZATIONAL CULTURE OF PR COMPANIES:
REORGANIZATION, ADAPTATION AND NEW HORIZONS
UNDER THE INFLUENCE OF TRANSFORMATIONS**

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摘要：本文探讨了在数字技术快速发展和管理实践现代化的背景下，变革性变化对公关公司组织文化的影响。文章重点阐述了企业环境重组的关键领域，包括价值观的转变、向项目制灵活模式的转型、数字化能力的提升以及员工职业身份的演变。文章分析了公关公司适应新环境的具体特征，并识别了有助于形成可持续创新型组织文化的因素。最后，文章展望了公关公司在未来变革背景下的企业环境发展前景。

关键词：组织文化，公关公司，转型，数字化，适应，企业价值观，传播管理。

Abstract. *The article examines the impact of transformational changes on the organizational culture of PR companies in the context of the rapid development of digital technologies and the modernization of management practices. It highlights the key areas of restructuring the corporate environment, including changes in values, the transition to project-based flexible models, the strengthening of digital competencies, and the evolution of employees' professional identities. The article analyzes the specific features of PR companies' adaptation to new conditions and identifies the factors that contribute to the formation of a sustainable and innovative organizational culture. The article concludes with insights into the prospects for the development of the corporate environment of PR organizations in the context of further transformations.*

Keywords: *organizational culture, PR companies, transformations, digitalization, adaptation, corporate values, and communication management.*

Introduction

The organizational culture of PR companies today is being shaped by intense technological, economic, and managerial change. Digitalization of communications, accelerated information flows, increasingly complex client requests, and increased competition require PR organizations to constantly adapt their internal processes and values. Traditional interaction models, characteristic of the industry in the early 2010s, are no longer meeting market demands, where effectiveness is determined by flexibility, speed, and the ability to innovate.

The scientific significance of the study stems from the fact that in PR, organizational culture serves not only as an internal regulator but also as part of a company's professional identity. It influences management style, the nature of communications, the quality of creative solutions, and crisis resilience. However, the impact of transformations on the corporate environment of PR companies has been insufficiently studied, making the topic particularly relevant.

The purpose of this article is to identify how transformational changes are restructuring the organizational culture of PR companies, what new requirements are being formed for internal norms, competencies, and interaction mechanisms, and to determine the prospects for the development of the corporate environment in the context of digital transformation.

1. Transformation processes and their impact on the corporate environment

Modern PR companies operate in an environment where digital technologies have become the foundation of all communications and management processes. The emergence of new analytical tools, the automation of routine tasks, and the introduction of artificial intelligence into media monitoring and management are changing not only professional practices but also the way work is organized within the company.

The transformation of management models is leading to a shift from rigid hierarchies to flexible, project-based structures. PR teams are increasingly working in a cross-functional format, bringing together specialists from various fields—strategists, editors, analysts, designers, and digital specialists. This expands the skill requirements and increases the role of personal responsibility, self-organization, and employee initiative.

2. Evolution of corporate values

Influenced by external changes, significant shifts are occurring in the values of PR companies. Open communication, a focus on results, a culture of continuous learning, and a commitment to innovation are becoming increasingly important. Companies are creating an internal environment that welcomes experimentation, embraces rapid pilots and hypothesis testing, and views mistakes as a stepping stone to development.

Corporate transparency is increasingly important, allowing employees to understand the company's strategic goals and see each team member's contribution to the overall result. This is especially crucial in a highly dynamic industry, where collaborative synchronization ensures stability and efficiency.

3. Transformation of the professional identity of specialists

Changes in corporate culture inevitably impact the professional profile of employees. Modern PR professionals must possess not only classic communication skills but also developed analytical skills, digital literacy, strategic thinking, and the ability to work in interdisciplinary teams.

Thus, professional identity is becoming hybrid, combining creativity, data management, and technological competencies. This is creating a new standard for corporate environments focused on high adaptability and digital maturity.

4. Prospects for the Development of the Organizational Culture of PR Companies

An analysis of transformational changes suggests that the future of PR companies' organizational culture will be determined by three key factors: innovation, resilience, and the ability to continuously reinvent itself. Organizations that can create a culture that supports experimentation, transparency, knowledge sharing, and the development of digital competencies will be the most competitive in the face of further change.

Transformations will continue, and corporate culture will become one of the key tools enabling PR companies to adapt to new conditions, forming the foundation for sustainable growth.

Conclusion

The study showed that transformational changes are having a profound impact on the organizational culture of PR companies. Changing management models, the development of digital technologies, increased skill requirements, and changes in employee professional identities are leading to a restructuring of the corporate environment. New value propositions are emerging, based on flexibility, innovation, transparency, and digital maturity.

The prospects for developing organizational culture lie in the development of sustainable and adaptive behavior patterns capable of ensuring the effectiveness and competitiveness of PR companies in the face of constant transformation. The findings can be used to develop management decisions, shape HR strategies, and modernize internal processes within PR organizations.

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马加丹州预算中矿产开采税收入估算

ESTIMATION OF REVENUES TO THE MAGADAN OBLAST BUDGET FROM THE MINERAL EXTRACTION TAX

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摘要：本文详细探讨了马加丹州综合预算中矿产开采税收入问题，以及该地区的矿产开采量。文章重点分析了马加丹州的采矿业，并对企业所得税和矿产开采税的税收收入进行了评估。文章指出了矿产开采税计算和管理方法中存在的问题，并提出了切实可行的解决方案。

关键词：矿产开采税，纳税人，预算，采矿业，税务机关，税法，地区。

Abstract. *This article examines in detail the issue of mineral extraction tax revenues in the consolidated budget of the Magadan Oblast, as well as the volume of mineral extraction in the region. Particular attention is paid to the analysis of the mining industry in the Magadan Region, and an assessment of tax revenues from corporate income tax and mineral extraction tax is provided. Problems in the methodology of mineral extraction tax calculation and administration are identified, and practical proposals for addressing these issues are provided.*

Keywords: *mineral extraction tax, taxpayers, budget, mining industry, tax authorities, tax code, region.*

Introduction. Taxes have always been and continue to be one of the most important instruments for implementing state economic policy. The mineral extraction tax (MET) is one of the key areas of budgetary, tax, and customs tariff policies planned for the future. In accordance with the key priorities for the 2025-2026 planning period, the following areas have been identified in relation to the mineral extraction tax: the introduction of taxation regulations for the extraction of precious metals contained as by-products in multicomponent complex ores and non-ferrous metal ores; and the establishment of specific regulations for

calculating the mineral extraction tax on concentrates containing gold, silver, and platinum group metals, which will eliminate the legal uncertainty associated with determining the rental coefficient for the extraction of these precious metals.

The Magadan Oblast is one of the largest regions in Russia in terms of potential primary gold resources and is among the top ten regions in the country in terms of reserves and potential resources of mineral raw materials. The main economically significant mineral raw materials include precious and non-ferrous metals, brown and hard coal, peat, and hydrocarbons. The mining industry in the Magadan Region specializes in the extraction of precious metals such as gold and silver, as well as brown coal and construction materials. Other mineral reserves remain unclaimed in the region. This study is relevant because replenishing budgets at all levels from mining activities is crucial for both the Russian Federation and the Magadan Region itself.

Research Materials and Methods. General scientific methods—analysis, synthesis, and description—were used in the study, as well as specific scientific methods—graphical and comparative methods.

Approximately 58% of the consolidated budget of the Magadan Region comes from enterprises engaged in the exploration, extraction, and processing of mineral resources. The mineral extraction tax (MET) of mining enterprises in the Magadan Region consists of the MET from the extraction of common minerals, the MET from the extraction of precious metals, and the MET from coal mining. Revenues to the consolidated budget of the Magadan Region have shown a steady growth trend over the past two years [3].

The consolidated budget of the region increased by 9,627,901 thousand rubles in 2023 compared to the previous period, and amounted to 56,999,855 thousand rubles. In percentage terms, budget revenue growth was 20.3%. An even higher rate of budget revenue growth is expected in 2024 – 30.3%. In 2022, budget revenue increased by 17,264,431 thousand rubles and amounted to 74,264,286 thousand rubles.

The increase in Magadan Oblast budget revenues over the past two years was due to tax and non-tax revenues. Thus, in 2024 alone, tax and non-tax budget revenues increased by 46.7%, an increase in absolute units of measurement amounting to 1,790,680 thousand rubles. A stable growth trend is observed in the consolidated budget of the Magadan Oblast and one of its main components – tax and non-tax revenues. The share of tax and non-tax revenues in the Magadan Oblast budget also increases annually. Thus, in 2022-2023, the share of these revenues exceeded 67% and in 2024 increased significantly to 76.0%.

Mining companies primarily contribute to the consolidated budget through two taxes: corporate income tax and mineral extraction tax. The dynamics of corporate income tax changes are similar to the overall dynamics of budget revenues. Thus,

in 2023, corporate income tax collection increased by 2,684,507 thousand rubles, or 27.6%. Significant growth in corporate income tax collection was observed in 2024, reaching 76.6% in relative terms. Corporate income tax collection increased by 9,504,917 thousand rubles in 2024.

An analysis of the share of corporate income tax in budget revenues shows that it consistently exceeds 20% and will amount to 29.5% in 2024. Thus, in 2024, corporate income tax accounted for almost 30% of the consolidated budget revenues of the Magadan Region. The share of corporate income tax in the tax and non-tax revenues of the consolidated budget of the Magadan Region is also increasing annually. Thus, in 2024, corporate income tax collection accounted for 38.8% of the consolidated budget's tax and non-tax revenues, exceeding the previous year's figure by 6.6%.

An analysis of mineral extraction tax collection suggests that the amount of tax collected will only decrease in 2022. Thus, in 2022, the amount of mineral extraction tax collected decreased by 1,080,150 thousand rubles, or more than 20%. The dynamics of mineral extraction tax collection have been increasing over the past two years. Thus, in 2023, the amount of mineral extraction tax increased by 2,136,257 thousand rubles and by 4,029,039 thousand rubles. In 2024, the increase in this tax in these years was 49.8% and 62.7%, respectively.

For the period 2020-2024, the largest increase in the collection of the extraction tax on common minerals was observed in 2023, with the amount collected for this type of tax increasing by 45,134 thousand rubles, or 86.8%. In 2024, an increase of 20,068 thousand rubles, or only 20.7%, was observed. The total amount of collected mineral extraction tax over the entire analyzed period is largely composed of the collected tax on the extraction of other minerals. The extraction tax on other minerals increased by 2,072,871 thousand rubles in 2023 and by 4,034,551 thousand rubles in 2024. In 2024, the percentage growth of this tax was 49.1% and 64.1% in 2023 and 2024, respectively. The dynamics of the total value of the mineral extraction tax is presented in Figure 1 [2].

Figure 1 shows the general growth trend of the mineral extraction tax and all its components. Over the past two years, the share of the mineral extraction tax in the consolidated budget revenues of the Magadan Region has been steadily growing and exceeds 10%. Thus, in 2023, the mineral extraction tax accounted for 11.3% of the consolidated budget revenues of the region, and already by 14.1% in 2024. The share of the mineral extraction tax in the tax and non-tax revenues of the budget also increases annually. Thus, in 2024, the mineral extraction tax accounted for 18.5% of the tax and non-tax revenues of the budget. The largest share of mineral extraction tax revenues in the budget of the Magadan Region is made up of mineral extraction tax revenues in the form of precious metals (gold and silver), which are mined in the Magadan Region from ore and placer deposits.

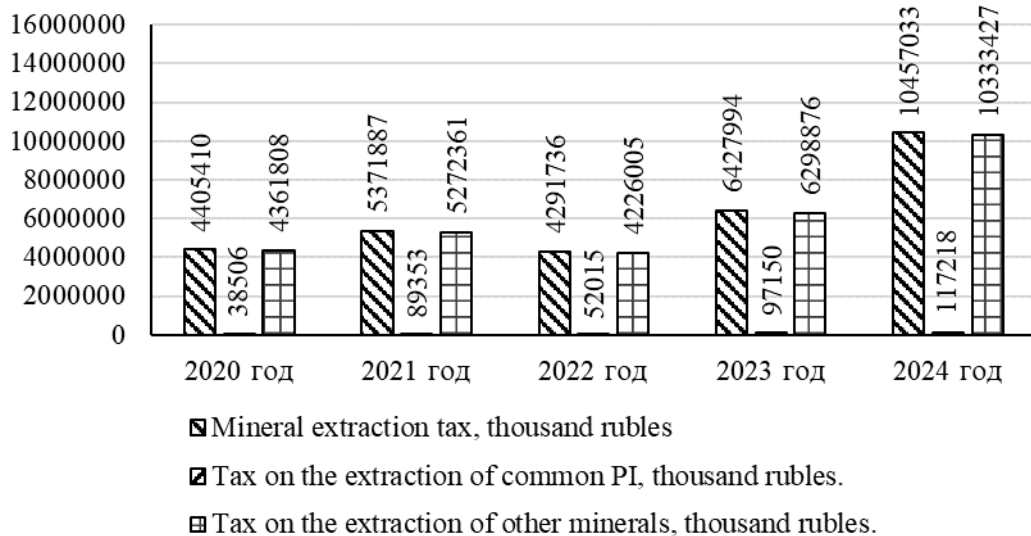


Figure 1. Dynamics of the Mineral Resource Tax in the Magadan Region

The largest taxpayers are leading mining companies in the Magadan Region: JSC Polyus Magadan, JSC ZRK Pavlik, PJSC Susumanzoloto, JSC GDK Berel'ekh, OOO Kongo, OOO Omolonskaya ZRK, JSC Serebro Magadana, and OOO Status. Precious metals mining was carried out in all municipal districts of the Magadan Region in 2024.

For the period 2021-2024. There is a downward trend in gold production in the Magadan Region compared to 2021. In 2022, gold production in the Magadan Region decreased by 3,467.8 kg compared to 2021. In 2023, gold mining enterprises in the Magadan Region managed to mine only 49,530.0 kg of gold, which is 1,563.5 kg or 3.3% more than the previous year's production [2]. In 2022, there was a downward trend in gold production in all municipal districts of the Magadan Region. The largest decrease in gold production by 1,389.6 kg in 2022 was typical for the Yagodninsky Municipal District. And only in the Severo-Evensky Municipal District was it possible to increase gold production in 2022 by 775.2 kg. Gold mining performance in the municipal districts of the Magadan Region significantly improved in 2023. Omsukchansky and Yagodninsky districts alone saw a decline in gold production, down 62.6 kg and 175,800 rubles. This increase in gold production in 2023 contributed to the increase in mineral extraction tax collection this year by 2,136,257 thousand rubles. In 2024, gold production increased by

4,563.6 kg compared to 2023, representing a 9.2% increase. A total of 54,093.6 kg of gold was mined in the Magadan Region in 2024.

The mining industry in the Magadan Region extracts minerals such as silver, lead, gold, zinc, copper, and coal. Both enterprises and individual entrepreneurs operate in the industry. An analysis of statistical data revealed the number of business entities and individual entrepreneurs engaged in the industry [3]. A steady growth trend has been observed in both the number of enterprises engaged in mineral extraction and individual entrepreneurs. It should be noted that individual entrepreneurs registered under the economic activity “mineral extraction” provide geological exploration services to subsoil users in Kolyma.

According to official data from the Chekko.ru website (counterparty verification), 27 individual entrepreneurs are registered in the Magadan Region, providing services under the OKVED-2 code “Provision of services in other areas of mineral extraction” [6]. In 2020, only 17 individual entrepreneurs were employed in this industry, and this number has increased to 26 in 2024. The total number of enterprises in the Magadan Region in 2024 was 3,737 units, with 528 enterprises engaged in economic activity in the mining industry. Overall, there is a steady growth trend among enterprises whose primary activity is mineral extraction. In 2020, only 428 enterprises were engaged in the mining industry, and by 2024, this number had increased by 100.

It is worth noting the growth not only in the absolute size of mining enterprises in the Magadan Region but also in their share of the total number of enterprises in the region. Of all enterprises in the Magadan Region in 2020, approximately 10% (9.8%) were engaged in mining. In 2024, the share of enterprises in the industry increased by 0.9%. Over the past five years, the “Mining” industry has seen the creation of new enterprises. The number of newly registered enterprises in the industry per year increased from 60 to 74, or by 23.3%.

Most enterprises in the industry are focused on the extraction of precious metals from placer and ore deposits. Of all mining companies registered in the Magadan Region at the end of 2024, 54.2% were mining placer gold, 6.2% were mining ore gold and silver, and 25.4% were conducting geological exploration. For various reasons, 15.2% of companies were not mining precious metals, some of which had not been doing so for two or more years.

It should be noted that the Russian Federation’s tax policy is implemented through various mechanisms, including tax administration, which is a key element of the Russian tax system. The effectiveness of taxation, which is the basis for replenishing budgets at all levels of the Russian Federation, depends on how well this administration is organized. The Federal Tax Service (FTS) is the subject of tax administration. Digitalization is becoming the foundation for the innovative development of tax administration – digital technologies are developing at an in-

credible rate in all spheres of society, including the economic sphere. The main achievement of the FTS of Russia is the implementation of the automated information system of the FTS of Russia, AIS "Tax-3." Thus, the further digitalization of the economy becomes the basis for improving the activities of the FTS at all levels of its management. The implementation of the proposed online tax administration model will allow tax authorities to access virtually any tax and accounting information, which necessitates improving tax and industry legislation [5, p. 317]. There are significant discrepancies between the industry-specific legislation of subsoil users and the tax legislation of mineral extraction tax payers, allowing arbitration courts in various regions to interpret them quite differently, creating the preconditions for regional practices of mineral extraction tax assessment. To resolve the discrepancies between these two pieces of legislation, it is necessary to carefully study the provisions of the Tax Code of the Russian Federation to ensure they do not contradict industry-specific legislation.

A study of the provisions of the Tax Code of the Russian Federation revealed that problems for taxpayers paying mineral extraction tax arise already at the terminology stage. In particular, there is a lack of a clear understanding of what should be accepted as the taxable object and, consequently, how to determine the tax base. The cited judicial practice confirms this [4]. In particular, in this regard, the Tax Code of the Russian Federation and the Law of the Russian Federation "On Subsoil" have a disjointed nature. Proposals for resolving issues related to tax disputes in mineral extraction tax administration regarding the incomplete taxation of mineral extraction tax as a share of the cost of silver [5, p. 318]:

- 1) preparing explanatory letters from the Russian Ministry of Finance and the Federal Tax Service on this issue;
- 2) amending the Tax Code of the Russian Federation; for example, Article 338 of the Tax Code of the Russian Federation should be supplemented with subparagraph 5.1 as follows: "With respect to extracted minerals containing precious metals, the tax base is determined as a share of the value of the precious metals contained therein (including associated metals), applicable to each tax rate, and also taking into account the established coefficients";
- 3) assisting the Federal Tax Service of Russia in working with the Supreme Court of the Russian Federation to change judicial practice.

The Federal Tax Service of Russia notes a list of the main errors made by mineral extraction tax payers when completing their declaration: the absence of a budget classification code (BCC) in Section 1 when it is indicated in Section 2; incorrect calculation of the coefficients that form the basis for determining the mineral extraction tax amount; incorrect indication of the mineral resource code; Incorrect determination of expenses (direct and indirect) related to mineral extraction; incorrect accounting of the mineral extraction tax deduction; failure to

indicate the license number. To avoid errors when completing the mineral extraction tax return, a specialized taxpayer information platform should be created to provide consulting services during the preparation stage of the mineral extraction tax return.

To avoid further errors in calculating the mineral extraction tax amount and completing the tax return, standard office programs should be developed that would allow subsoil users to automate the mineral extraction tax calculation process for each specific industry.

An analysis of tax returns from subsoil users in the Magadan Region revealed another problem associated with calculating the mineral extraction tax: the lack of standardized accounting forms for precious metals and stones. Article 339 of the Tax Code of the Russian Federation establishes the procedure for determining the quantity of extracted mineral extraction tax [1]. When extracting precious metals and stones, their quantity is determined based on mandatory accounting data. Mandatory accounting of precious metals is established by paragraph 2 of Article 20 of Federal Law No. 41 “On Precious Metals and Precious Stones,” and the accounting procedure itself is established by the “Rules for the Accounting and Storage of Precious Metals, Precious Stones, and Products Made from Them, as well as the Maintenance of Relevant Reports,” which were approved by the Government of the Russian Federation (RF Government Resolution No. 731 of September 28, 2000) [5, p. 318]. In accordance with paragraph 7 of these Rules, precious metals are accounted for based on the following characteristics: name, weight, and quantity. The valuation of precious metals is also subject to accounting. However, for precious metal accounting, subsoil users can develop and use their own accounting and reporting forms, which are then approved in the company’s accounting policy. However, the use of various forms of precious metal accounting hinders comprehensive monitoring by tax authorities. To address this issue, it is necessary to legislatively establish standardized forms of precious metal accounting for all subsoil users, which will ensure consistent accounting. To ensure the use of standardized forms of precious metal accounting for the purpose of uniform accounting, it is advisable to amend paragraph 7 of this procedure by adding the phrase “using standardized accounting and reporting forms.”

The proposed amendments to Article 338 of the Tax Code of the Russian Federation will allow an annual increase of 19-20 million rubles on average to the consolidated budget of the Magadan Region due to the mineral extraction tax on silver. If the mineral extraction tax is legally calculated as a percentage of the value of the precious metals contained therein, additional revenues to the consolidated budget of the Magadan Region will amount to 23,788.19 thousand rubles. In 2025 and 31,400.42 thousand rubles in 2026.

Conclusion. Our research led us to the following conclusions: 1) there is a pressing issue with determining the value of extracted minerals for mineral extraction tax purposes. This issue is resolved at the regional level, and much depends on the prevailing judicial practice in each constituent entity of the Russian Federation, which is completely incorrect. To resolve this issue, it is necessary to amend the Tax Code of the Russian Federation, which will allow for the systematization of regional practices and ensure consistency across the entire Russian Federation. A major challenge in calculating the mineral extraction tax is when the extracted mineral extraction tax contains two precious metals—gold and silver. An analysis of court decisions and the practices used by subsoil users allows us to conclude that subsoil users who extract precious metals from placer deposits calculate the mineral extraction tax only for gold and do not calculate the mineral extraction tax as a percentage of the value of silver. 2) To avoid errors by mineral extraction taxpayers when completing their declarations, a specialized taxpayer information platform should be created to provide consulting services during the preparation stage of the mineral extraction tax declaration. Standard office programs should also be created to allow subsoil users to automate the process of calculating the mineral extraction tax within each specific industry. 3) Standardized forms for accounting for precious metals should be legislatively approved for all subsoil users, which will ensure uniform accounting.

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构建多阶段方法论以评估全球化对经济发展的影响：来自阿塞拜疆的证据
**DEVELOPING A MULTI-STAGE METHODOLOGY TO
ASSESS THE IMPACT OF GLOBALIZATION ON ECONOMIC
DEVELOPMENT: EVIDENCE FROM AZERBAIJAN**

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摘要：本文以1991年至2021年阿塞拜疆为例，提出了一种评估全球化对经济发展影响的多阶段方法框架。为克服线性模型的局限性，本研究将计量经济学和计算智能技术整合到一个顺序工作流程中：普通最小二乘法（OLS）回归、模糊C均值（FCM）聚类、Z推理建模和自适应神经模糊推理系统（ANFIS）。研究结果表明，全球化与经济增长之间存在明显的倒U型关系，适度的全球化程度对应着目标国家最高的经济增长。采用减法聚类和三角隶属函数的ANFIS模型实现了最佳预测精度（RMSE = 6.99）。研究结论认为，基于政策的（法律意义上的）全球化指标比基于波动性流量的（事实上的）指标更能可靠地预测长期发展。

关键词：全球化、经济发展、模糊逻辑、ANFIS、阿塞拜疆、非线性。

Abstract. *This paper presents a multi-stage methodological framework for assessing the impact of globalization on economic development, using the case of Azerbaijan over the period 1991–2021. To address the methodological limitations of linear models, the study integrates econometric and computational intelligence techniques into a sequential workflow: Ordinary Least Squares (OLS) regression, Fuzzy C-Means (FCM) clustering, Z-Reasoning modeling, and Adaptive Neuro-Fuzzy Inference System (ANFIS). The findings reveal a distinct inverted-U relationship between globalization and economic growth, with moderate integration corresponding to the highest growth outcomes in the target country. The ANFIS model, employing Subtractive Clustering and triangular membership functions, achieved the best forecasting accuracy (RMSE = 6.99). The study concludes that policy-based (de jure) globalization indicators are more reliable predictors of long-term development than volatile flow-based (de facto) measures.*

Keywords: *Globalization, Economic Development, Fuzzy Logic, ANFIS, Azerbaijan, Non-linearity.*

1. Introduction

The assumption that globalization uniformly promotes economic development has proven inadequate in explaining the divergent outcomes observed across developing and resource-dependent nations. Azerbaijan's case illustrates this complexity, as its growth path has been strongly influenced by commodity price volatility and shifting institutional conditions. Standard econometric techniques, which assume stable linear relationships, fail to capture such non-linear and context-dependent dynamics. This is consistent with the findings of Stiglitz [1] and Rodrik [2], who argue that globalization's impact depends on institutional quality and governance structures.

Globalization is a multi-dimensional and uneven process, and its effects differ widely across countries depending on their institutional and structural contexts. As Steger notes, globalization operates simultaneously across economic, political, and cultural domains, creating highly heterogeneous national outcomes [3].

Governance quality also shapes how economies integrate into global markets. Nye and Donahue argue that the benefits of globalization critically depend on a state's administrative capacity and its ability to manage external pressures effectively [4].

This study proposes a multi-stage methodological framework to model the impact of globalization on economic development. It combines linear econometrics with fuzzy and neuro-fuzzy approaches to uncover regime-dependent patterns and adaptive relationships. The goal is to achieve both interpretability and predictive precision.

2. Data and Research Design

The analysis covers the period 1991–2021 using annual data from the World Bank¹ and the KOF Swiss Economic Institute². The dependent variable is real GDP per capita growth rate, while the independent variables represent the economic, social, and political dimensions of globalization, each disaggregated into de jure and de facto indicators. Control variables include rule of law, investment, inflation, government spending, and fertility rate.

The updated KOF Globalisation Index offers improved methodological coherence and conceptual clarity in distinguishing de jure and de facto globalization. This makes it particularly suitable for analysing long-term structural integration patterns in developing and transition economies, including Azerbaijan [5].

Table 1 provides an overview of the key variables, their definitions, and data sources.

¹ <https://data.worldbank.org/>

² <https://kof.ethz.ch/en/forecasts-and-indicators/indicators/kof-globalisation-index.html>

Table 1.
Variables and Data Sources

Variable	Definition / Measurement	Source
GDP per capita growth	Annual growth rate of real GDP per capita	World Bank
Economic Globalization	Trade, FDI, and financial flows	KOF Index
Social Globalization	Information, cultural, and personal contact indicators	KOF Index
Political Globalization	Participation in international treaties and organizations	KOF Index
Rule of Law	Institutional quality and governance index	World Bank
Gross Capital Formation	Investment intensity (% of GDP)	World Bank
Inflation (CPI)	Consumer price index (annual % change)	World Bank
Government Spending	Government consumption (% of GDP)	World Bank
Fertility Rate	Births per woman	World Bank

3. Methodological Framework

To capture the non-linear and adaptive nature of globalization's effects on economic growth, the research employs a four-stage analytical design. Each stage complements the previous one by overcoming its methodological limitations. Table 2 summarizes the framework's structure and objectives.

Table 2.
Analytical Stages of the Multi-Stage Framework

Stage	Purpose	Key Output
OLS Regression	Tests linear relationships	Baseline statistical benchmark
Fuzzy C-Means (FCM)	Detects non-linear regimes	Three growth clusters
Z-Reasoning	Generates interpretive rules	IF-THEN logical inference
ANFIS	Learns adaptive relationships	Best configuration achieved RMSE = 6.99

The data and code used for the analysis has been published online for the researchers to replicate and use in their work as needed^{3 4 5}.

4. Results and Discussion

The OLS model revealed a statistically significant but uniformly negative linear relationship between globalization and economic growth. This counterintuitive pattern indicates that a simple linear model may be insufficient, motivating the shift toward non-linear and regime-based approaches.

Subsequent FCM clustering identified three distinct regimes—low, moderate, and high globalization—each associated with different growth outcomes.

Table 3 summarizes the characteristics of these clusters.

Table 3.
Fuzzy Cluster Characteristics

Cluster	Characteristics	Interpretation
Cluster 1	Low globalization, weak or negative growth	Institutional fragility and transition instability
Cluster 2	Moderate globalization, strong growth	Effective policy management and modernization
Cluster 3	High globalization, low or volatile growth	Overexposure to global shocks; oil dependence

As shown in Table 3, the FCM results confirm an inverted-U pattern, where moderate globalization yields the most stable and sustainable growth outcomes.

The third stage of the framework introduces a Z-Reasoning model, which builds directly on the FCM results. This method converts the cluster centers into explicit IF–THEN rules that formalize the combinations of economic, social, and political globalization associated with each growth regime. As outlined in the dissertation, the Z-Reasoning step serves both an interpretive and diagnostic function: it provides a transparent rule-based structure for understanding regime-dependent growth patterns, while also revealing the limitations of purely structural models when confronted with external shocks such as commodity-price collapses.

The final stage of the framework employs an Adaptive Neuro-Fuzzy Inference System (ANFIS) to overcome the predictive limitations of the Z-Reasoning model. As explained in the dissertation, ANFIS integrates fuzzy logic with neural-network learning, enabling it to capture complex non-linear interactions that earlier

³ Aliyev, Rasim (2025), “Azerbaijan - KOF globalization index and economic growth of Azerbaijan”, Mendeley Data, V1, doi: 10.17632/83hn772bjp.1

⁴ Aliyev, Rasim (2025), “KOF Globalization - Train/Test for ANFIS (Main models) & Matlab Scripts”, Mendeley Data, V1, doi: 10.17632/xbp7fyzpsr.1

⁵ Aliyev, Rasim (2025), “KOF Globalization - Train/Test for ANFIS (FIS models) & Matlab Scripts”, Mendeley Data, V1, doi: 10.17632/b8g5sj45ys.1

stages cannot model. A systematic set of experiments was conducted to identify the most reliable architecture, comparing grid partitioning and subtractive clustering, different membership function types, and internal logical operators. The optimal configuration—Subtractive Clustering combined with triangular membership functions and the ‘prod’ operator—achieved the lowest RMSE, demonstrating superior forecasting accuracy for Azerbaijan’s growth dynamics.

Table 4 compares model performances.

Table 4.
Model Performance Comparison

Model	Available Performance Metric	Value	Interpretation
OLS Regression	RMSE (range across all models)	5.95 – 7.16	Baseline linear estimate; statistically significant but uniformly negative coefficients. Indicates linear limitations and potential non-linearity.
Z-Reasoning	No RMSE reported	—	Produces interpretable IF–THEN rules; useful for diagnostics but not optimized for forecasting. Underperforms under volatility and shocks.
FCM (Cluster Means)	No RMSE reported	—	Identifies three economic regimes; segmentation accuracy confirmed by FPC and ANOVA statistics ($p < 0.001$). Not used as a forecasting model.
ANFIS	Forecasting RMSE	6.99	Highest reliability; best predictive model. Non-linear, adaptive architecture captures complex dynamics.

5. Conclusion and Policy Implications

The study provides a methodological and empirical contribution by integrating econometric and computational intelligence techniques. It establishes that globalization’s effect on economic development follows a non-linear, inverted-U trajectory. Policy-driven integration (*de jure*) is more stable and growth-enhancing than purely market-driven openness (*de facto*).

Policy recommendations include strengthening institutional frameworks, diversifying exports beyond hydrocarbons, and adopting adaptive policy mechanisms that balance openness with resilience. The proposed multi-stage framework can be replicated for other transition and resource-based economies.

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将传统的财务运营监控方法与现代数字工具相结合，以提高组织财务控制的效率。

**SYNTHESIS OF CLASSICAL METHODS OF FINANCIAL
MONITORING OF OPERATIONS AND MODERN DIGITAL TOOLS
AS A WAY TO IMPROVE THE EFFICIENCY OF FINANCIAL
CONTROL IN AN ORGANIZATION**

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摘要：本文探讨了在经济数字化转型背景下如何提升内部财务控制的有效性。作者分析了传统财务监控方法与现代数字工具之间的关系，并探讨了二者融合以构建更具韧性和动态性的控制系统的机遇。文章重点关注大数据技术、人工智能和机器学习在识别财务交易异常方面的应用，以及它们与传统会计、审计和复核监督方式的结合。文章提出了一种方法综合的概念框架，旨在平衡传统程序的证据价值与数字解决方案的分析潜力。研究结果表明，混合财务监控模型不仅可以作为控制工具，还可以作为组织财务风险战略管理的工具。

关键词：财务控制，内部监控，数字化，大数据，机器学习，人工智能，审计，异常检测，方法综合，经济安全。

Annotation. This article examines the problem of improving the effectiveness of internal financial control in the context of the digital transformation of the economy. The author analyzes the relationship between traditional financial monitoring methods and modern digital tools, identifying opportunities for their integration to create a more resilient and dynamic control system. Particular attention is paid to the use of big data technologies, artificial intelligence, and machine learning in identifying anomalies in financial transactions, as well as their combination with traditional forms of accounting, audit, and revision supervision. A conceptual approach to synthesizing methods is proposed, ensuring a balance between the evidentiary value of traditional procedures and the analytical potential

of digital solutions. The findings allow us to consider hybrid financial monitoring models as a tool not only for control but also for the strategic management of an organization's financial risks.

Keywords: *Financial control, internal monitoring, digitalization, big data, machine learning, artificial intelligence, audit, anomaly detection, method synthesis, economic security.*

Internal financial monitoring is undergoing a qualitative transformation, as traditional documentary verification procedures and scheduled audits are no longer capable of promptly detecting complex cash flow patterns and predicting systemic risks in the face of high transaction speeds and distributed business relationships. At the same time, the proliferation of corporate ERP platforms, big data processing methods, and machine learning algorithms offers new opportunities for early anomaly detection and the development of preventative liquidity management scenarios. However, the application of these technologies without methodological alignment with accounting regulations and audit practices lacks evidentiary value and practical transferability.

The aim of the study is to develop a conceptual and methodological model for synthesizing classical financial control tools and modern digital solutions, which can improve the accuracy, efficiency, and overall effectiveness of internal monitoring of financial transactions in a commercial organization.

In this study, it is first necessary to define key concepts. Traditionally, financial monitoring is viewed as a category of external control by banks and tax authorities and defined as “a set of measures taken by financial institutions and competent government agencies to prevent, detect, and suppress transactions related to the legalization (laundering) of proceeds from crime or the financing of terrorism” [3]. However, research in this area often omits the understanding of financial monitoring as a method of internal control of financial transactions.

A more general definition of financial monitoring is presented by Evstigneeva E. N.: “a set of measures to analyze data on financial transactions, as well as measures to verify information in accordance with the legislation of the Russian Federation” [2]. However, by dismissing the normative aspect of monitoring and narrowing the concept to financial monitoring of operations, a similar term “transaction monitoring” (transactional monitoring) is more commonly used, generally defined as the process of monitoring, analyzing and evaluating financial transactions, including in real time [7]. In many ways, these concepts are synonymous, with the only difference being that a transaction implies the movement of financial resources between at least two individuals [1], while a financial operation can be conducted within a single economic entity. It should also be noted that transaction monitoring is increasingly being considered in the context of cryptocurrency operations, as an analysis of their movements across the blockchain network [4].

In our opinion, in the context of the study, it is necessary to expand the conceptual and categorical apparatus and consider financial monitoring of operations as an element of an extensive system of operational analytics.

Operational analytics (OI) is the process of collecting and analyzing operational data in real time to monitor system health and proactively mitigate problems. Traditionally, operational analytics has focused primarily on IT operations: data and metrics related to servers, networks, application deployments, configurations, and IT security. With the advent of the Internet of Things (IoT) and smart sensors, operational analytics includes real-time monitoring of real-world operations, such as pipelines, machinery, and power equipment. Operational analytics uses real-time data collection and analysis to proactively identify operational trends, anticipate problems, and assist frontline workers in making optimal decisions within their areas of expertise [6].

In this context, financial monitoring of operations should be defined as the ongoing assessment of financial transactions performed by a business entity. The ultimate goal of such an assessment is the most accurate determination, forecasting, and adjustment of the enterprise's financial flows in real time, enabling the most effective operational management decisions. Furthermore, as E.G. Spodareva and Y.V. Sazhnikova point out, "the financial monitoring system should be built as an information model that integrates strategic accounting, strategic planning, strategic analysis, and control in order to effectively provide information for management decision-making" [5].

Modern digital financial monitoring tools have radically transformed the structure of internal control, transforming it from a post-mortem review mechanism into a dynamic system of proactive analysis and risk prevention. At the core of this transformation is the use of automated information systems integrated with corporate ERP platforms (SAP, 1C:ERP, Oracle Financials, Microsoft Dynamics), which ensure continuous transaction recording, creating a unified analytical space for financial monitoring.

Alongside these technologies, intelligent data processing and machine learning are increasingly being used to build models for detecting anomalies in transaction flows. These systems operate by analyzing statistical patterns and probabilistic deviations from typical behavior. These algorithms can recognize hidden connections between events, identify atypical settlement patterns, duplicate payments, fictitious contracts, or inconsistencies between accounting and actual data. In organizations with high transaction turnover, such technologies form the basis for automated anti-fraud control and intelligent audit systems, where anomalies are detected not by a formal criterion, but by a combination of financial flow characteristics.

Other areas of digital monitoring are also developing. Big Data technologies enable the integration of internal and external information sources—data from

banks, tax authorities, supplier registries, and digital procurement platforms. Artificial intelligence is used to predict cash flow gaps, liquidity shortages, and the likelihood of spending limit violations. The concept of continuous auditing, where monitoring is carried out continuously, in real time, without human intervention, is gaining popularity. Blockchain technologies ensure the immutability of financial records and transparency of interactions with counterparties, while smart contracts automatically implement transaction terms, minimizing the risk of manipulation and delays.

A separate area involves the use of analytical dashboards that visualize key performance indicators and allow management to instantly assess the company's financial health. Text mining methods are particularly important in this regard, used to examine explanations in accounting documents, comments in audit reports, and internal communications, identifying potential risk indicators not reflected in the figures.

However, despite their impressive analytical capabilities, digital technologies do not provide absolute control reliability. They are effective only when tasks are properly defined, source data is high-quality, and they are integrated with traditional financial analysis tools. Artificial intelligence can detect deviations, but cannot always explain their economic origin; automation accelerates information processing, but does not replace the professional judgment of an auditor with a sound financial risk assessment methodology. If we consider internal financial control of operations as a system constantly adapting to technological changes, it becomes clear that classical and digital methods no longer exist in isolation. Their intersection creates a new level of control, in which traditional approaches to the verification, audit, and analysis of financial transactions are imbued with new content. To understand how this interaction manifests itself in practice, it makes sense to present it in the form of an analytical matrix, demonstrating the forms of synthesis possible between established and modern financial monitoring tools.

Table
Matrix of synthesis of classical and digital tools for monitoring financial transactions⁶

	Automated accounting systems (ERP, 1C, SAP)	Big Data and Machine Learning	Artificial intelligence and predictive analytics	Blockchain and smart contracts	Continuous auditing systems and analytical dashboards
Internal audit	Automation of data sampling and audit documentation; reduction of the human factor in the formation of audit samples.	Building intelligent risk profiles and identifying atypical patterns of departmental behavior.	Formation of predictive models of the probability of violations; analysis of the effectiveness of control procedures over time.	Creation of an immutable register of audit events, which eliminates the possibility of information substitution.	Conduct continuous real-time auditing with visualization of results and automatic alerts.
Audit and inspection of operations	Integration with electronic document archives and automatic reconciliation of transaction data.	Analysis of large amounts of transactions to identify repetitive or suspicious transactions.	Predicting the probability of errors or violations based on historical data.	Control of the authenticity of contracts and transactions in decentralized databases.	Visual presentation of inspection results with online updating of indicators.
Accounting control	Automatic verification of the correctness of transactions and compliance of accounting records with regulations.	Detecting anomalies in transactions, comparing data from different sources.	Prediction of possible discrepancies and violations at an early stage.	Recording accounting transactions in the blockchain to ensure data immutability.	Monitor accounting errors in real time and immediately notify responsible persons.
Financial analysis and performance evaluation	Consolidation of reporting from different departments in a single digital space.	Processing unstructured data to identify hidden patterns in the dynamics of indicators.	Application of machine learning models to forecast liquidity, profitability, and default risks.	Formation of a reliable baseline data for analytics thanks to the immutability of records.	Creation of interactive dashboards for monitoring KPIs and scenario analysis of financial performance.

⁶ Compiled by the author

Document flow control	Electronic document routing and digital signature.	Analysis of document metadata, identification of inconsistencies or forgeries.	Text recognition and content analysis to identify risk indicators.	Digital verification of contracts and automatic execution of terms through smart contracts.	Automatic monitoring of document approval deadlines and stages.
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This comparison clearly demonstrates that digitalization is not displacing traditional control mechanisms, but rather gradually transforming them. Process automation does not eliminate professional judgment, but rather enhances it through the speed of analysis and depth of data coverage. Where auditors previously needed weeks to review voluminous financial statements, they can now instantly identify logical inconsistencies and subtle risk links between transactions. However, the digital environment remains merely a tool: without analytical insight, professional experience, and an understanding of the enterprise's business logic, it loses precision and context.

This is why the future of internal financial monitoring essentially hinges on combining two approaches: the traditional, evidence-based and regulatory one, and the digital one, which provides new tools for data interpretation. Their combination creates an effective intelligent system capable of anticipating financial deviations and addressing their causes.

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为提高俄罗斯金融部门组织的经济安全而采取的措施
**MEASURES USED TO IMPROVE THE ECONOMIC SECURITY OF
ORGANIZATIONS IN THE RUSSIAN FINANCIAL SECTOR**

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摘要：本文探讨了俄罗斯金融业机构在宏观经济不稳定和制裁压力下为增强经济安全而采取的一系列措施。基于对2022–2025年相关法规和市场实践的研究，本文构建了监管、公司和技术三个层面的措施分类体系。文章详细阐述了旨在降低信用风险、运营风险、法律风险和制裁风险、减少不良贷款（NPL）规模、强化风险文化以及提高法务调查效率的各项措施。文章特别关注了电子取证平台、数字取证工具、反欺诈系统以及集成式KYC/AML解决方案的应用。研究表明，这些措施的有效性不仅取决于其形式上的存在，还取决于其与公司治理和监管环境的融合程度，以及其与国际标准和组织（如巴塞尔协议III、FATF、ISO）的一致性。本研究的实践意义在于为优化俄罗斯金融机构的经济安全框架提出了建议，可供金融业公司在改进风险和不良贷款管理体系时参考。**关键词：**经济安全、金融业、风险管理、合规、取证、电子发现、不良贷款、数字化转型、制裁风险。

Abstract. *The article examines a set of measures used by organizations in the Russian financial sector to enhance economic security under conditions of macroeconomic instability and sanctions pressure. Based on research of regulations for 2022–2025 and market practices, the article develops a three-layer classification of measures: regulatory, corporate and technological. It details measures aimed at mitigating credit, operational, legal and sanctions risks, reducing the volume of non-performing loans (NPLs), strengthening risk culture and improving the effectiveness of forensic investigations. Particular attention is paid to the use of eDiscovery platforms, digital forensics tools, anti-fraud systems and integrated KYC/AML solutions. The study shows that effectiveness depends not only on the formal existence of such measures, but on their integration into corporate governance and the regulatory environment, as well as their consistency with international standards and organizations (Basel III, FATF⁷, ISO⁸). The practical significance of the study lies in proposing directions for optimising the*

⁷ Financial Action Task Force

⁸ International Organization for Standardization

economic security framework in Russian financial institutions, which can be used by the companies of financial sector when improving risk and NPL management systems.

Keywords: *economic security, financial sector, risk management, compliance, forensics, eDiscovery, non-performing loans, digital transformation, sanctions risk.*

Introduction

The current development of Russia's financial system is taking place amid a combination of internal structural imbalances and external shocks related to the geopolitical situation, limited access to international capital and technology markets, and changing macroeconomic policy conditions. In this environment, the role of economic security for financial sector organizations is increasing. This security refers to the protection of their financial interests from threats that could lead to significant capital losses, reduced solvency, deterioration in asset quality, and, ultimately, loss of stability and bankruptcy.

Economic security is particularly important for banks and specialized structures that deal with distressed assets, as the financial sector is where key cash flows pass, and credit, market, operational, and legal risks are transformed into systemic risks. The rising share of overdue debt, the deterioration in the quality of loan portfolios, and the increasing frequency and volume of internal and external fraud require market participants not only to adjust their business models but also to develop a multi-tiered system of measures to ensure economic security. In a dynamically changing regulatory and technological environment, there is a need to systematize measures aimed at mitigating the risks associated with distressed assets and ensuring the stability of financial institutions, compare them with best practices, and evaluate their long-term impact on sustainability and competitiveness. This article aims to provide a comprehensive overview of the measures used, their typology, and a comparative analysis with international experience.

The purpose of this article is to characterize a set of measures that contribute to improving the economic security of organizations in the Russian financial sector, highlighting the regulatory, corporate, and technological levels, and to assess their effectiveness and limitations in comparison with practices in the United States, the European Union, and China. To achieve this goal, the following objectives are addressed:

- Systematize the key threats to the economic security of financial institutions;
- Disclose the content of the main groups of measures to improve the economic security of financial institutions;
- Analyze the role of digital technologies and investigative tools;
- Compare Russian approaches with international standards and practices.

Main Section

Theoretical and Regulatory Foundations for Ensuring the Economic Security of Financial Institutions

The economic security of a financial institution is viewed as a dynamic state characterized by the ability to withstand internal and external threats, maintain the required level of capital, liquidity, and asset quality, ensure sustainable access to funding sources, and fulfill obligations to depositors. Domestic and international literature distinguishes various approaches to classifying threats: through risk categories (credit, market, operational, legal, reputational), institutional impacts, and infrastructure vulnerabilities.

The regulatory framework for the economic security of financial institutions in Russia is determined by a combination of federal laws, Bank of Russia regulations, and international standards adapted to national specifics. Key regulatory documents include legislation on banking and bankruptcy, laws on combating money laundering and the financing of terrorism, laws on personal data, as well as regulations governing the formation of reserves, stress testing, information disclosure, and the organization of internal controls. The agreements of the Basel Committee on Banking Supervision (Basel III), the FATF recommendations, and ISO standards in the field of information security and compliance have a significant impact on risk management practices [5–7].

In foreign jurisdictions, particularly in the European Union and the United States, a significant portion of the requirements for the economic security of financial institutions are defined in regulations on capital adequacy, stress testing procedures, and requirements for managing operational and compliance risks [5; 6]. In China, particular attention is paid to the concentration of credit risks in the banking system, transaction control, and the integration of state monitoring platforms [18]. An analysis of these regulations allows us to identify similarities and differences with Russian practice and use them in developing a system of measures to improve the economic security of financial sector organizations.

Thus, the theoretical and regulatory framework for ensuring economic security sets the conditions for the development of a set of measures implemented at the level of the state, regulators, and financial institutions. The stability of the financial system and the ability of its organizations to adapt to external and internal influences depend on the coordination of these levels [1; 2].

Regulatory and Supervisory Measures

The regulatory level of measures to improve economic security is associated with the activities of financial supervisory authorities and the development of regulatory requirements aimed at managing systemic risks and establishing uniform standards of conduct for industry participants. These measures include establishing minimum capital and liquidity requirements, regulating approaches to credit

risk assessment and reserve formation, introducing periodic stress testing procedures, and developing a risk-based supervision mechanism [1; 11].

The Bank of Russia operates a set of tools that encourage financial institutions to improve the quality of risk management. It publishes financial stability reviews and methodological recommendations for stress testing, monitors risk concentrations and the state of distressed assets portfolios in financial institutions, and establishes requirements for the organization of risk management and internal control systems [1; 15]. This creates a foundation for economic security, setting a basic level of stability for market participants and minimizing the likelihood of chain defaults. In recent years, emphasis has been placed on developing requirements in the areas of anti-money laundering and sanctions compliance. Financial institutions are required to develop customer identification procedures (CIP), suspicious transaction monitoring, sanctions screening, and information exchange with supervisory and law enforcement agencies [3; 6]. For Russian banks, especially those engaged in international transactions, compliance with FATF requirements and US and EU sanctions regimes is becoming not only a legal obligation but also an element of protection against secondary sanctions and reputational risks.

At the international level, central banks and supervisory authorities in the US, EU, and China are also using a range of measures aimed at strengthening the resilience of the financial sector: they conduct mandatory stress tests of the largest financial institutions, establish additional capital requirements, and stimulate the development of risk-based management models [5; 12; 16]. The level of detailing in these requirements varies: the American model traditionally emphasizes market discipline and shareholders' responsibility, the European model emphasizes the harmonization of standards and regional consistency, and the Chinese model emphasizes a combination of market mechanisms and government control [18]. Russian practice is largely oriented towards the application of international standards, taking into account national specifics. However, the scale of external restrictions and the transformation of foreign economic relations require the further development of tools that stimulate investment in risk management systems, forensic technologies, and monitoring platforms. In this context, regulatory measures are a prerequisite for creating a sustainable environment. However, their influence is fully manifested only in the presence of appropriate corporate and technological initiatives at the level of the financial organizations themselves.

Corporate Measures and Risk Management

The level of economic security measures reflects the internal processes and risk management practices of financial institutions. It is based on the principles of integrated risk management, a three-tiered protection model (business units / risk and compliance / internal audit), and the development of specialized units for handling distressed assets [4; 11].

A key element at the corporate level is the formation of comprehensive credit, risk, and NPL committees that determine policies regarding limits, reserves, restructuring, and write-offs of distressed assets. Based on an analysis of portfolio quality and macroeconomic scenarios, decisions are made to adjust risk appetite, modify scoring models, and introduce additional collateral requirements. The effectiveness of these decisions fully depends on the quality of the data and analytical tools used by the risk management, distressed assets, and economic security departments.

An important area of corporate activities is the development of a forensic function, which ensures the detection and investigation of cases of internal and external fraud, uncovering schemes for asset withdrawal and dissipation, and systematically documenting and legally validating the evidentiary foundation. Within this function, specialized teams are being created that combine competencies in financial analysis, law, investigations, and digital forensics [9; 10]. They participate in investigations of major distressed debt cases, interact with law enforcement agencies and regulators, and formulate internal recommendations to prevent similar incidents in the future.

Corporate governance frameworks incorporate risk-culture cultivation and ethical standardization programs. Such programs entail:

- educating personnel on ethical conduct;
- creating multi-channel reporting systems, with provisions for anonymous whistleblowing;
- refining hiring practices, background checks, and rotational policies for employees in critical functions.

International experience shows that without a sustainable risk culture, even the most sophisticated regulations and digital tools can prove ineffective, as they are ignored or formally implemented at the operational level [10; 19].

Taken together, corporate measures create the foundation for economic security, allowing a financial enterprise to adapt to regulatory requirements, reduce the likelihood of internal and external risks, and minimize losses should they occur. Given the increasing complexity of financial products and the growth of data volumes, these measures require support from a modern technological infrastructure.

Technological Measures and Digital Solutions

The technological level of economic security measures is associated with the use of digital platforms and analytical tools for risk monitoring, anomalies detection, and validation of decisions based on objective data. In recent years, eDiscovery platforms, digital forensics software and hardware, anti-fraud systems, integrated KYC/AML solutions, as well as information security event management (SIEM/SOAR) and data leak prevention (DLP) systems have become widespread [7; 13].

To classify technological measures to ensure economic security, it seems appropriate to identify the main classes of solutions and their expected effects.

Table 1.
Technological solutions for economic security and key effects

Solution class	Purpose	Key effects	Comment
eDiscovery Platforms	Processing and analyzing large amounts of unstructured data (email correspondence, documents, file data)	Reduced investigation timelines, improved quality and comprehensiveness of evidence searches	Used in investigations, litigation support, and negotiations with debtors.
Digital Forensics	Extraction, recovery, and legalization of data obtained from electronic media and information systems	Legalization of evidence in court, reduced likelihood of investigation results being challenged	Correct chain-of-custody organization and documentation of procedures are critical.
Anti-Fraud Systems (Online Transaction Monitoring)	Online detection of suspicious transactions and fraudulent schemes	Reduced fraud losses, reduced detection and response times	ML models, behavioral and scenario analysis, and behavioral pattern analysis are used.
KYC/AML Platforms and Sanctions Screening	Client identification, sanctions list checks, monitoring of changes and negative news	Reduced legal and sanction risks, strengthened reputation	Integrated with external databases (sanctions lists, PEPs, adverse media).
SIEM/SOAR и DLP	Collection and correlation of information security events, automation of response scenarios, data leak prevention	Increased IT infrastructure resilience, reduced incident response times	Particularly important for protecting personal data and banking secrecy.

The adoption of the above-mentioned solutions in Russian financial institutions is at varying stages of maturity. Major banks and specialized distressed asset management institutions, like Non-core and distressed assets bank “Trust” are implementing technological solutions, integrating analytical platforms, monitoring systems, and data warehouses. Medium and small market participants are often limited in resources and implement only ad hoc solutions, which reduces the effectiveness of measures and creates sustainability risks.

In international practice—in the US, EU, and China—technological measures to ensure economic security are supported by investments in technological infrastructure, the widespread use of cloud solutions, and the development of RegTech and SupTech platforms.⁹ [12; 17]. This allows regulators to obtain information on the status of loan portfolios, transactions, and security incidents. The Russian financial sector is gradually moving in the same direction, but faces restrictions on access to certain types of foreign software and hardware. This stimulates the development of domestic equivalents, but requires time and additional resources.

Thus, technological measures are a key factor in improving the effectiveness of economic security, increasing the speed of analysis, the depth of anomalies detection, and the quality of the evidence base. Their effectiveness is determined by the alignment of the IT landscape's development level with the organization's strategic goals and the willingness of personnel to utilize the provided analytical capabilities.

Distressed assets management and forensic approach

One of the most sensitive areas of economic security is the management of overdue debt and portfolios of distressed assets. An increase in the share of overdue debt in the loan portfolio leads to an increase in reserves, a decrease in return on equity, and a deterioration in the assessment of the financial institution's stability by regulators and investors [11; 14]. These conditions require a combination of classic restructuring and recovery tools with forensic approach to analyzing the genesis of overdue debt and uncovering schemes for asset withdrawal and dissipation.

A forensic approach involves the use of a combination of methods for collecting, analyzing, and legalizing information about the debtor, his affiliates, and assets. Such investigations utilize eDiscovery platforms, graph analytics, digital forensics, and other tools for searching publicly available and specialized sources (OSINT, corporate reporting databases, court registries, and international corporate registries) [9; 13]. The results of these investigations are used to formulate a recovery strategy: selecting jurisdiction and type of claim, assessing the prospects for challenging of debtor's transactions, and developing a negotiating position with the debtor and its partners.

In Russia, forensic approach to dealing with distressed assets is primarily implemented by large banks and specialized structures for consolidating such assets [11]. This not only increases the recovery of distressed assets but also sets precedents, improving the discipline of borrowers and counterparties. Internationally, forensic approach is used by large banking groups and international consulting

⁹ Regulatory Technology и Supervisory Technology —are digital solutions for automating and optimizing regulatory and supervisory processes in the financial market.

and audit firms. Cross-border cooperation mechanisms are actively used in investigating complex fraud and asset withdrawal and dissipation schemes [10; 12].

At the same time, forensic activities still remain costly in terms of resources and require highly qualified personnel, a developed digital infrastructure, such as the Ediscovery platform and Digital Forensic Technology Laboratories, and stable channels of interaction with law enforcement agencies in various jurisdictions. This provides opportunities for further development of this area in Russian financial institutions, including the creation of industry centers of expertise and the development of professional standards.

Conclusion

The analysis revealed that the set of measures aimed at improving the economic security of Russian financial sector enterprises is being developed at three interconnected levels: regulatory, corporate, and technological. Regulatory measures establish the conditions for stability, define minimum risk management standards, and motivate organizations to develop internal control systems. Corporate measures ensure the implementation of risk management, foster a risk culture, develop a forensic function, and improve the quality of distressed asset management. Technological solutions provide the foundation for monitoring, analytics, and evidence-based support.

Comparing Russian practices with approaches in the US, EU countries, and China allows to identify both general trends—such as strengthening capital and liquidity requirements, developing stress testing, focusing on compliance and fraud prevention—and specific features related to the scale of government involvement, the level of digitalization, and the structure of the financial system. For Russian financial institutions, the key challenges are as follows: need for accelerated development of technological infrastructure, adaptation to sanctions restrictions, and foster of a resilient risk culture at all levels of organizational management. The practical significance of the measures discussed lies in the fact that their comprehensive and coordinated application helps to reduce the likelihood of risks materializing, minimize losses from overdue debt, increase investors' and clients' confidence, and strengthen the stability of the financial system as a whole.

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金融潜在在经济学中的定位

POSITIONING OF FINANCIAL POTENTIAL IN ECONOMICS

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B.N. Yeltsin

摘要：金融潜力的前沿研究正在拓展经济学的视野。当代经济学家对金融潜力提出了多种不同的解释。这种概念上的多样性催生了金融潜力范式的丰富性，从而有助于提升经济学研究的水平和质量。本文重点阐述了中国经济学家在推动金融理论研究和创新发展方面所做出的贡献。

关键词：金融潜力，经济研究，理论立场，经济主体，可持续发展。

Abstract. *Cutting-edge research on financial potential is expanding the horizons of economic science. Contemporary economists offer a variety of interpretations of financial potential. This conceptual variability allows for a proliferation of paradigms of financial potential. This contributes to improving the level and quality of scientific research in economics. The contribution of Chinese economists to promoting theoretical research and innovative development of finance is clearly outlined.*

Keywords: *financial potential, economic research, theoretical position, economic entity, sustainable development.*

The conceptual meaning of potential is predetermined by the foundations of most modern sciences. Initially, the term “potential” was defined as strength and possibility (Latin: potentia) [1]. These vector directions are becoming defining in economic research.

Fundamental sciences such as physics and mathematics interpret potential as a characteristic of a whole set of field types (electromagnetic, gravitational, nuclear, etc.) [2]. In a physical sense, potential is represented as an indicator of the energy reserve of an object at a specific position in a force field. This arsenal can be used to determine the development prospects of economic entities.

In its specific meaning, potential denotes the ability to demonstrate a certain property or state of an object. Figuratively, potential is viewed as a set of resource-

es, including reserves and reserves, that can be used to achieve development goals. For example, for a specific economic entity engaged in business activities.

Scientific formulations of the Soviet period presented potential in a unified, meaningful sense. Sources, resources, and reserves, whether currently available or planned for a long-term period, were subject to merging [3]. This entire set is used to achieve the desired result. This unification of diverse aspects characterizes the potential of an individual, a business, a region, and a state.

The development of economic postulates during the market period was characterized by extensive research into potential in relation to economic entities. The predominant approach became the study of resource components. Academician L.I. Abalkin, the founder of modern Russian economic science, defined potential as a unified attribute of resources [4]. Resource elements are then assigned to a location and a specific time interval.

The study of the totality of scientific positions of the terminological base of potential demonstrates the duality of approaches: physical, developed in the course of verification of scientific and technological achievements, and economic, used in the course of functioning of the totality of economic relations.

Over the past decade, Russian economists have been conducting extensive research into the application of potential terminology in the economic sphere. Specifically, economic potential has been interpreted as a collective characteristic of an economy's ability to produce the required volume of goods while simultaneously solving economic and social problems [5, 6]. The classification of resource types has expanded in theory and practice: labor, production, intellectual, technological, informational, and others [7, 8]. Characteristics of the availability, volume, quality, and assessment of resource management effectiveness are presented based on time parameters in the form of accumulated resources, the use of reserves, and orientation toward development vectors in accordance with effective regulatory methods [9, 10]. This consolidation of concepts contributes to the development of Russian economic science.

Financial potential can be considered a component of economic potential. Comprehensive scientific research focuses on two key areas: territorial and business.

The presentation of a region's financial potential is based on extensive scientific and practical research within the strategic framework of "resources - process - goal - result." The dominant theoretical trend is the sustainable ability of a region's resource base to generate revenue for economic units operating within the territory over a given period of time [11]. In its broader scope, a region's financial potential enables the implementation of economic and social reforms and the development and adjustment of regional budgetary policy [12]. Overall, it allows for an assessment of the effectiveness of regional finances.

It's logical that financial potential is recognized as a component of an enterprise's overall economic potential, alongside investment, human resources, production, intellectual, and innovative potential. This potential is not a separate segment of an enterprise's activities. It is the overall functioning of the enterprise as an economic entity.

The relationship between financial potential and the basic category of "finance" is clear. The concept of "financial potential" is undoubtedly linked to the derived category of "corporate finance." This interaction ensures the alignment of financial potential with the company's core business objectives.

Coordination with the fundamental principles of economic and financial science allows us to formulate a multicollinear interpretation of financial potential as a set of relationships formed during the operation of an enterprise, taking into account the target setting for maximum financial results.

The comparability of financial potential in the context of corporate finance allows us to interpret it as a set of financial relationships formed during the accumulation, distribution, and expenditure of an enterprise's financial resources. This definition fits within the strategic framework with the starting point of "resources." Consequently, it is permissible to measure financial potential in conjunction with the financial resources available to the enterprise. Adopting this postulate allows for detailed practical calculations to determine the financial potential of a specific enterprise based on financial reporting indicators in monetary terms.

The study of financial potential involves constructing a typology based on a series of characteristics, including time limits, participation in production, economic content, and impact on the company's financial performance. In constructing the typology, a comparative study is conducted of the significant characteristics, functional properties, and level of organization of each type of financial potential. The relationships between these types are explicitly explored in terms of the formation of the company's overall financial potential.

Assessing a company's financial potential determines the feasibility of sustainable development and the availability of sufficient financial resources. This assessment also identifies a number of issues hindering the development of financial potential, develops specific measures to overcome them, and assigns responsible individuals.

Conducting a comparative study of an enterprise's financial potential within an industry is essential. This determines the enterprise's position from the highest to the lowest level of financial performance demonstrated by companies in the industry. At the same time, the enterprise's level of competitiveness is determined, for example, by comparing it to industry average financial indicators.

An important aspect of financial potential assessment is its management. This comprehensive approach involves assessing existing financial resources, structur-

ing the company's equity, and analyzing the feasibility of borrowing. This approach ensures not just economic growth, but the progressive, sustainable development of the enterprise as an economic actor.

Scientific research and its practical implementation should be based not only on discrete indicators, but also take into account trends in financial potential indicators. For example, when formulating development strategies for both the industry and a specific enterprise.

The study of the categorical position of finance and the derivative judgment of financial potential is conducted on a national and international scale.

Chinese economists are consistently studying finance in the context of economic and social development. Strategic goals for Chinese finance are identified, addressing key issues and determining factors, based on innovative approaches to financial science. New thinking about finance and its potential position on an international and national scale is actively developing [13]. Finance is viewed as a key factor in the country's sustainable development, with the importance of national financial strategy and the integrity of financial indicators growing [14].

The constantly changing geopolitical reality makes strengthening an organization's financial potential a priority. Financial potential must be considered within the multidimensional approach of "finances – potential – industry – enterprise" as a key component of an economic entity's sustainable development.

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犯罪现场勘查是识别和克服与非法伐木相关的犯罪调查阻力的一种手段。

**CRIME SCENE INSPECTION AS A MEANS OF IDENTIFYING
AND OVERCOMING RESISTANCE TO THE INVESTIGATION OF
CRIMES RELATED TO ILLEGAL LOGGING**

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摘要: 本文探讨了犯罪现场勘查的法医分析, 将其作为识别和克服非法伐木调查障碍的关键工具。作者论证了这一调查行动的特殊重要性, 它不仅有助于发现和记录证据, 还能提供有关妨碍调查手段的重要信息。文章重点关注了实际操作方面: 确定勘查范围、选择战术方法、检查各种物证以及使用技术设备。文章强调了专业人员参与的必要性。

关键词: 犯罪现场勘查, 非法伐木, 妨碍调查, 调查行动, 勘查策略。

Annotation. *This article examines the forensic analysis of crime scene inspections as a key tool for identifying and overcoming obstacles to the investigation of illegal logging. The author substantiates the particular importance of this investigative action, which not only serves to discover and record evidence but also serves as a vital source of information on methods of obstructing the investigation. Particular attention is paid to practical aspects: defining the scope of the inspection, choosing tactical approaches, examining various objects, and using technical equipment. The necessity of the mandatory participation of specialists is emphasized.*

Keywords: *crime scene inspection, illegal logging, obstruction of investigation, investigative actions, inspection tactics.*

From a forensic point of view, any investigative action can be aimed at identifying and overcoming obstacles to the investigation [7, p. 96]. Analysis of investigative practice shows that the most common investigative actions aimed at identifying and neutralizing obstacles to the investigation are: interrogation (Articles 187-191 of the Criminal Procedure Code of the Russian Federation), confrontation (Article 192 of the Criminal Procedure Code of the Russian Federation), search and seizure (Articles 182-183 of the Criminal Procedure Code of the

Russian Federation), presentation for identification (Article 193 of the Criminal Procedure Code of the Russian Federation), appointment and conduct of forensic examinations (Articles 195-207 of the Criminal Procedure Code of the Russian Federation), as well as verification of testimony on the spot (Article 194 of the Criminal Procedure Code of the Russian Federation) (Fig. 6). At the same time, such effective investigative actions as investigative experiments (Article 181 of the Criminal Procedure Code of the Russian Federation), examination (Article 179 of the Criminal Procedure Code of the Russian Federation), re-examination of the crime scene (Part 6 of Article 176 of the Criminal Procedure Code of the Russian Federation), monitoring and recording of conversations (Article 186 of the Criminal Procedure Code of the Russian Federation) are not used actively enough, which often reduces the effectiveness of solving and investigating crimes.

Crime scene inspections are particularly important in investigative procedures. This is because countermeasures are already being implemented at the crime scene commission stage. Thus, crime scene inspections are not only an investigative action during which traces of the crime are recovered and other circumstances relevant to the criminal case are clarified, but also a crucial source of information on signs of countermeasures. Consequently, an effective investigation and the overcoming of countermeasures are impossible without a high-quality crime scene inspection.

The issues of conducting an inspection of the scene of an incident are covered quite widely in the scientific literature, including in the framework of the study of the methodology for investigating illegal logging, in particular, in the works of V. A. Belkov, M. A. Vasilyeva, E. V. Volkov, A. Y. Garashko, O. M. Golovan, N. I. Efimova, V. D. Zelensky, I. N. Kozhevnikov, A. V. Korolev, E. P. Kudrevich, V. A. Nagorny, Y. G. Ovchinnikov, A. P. Opalsky, E. V. Osipova, V. A. Popov, A. I. Popovskaya, S. A. Ruzmetov, N. A. Selyakov, S. M. Sergeev, T. D. Telegina, S. V. Unzhakova, A. G. Filippov, I. A. Fomina and other authors.

Despite significant scientific interest, the problem of high-quality crime scene inspections in cases of illegal logging remains relevant, due to the specific nature of this type of crime and the need to develop modern tactical techniques.

The specific nature of crime scene inspections in cases of illegal logging is determined by a number of factors: inaccessibility and remoteness of the area; a significant area of the territory to be inspected; a large number of objects to be recorded and seized (especially when the crime is committed by a group of individuals); a high risk of losing traces due to natural factors (precipitation, wind); and difficulties associated with conducting an inspection in conditions of poor visibility at night.

To the main tasks The inspection of the scene of a crime during the investigation of illegal logging includes: recording the situation; determining the area

of illegal logging; establishing the type, quantity and volume of damaged and felled forest stands; detection, recording and seizure of traces of the crime and the instruments used to commit it; establishing the method of committing and concealing the illegal act; identifying the causes and conditions that contributed to the commission of the crime [11, p. 449]. Additional tasks include identifying and recording so-called “negative circumstances”.

A high-quality inspection requires the timely arrival of an investigative team at the scene of the incident, which is due to both the timeliness of the response to a report of a crime, and the speed with which information about illegal logging is received by the internal affairs agencies.

A mandatory participant in the inspection is a specialist - a representative of the forestry department in charge of the relevant area. This participation is necessary for the precise determination of the volume of felled timber, which directly affects the amount of damage and, as a consequence, the classification under Article 260 of the Criminal Code of the Russian Federation. [2, p. 181].

Based on the objectives, one of the initial stages of the inspection is to establish its boundaries. The inspection boundaries include: the immediate area of illegal logging; areas where traces and objects were found; the criminals’ approach and escape routes; potential hiding places and storage areas for weapons of crime, vehicles, and the timber itself (warehouses, sawmills, adjacent areas) [10, p. 74].

The next step is to determine the optimal starting point and inspection method. It seems that the choice of method should be determined taking into account the specific situation, the presence of vehicle tracks, roads, paths and other features of the area. When inspecting illegal logging sites, it is advisable to start from the location of the campsite (fire pit, hut, etc.) in order to detect, record and remove the maximum number of objects and traces to identify the persons who committed the crime, and then gradually expand the boundaries, go to the immediate felling site, forest road, adjacent territory, etc. [9, pp. 203-208].

For precise fixation of boundaries and other important areas of the terrain, satellite navigation equipment (GPS, GLONASS) is used, providing a positioning accuracy of up to 10 meters. The most common systems are GPS, GALILEO and GLONASS [3, p. 64].

In addition, smartphones and cameras equipped with satellite navigation are widely used to obtain images indicating the geographic coordinates of a particular area.

Before using technical means, all participants in the inspection must be warned about their use, and the following must be recorded in the inspection report: type, model of equipment; full name and position of the person using it; obtained results (coordinates, tracks). Given the specific nature of working with navigation equipment, it is advisable to involve a relevant specialist to minimize errors.

It should be noted that, despite the similarity of tasks and methods of using satellite navigation technologies when inspecting illegal logging sites and forest fire sites, these tools have been studied in more detail and methodologically supported in relation to the latter. [4, 5, 6, 12, 13, 14].

If vehicles (cars, tractors, trailers, logging equipment, etc.) are discovered at the site of illegal logging of forest stands. The following must be recorded in the incident scene inspection report and diagram: location, technical condition, engine identification numbers, frame numbers, state registration plates of motor vehicles (in order to establish the owner of the vehicle), distinguishing features (in order to establish possible use in other illegal logging), the presence of items in the vehicle that can be used to establish the identity of the offenders (personal documents, records, other documents), as well as the presence of traces indicating the use of the vehicle in the procurement and transportation of timber.

When inspecting a vehicle, its position at the scene of the incident relative to permanent landmarks is always recorded. The vehicle's type, make, engine identification numbers, and license plates are recorded at the beginning of the inspection. Vehicle inspections typically begin with the front of the vehicle. When inspecting a vehicle or timber harvesting equipment, fingerprints must be detected, recorded, and removed from various surfaces, both inside and outside. Inside, fingerprints should be searched for on the steering column, gearshift lever, and dashboard, which is especially important if the driver has fled. On the exterior, attention should be paid to the mounting locations of the license plates and other parts.

In most cases, traces of sweat and grease can be found on the steering wheel, control levers, gearshift paddles, and hydraulic crane controls if one was used in the crime. In addition, blood, hair, and other traces of biological origin, forgotten objects in the cabin, and shoe sole marks on vehicle surfaces and in the surrounding environment can also be found.

During the inspection, it is necessary to pay attention to distinguishing features (in order to establish possible use in the commission of other crimes), the presence in the vehicle (interior, body) of objects with the help of which it is possible to establish the identity of the persons who committed the crime, the presence of traces indicating the use of motor vehicles in the procurement and transportation of timber.

Thus, during a vehicle inspection, objects for trace evidence, botanical analysis, and other specialized examinations may be discovered and seized. However, it is important to remember that the specialist's actions in detecting, recording, seizing, and packaging traces and other material evidence during a vehicle inspection may be deemed inadmissible if information about them is not accurately and fully reflected in the report.

When inspecting a vehicle, it is also necessary to record in the report, using photographs and video, the tread pattern of the vehicle's tire and the degree of its wear, taking into account that upon receiving samples of the vehicle's tire tracks, a trace examination may be ordered and conducted, and the guilty parties may replace the tires in order to avoid criminal liability.

Vehicles, equipment, and crime weapons are subject to mandatory confiscation, inspection, and subsequent recognition as evidence in a criminal case. Until the innocence of the individuals involved is fully verified, the equipment must be stored in a designated area. Subsequently, measures must be taken to identify their owners. Checking the version about the involvement of other persons in the commission of the crime.

It should be noted that if the investigative bodies do not properly organize the work of removing the wood found at the scene of the incident and placing it in safekeeping, this may contribute to its subsequent theft or loss. [1, p. 15].

During the road inspection, it is necessary to record all detected vehicle tracks (from a crawler tractor, crane, logging truck, etc.), as well as traces of timber dragging and stacking. When inspecting the woodworking equipment at the sawmill, pay attention to the freshness of the sawdust, bark, and processed wood (timber, floorboards, etc.).

Inspection of forest (timber) involves precise recording of its volume (quantity), determination of the type of wood, method of felling, processing (traces of wood cutting) and transportation (traces of skidding) [8, p. 319].

The inspection of stumps is carried out sequentially with the measurement of their diameter and height, with their location indicated on the diagram. Subject to seizure stump cuts, logging residues; necessary for record the presence (absence) of cellular communication in a given area.

Upon examination the diameters of damaged standing trees are measured with a measuring fork at a distance of 1.3 m (at chest height) from the tree's root collar. With the participation of specialists and using the necessary equipment, the tree height and extent of damage are measured, and a description of the damage is compiled. Damaged trees are also cut at points where they have been struck by vehicles, indented by tracks or wheels, torn bark, and where tool marks and other objects have been left behind [8, p. 320].

During the inspection the following traces and objects may be discovered [9, pp. 203-208]: footprints, handprints, biological traces, food remains, etc.; threads, fibers of clothing, gloves, mittens, which may be found on tree trunks, wood, lumber; traces of vehicles (tire treads, sled runners, cart wheels, traces of hydraulic manipulator supports, etc.); fuels and lubricants and paint coatings from the transport used (chips may be made from tree trunks to identify them); traces of damage and sawing of wood (cuts, indented marks), indicating the use of some tool.

During inspections, crime scene maps may be drawn up, including those taking into account transportation links, nearby settlements, other objects, and access routes. Photographic maps should be informative and always correspond with the text of the report.

Thus, a crime scene inspection is an urgent investigative action that largely determines the further course of the investigation. For a comprehensive and complete inspection of illegal logging cases, it is advisable to involve specialists (forensic experts, forestry representatives). The inspection should be conducted immediately after receiving information about the crime to minimize the loss of evidence. The results of the inspection form the basis for developing theories, determining the method of crime commission, and overcoming any obstacles to the investigation. Conducting individual investigative actions creates the necessary conditions for identifying and overcoming obstacles to the investigation, which ultimately ensures the inevitability of bringing the perpetrators to criminal responsibility for illegal logging.

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欧盟2021-2027年新预算：保留空间并为欧洲战争做好准备

THE NEW EU BUDGET FOR 2021-2027: PRESERVING SPACE AND PREPARING FOR A EUROPEAN WAR

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注释：作者分析了欧盟新的六年期预算（至2027年），并评估了该预算对俄罗斯的风险及其在俄罗斯持续在乌克兰开展战略军事行动以及北约为欧洲战争做准备的背景下实施该预算可能产生的后果。

关键词：欧盟、苏联、危机、美国、地缘政治、特朗普、特朗普经济学、新世界秩序、俄罗斯、乌克兰、新保守主义者、远见卓识、工业4.0、人工智能、大数据、欧洲-大西洋主义者。

Annotation. *The authors examine the new 6-year EU budget until 2027 and assess the risks for Russia and the possible consequences of its implementation in the context of Russia's ongoing strategic military operation in Ukraine and NATO's preparations for a European war.*

Keywords: *EU, USSR, crisis, USA, geopolitics, D. Trump, Trumponomics, NWO, Russia, Ukraine, neocons, foresight, Industry 4.0, AI, Big Data, Euro-Atlanticists.*

The current problem of the EU's further development rests on the ongoing Trumpian policy, which is unpredictable for everyone, and the growing tensions associated with the development of NATO's risk diversification ideas and France's ongoing attempts to develop the revived Entente (naturally without Russia) into a new, fully-fledged European security structure – an army and its own security bloc: from the armed forces to the Euro-Atlanticists' cyber response structures to any potential challenges from China, Iran, and Russia.

Therefore, when studying the new approved EU budget for the period 2021–2027,¹⁰ It is necessary to evaluate the main emphases of financial, credit and monetary policy, which were proclaimed in the form of the following expenditure items declared for implementation:

I. Three New Funds. The new budget focuses on investing in European citizens—ensuring their social rights and guarantees. The budget includes three Funds with expanded powers:

1. Social Fund (European Social Fund Plus - ESF+) - €102 billion
2. European Globalization Adjustment Fund (EGF) - €1.6 billion
3. The Justice, Rights and Values Fund - €947 million¹¹

II. Strengthening Europe's cultural and creative sectors. The currently active Creative Europe programme runs from 2014 to 2020. Its main objective is to promote European culture, which contributes to the development of a European identity that determines the continued existence of each EU country under the burden of global supranational governance institutions. The European Commission proposes increasing funding for the Creative Europe programme to €1.85 billion in the next EU long-term budget for 2021–2027.¹²

III. Space: The EU is allocating €16 billion to strengthen Europe's leading position in space exploration. The new space programme, whose budget will be 50% larger than the previous seven-year period, will strengthen the EU's position in the global space industry and enable it to compete with both other countries and private companies engaged in space exploration. The EU is already a leader in the space industry. The European space industry employs over 231,000 specialists, and its value in 2017 amounted to €53–62 billion. Europe produces one in three satellites worldwide. In 2016, according to the Eurospace association, the space industry's revenue was €8.2 billion. The new EU space programme will build on the twenty years of experience gained through the Copernicus (Earth observation) and Galileo (satellite radio navigation system) programmes, and will also seek to foster innovation and support the EU's strategic autonomy in space. A priority of the new programme will also be maintaining the EU's autonomous, reliable, and cost-effective access to space, which is particularly important for key infrastructure, technology, and security.¹³

It is especially important to understand that the tasks of the Lunar base and further research into the creation of extraterrestrial infrastructure for flights to Mars and deep space are increasingly falling into military content and are helping the

¹⁰ The document can be studied in more detail: [https://www.europarl.europa.eu/RegData/etudes/BRIE/2018/621864/EPRS_BRI\(2018\)621864_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2018/621864/EPRS_BRI(2018)621864_EN.pdf)

¹¹ See more details: <https://www.innovationtrends.eu/search?text=EU%20budget%202021-2027>

¹² See more details: https://ec.europa.eu/commission/presscorner/detail/en/IP_18_3950

¹³ See more details: https://ec.europa.eu/growth/content/eu-budget-%E2%82%AC16-billion-space-programme-boost-eu-space-leadership-beyond-2020_en

extensive cooperation of NASA and ESA (the European Space Agency) to achieve the unification of the standards of the International Telecommunication Union, solving the unification of existing communication and switching systems of various space objects and the developing unified ground-based space infrastructure.

IV. LIFE is an EU financial instrument supporting projects in the fields of environmental protection, nature protection, and climate. Since 1992, LIFE has co-financed over 4,500 projects. For the period 2014-2020, the LIFE programme was allocated a budget of approximately €3.4 billion. The Commission has integrated climate action into key EU programmes: regional development programmes, energy, transport, research and innovation, the common agricultural policy, and EU development policy. To implement the Paris Agreement on climate change, the LIFE programme budget has been increased by 60% in 2021-2027, to €5.45 billion.

Features of the new LIFE program:

- focus on clean energy,
- increased attention to nature and biodiversity,
- supporting the circular economy and mitigating the effects of climate change,
- simple and flexible approach¹⁴.

The EU draft budget plan for 2021–2027, compared with the period 2014–2020, envisaged the following changes in expenditure items:

Increased funding for EU priority programmes: research, border control, climate.

Increased spending on innovation, defense, and immigration control.

Reducing the cost of supporting European agriculture.

The redistribution of budget items was caused by the need to meet the goals of the European Union’s “transition period” to a carbon-neutral, “green economy”.

In addition, plans were made to strengthen Europe’s leading position in space exploration and invest 16 billion euros in a new space program.

The draft budget for 2021–2027 was presented in May 2018 and adopted only in December 2020.

In this case, we must also take into account new sources of contributions to the EU budget, which were introduced to form the financial base for the period 2021-2027.

According to this decision, Greece was to receive 26.2 billion euros, of which 21 billion euros were provided by the EU and 5.3 billion euros by national funds.

The funds were intended for projects in the areas of green and digital economy, social cohesion, an integrated approach to fisheries, aquaculture and the maritime sector, as well as for the development of digital society infrastructure.

¹⁴ See more: https://ec.europa.eu/commission/presscorner/detail/en/IP_18_4002

Here, it's also necessary to understand the timeframes and quality of R&D development, the phased production, and implementation of mobilization systems for navigation, logistics, and land and maritime infrastructure planning, which NATO countries are secretly building through Brussels bureaucracy and increased funding for innovative development. While all the "hidden champions" are leaving for the US or China, and cheap Russian hydrocarbons have not been replaced by the anticipated Qatari gas via the announced Syrian gas pipeline, already announced by the new Damascus authorities, who are planning to renew their presence in OPEC and provide cheap energy to Europeans, peace between the countries of the "collective West" is unlikely.

At the same time, Russian bases in Tartus and Aleppo, although blockaded by Syrian armed forces, are still functioning and, together with the African Corps of the Russian military contingent, are also going to put aside our national interests in Africa and the Near and Middle East.

At the same time, the EU formally declares the absence of a policy of nation states within the eurozone and praises its unity of approaches to the unification of security institutions, which should address the growing debts of governments within this European integration union, hedging the risks of its spread into national apartments, and demonstrating the will to prevent the rise to power of nationalist and far-right forces raising their heads in the form of an alternative neocon agenda in the Old World.

At the same time, the EU's Ukrainian adventure and support for the Ukrainian Nazi regime, which consists of disposing of old NATO weapons and launching the defense industry of EU enterprises at the expense of frozen Belgian assets of Russia and their theft under the guise of restoring the destroyed energy infrastructure of Nezalezhnaya, could become another source of enrichment for the budget of European central banks, but will cause defaults in some economies and a *casus belli* on the part of Russia.

The fact is that the amount of European money in Russia is also calculated in hundreds of billions of euros and is not yet put up for auction in the form of existing foreign assets and is not subject to total nationalization, but decrees to this effect during the period of mobilization measures to support the Russian economy itself have long been developed and are waiting the hour for their retaliatory, and perhaps even preemptive, use.

Therefore, the next EU budget, fixated on war and space, could be presented for the further militarization of Europe itself and its further collapse in the final act of the Marshall Plan, but it does not accommodate the anger of Ukrainian nationalists, territorial defense forces, and veterans of the Armed Forces of Ukraine, who are ready to tear apart peaceful European cities for the lack of sufficient assistance to defeat the Russians.

These are entirely different costs and entirely different coalitions, for which Europe, awakening from the lethargy of American interests, should be fully prepared and united. This is nowhere to be seen, leading only to further payment chaos and outbursts of rabid Russophobia from once-civilized parliamentary centers and think tanks.

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美国体育媒体文本中表达句法的一些特点

SOME PECULIARITIES OF EXPRESSIVE SYNTAX IN AMERICAN SPORTS MEDIA TEXTS

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摘要: 本文致力于研究现代美国体育媒体文本中的表达性句法。研究基于对来自<https://www.si.com> (《体育画报》) 的文章的分析, 重点分析了这些文章中表达性句法手段的使用特点。文章提供了有关插入语、重复、疑问句、省略句和分段结构的信息, 以及它们在所讨论文本中的特点和出现频率。通过对研究材料的分析, 得出结论: 在现代美国体育媒体文本中, 英语句法层面表达手段的普遍性和多样性。

关键词: 表达性句法, 美国体育媒体文本, 英语。

Abstract. *The article is devoted to the study of expressive syntax in modern American sports media texts. The research is based on the analysis of the articles taken from <https://www.si.com> (Sports Illustrated), the peculiarities of the use of expressive syntactic devices in them are analyzed. The information about parentheses, repetitions, interrogative sentences, elliptical and parcelled constructions, their peculiarities and frequency in the texts under discussion is given. As a result of the analysis of the research material a conclusion is drawn about the prevalence and diversity of means of creating expressiveness on the syntactic level of the English language in modern American sports media texts.*

Keywords: *expressive syntax, American sports media texts, the English language.*

Expressive syntactic devices play an important role in texts of various genres and on various topics. It is interesting to study the question about their frequency and diversity in media texts devoted to sports, using the examples of articles published on the website <https://www.si.com> (Sports Illustrated).

The analysis of the research material made it possible to conclude that sports-related articles do not contain a large number of expressive syntactic devices. However, it is possible to identify some means of expressive syntax, to which the authors of the articles turn quite willingly. Parenthetical insertions can be noted among the most popular of them, for example:

Surprisingly, Maresca did not stop there and also removed Pedro Neto, who was replaced by centre back Tosin Adarabioyo. [5]

It should be noted that from the point of view of meaning, explanations in the form of parentheses prevail in the research material:

Paris Saint-Germain, the current Champions League holders, were also described as a “real option” by Barat when speaking to RMC Sport back in 2024. [7]

From the point of view of punctuation, parenthetical insertions marked with commas are often used, but it is not uncommon to use parentheses with dashes and brackets in this function. Here are some examples:

Sitting 0-2 for the first time since 2014—coach Andy Reid’s second year in Kansas City—quarterback Patrick Mahomes & Co. will have to find a spark in the offense without the speedster Worthy. [3]

Huijsen signed a five-year contract with Los Blancos after they activated a £50 million (\$66.4 million) release clause. The deal marked a Real Madrid transfer record—the most expensive defender in club history—and the first signing of the Xabi Alonso era. [3]

The sizes of parentheses are also different: both single-word additions and word combinations are used frequently in the sports media texts under discussion. However, it is possible to find more extensive parenthetical insertions in the research material. In the following examples we observe parentheses in the form of sentences:

This roster has a bit more in the way of depth than has been the case here traditionally. (“We have the best overall bench that we’ve had since I’ve been here,” Aces coach Becky Hammon said the morning before her reserves came up big in Game 1.) But those upgrades on the margins only mean so much without steady production from their core Big Three. [1]

The Frenchman had minimal experience of competitive action alongside the team’s celebrity frontline—Ekitiké played more minutes with Danilo Pereira than any of Messi, Neymar or Mbappé—but he valued his time on the training pitch with these giants of the sport. [10]

Other means of expressive syntax, traditionally represented in the American mass media, are less common in the research material than parenthetical insertions. Some of them deserve special attention. For example, in several articles devoted to sports, repetitions of homogeneous parts of sentence, in most cases attributes or objects, have been identified:

But he’s quick, explosive and a reliable finisher, and he’s played his way firmly into the Day 2 picture. [4]

Gray brought 10 points, 10 assists, eight rebounds, three blocks and three steals. [1]

In the following example, we observe a repetition of syntactic constructions:

“We’ve just gotta finish. We’ve gotta finish. We had multiple guys there that, we just gotta finish that play. It was a fluke play for him to be able to break that many tackles. I put it on us as a defense, we’ve gotta finish. We’ve gotta bring him down on that.”[2]

It should be noted that the passage above contain colloquial grammatical constructions which enhance the emotionality of the statements.

Expressive syntactic devices with a similar effect of imitating spoken speech also include interrogative sentences:

Is it officially time to move Simpson into the first-round quarterback conversation? The more the redshirt junior impresses, the harder it gets to deny him the honor. [4]

In the example below we observe the use of a rhetorical question, the effect of which is intensified by the use of parcellation that is also included in the sphere of expressive syntax:

Maybe he was intending to let Lawrence score so that the Chiefs offense had adequate time to get down the field and kick a potential game-tying field goal? Or perhaps he simply didn’t think he had an angle to make a play on Lawrence? [2]

Here is one more example of parcelled constructions which are used by the author to attract the reader’s attention to certain information, to make the article emotional, unusual and precise:

Groans of an agitated fan base could be heard from the press box walkway towering over the lower bowl concourse, where fans expressed their displeasure with the offense. With Jordan Love. With Matt LaFleur. [9]

One of the most striking means of creating expressiveness at the syntactic level is considered to be an emphatic construction designed to highlight certain information in a sentence, for example:

It’s no surprise that Eagles tickets are pricy after Philly’s run to the Super Bowl last year. [6]

Ellipsis, which is usually used to fit voluminous lexical material into a short syntactic construction, is rarely used in American sports articles, it was found mainly in subheadings, probably in order to make the article well-structured and easy for the reader to understand:

Contract: Three years, \$100.5 million, \$55 million guaranteed [8]

Men’s Soccer: Zinedine Zidane Eliminates Brazil in the 2006 World Cup [11]

In some sports articles, short nominative sentences are included in the text. They contribute to the creation of an emotional, concise, but information-rich message. Here is one of such examples:

A few players. Some key staff members. The experience of being outside the playoff bracket as late as August, forcing their way back in with a historic winning

streak, and grinding through an uncharacteristically bumpy postseason run. All of that was new for Las Vegas. [1]

In general, it can be stated that American media articles devoted to sports do not contain a large number and variety of expressive syntactic devices (which is probably due to the specifics of the topic, potential audience, and goals of sports messages), but their use makes a definite contribution to the creation of emotional, well-structured, understandable, and attention-grabbing texts.

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关于美国体育媒体文本中的标点符号

ABOUT PUNCTUATION MARKS IN AMERICAN SPORTS MEDIA TEXTS

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摘要: 本文致力于研究现代美国体育媒体文本中标点符号的主要特点。研究基于对摘自<https://www.si.com>（《体育画报》）的文本的分析。文章指出了研究材料中标点符号的表达可能性，并重点分析了其中最常用的标点符号（即引号、破折号、冒号、括号、分号和省略号），以及它们的潜在作用。结论表明，研究材料中包含的各种标点符号有助于创作信息丰富且富有感染力的体育文章。

关键词: 标点符号, 体育媒体文本, 英语。

Abstract. *The article is devoted to the study of the main peculiarities of punctuation in modern American sports media texts. The research is based on the analysis of the texts taken from <https://www.si.com> (Sports Illustrated). The expressive possibilities of punctuation marks in the research material are indicated, the most frequent of them (namely, quotation marks, dashes, colons, brackets, semicolons, ellipses) are studied, their potential effect is analyzed. The conclusion is made that the research material includes various punctuation marks that contribute to the creation of informative and emotional sports articles.*

Keywords: *punctuation marks, sports media texts, the English language.*

Punctuation plays an important role in creating different types of texts. This article is devoted to the issue of the specifics of the use of punctuation marks in American sports media texts on the example of articles published on the website <https://www.si.com> (Sports Illustrated).

After the analysis of the research material the conclusion was made that in most cases the authors of sports-related articles use traditional punctuation, which is typical for modern English-language media. However, a lot of punctuation marks are designed to have an additional emotional impact on the reader.

Among such punctuation signs exclamation marks can be distinguished, which are especially actively used by the authors of articles when making direct speech, as in the following example:

It's not like I'm going to sit down with him and tell him, 'Hey! Don't do this to Caleb Williams or you might get him.' [4]

Brady saw Johnson's comments via a post on the Sports Illustrated Instagram page and wrote, "Thank you for some common sense! Finally a smart coach speaks up." [4]

Question marks are also considered to add expressiveness to the texts where they are used as they attract the reader's attention to the important ideas of the authors, give food for thought and imitate the real communication between the author and the reader:

Greater than Ohtani? Zidane certainly enjoyed the same sense of awe but couldn't quite match the Dodgers star for that element of unique effectiveness. [12]

Sometimes the questions are used in titles or subtitles that helps to catch the reader's interest from the very first lines of the article, for example:

Travis Hunter Injury Timeline: When Can Jaguars Expect Star Dual-Threat to Return? [8]

Evaluating Travis Hunter's Rookie Season With Jaguars On Both Sides of the Ball

How did two-way star Travis Hunter do playing at both wide receiver and cornerback? [6]

Dashes and brackets are sometimes used to increase expressiveness of parenthetical insertions. It is believed that commas are used more often in this function, but dashes and brackets make parentheses more explicit, emphasize the information in them more clearly, and in many cases mark lengthy parenthetical additions. Here are some examples:

Well, they still boast the eighth-best scoring defense in the nation—a staple of the veteran coach's teams at Utah—but it's the offense that's impressed behind the arrival of New Mexico tandem, OC Jason Beck and QB Devon Dampier. And the Utes will need to score to keep pace with the Red Raiders' top-ranked scoring offense (58 points per game). Texas Tech fifth-year quarterback Behren Morton is tied for the FBS lead with 11 passing touchdowns and second in efficiency (208.43) going into this game between early season Big 12 front-runners. [9]

The biggest numbers and flashiest highlights Sunday came from Young and Wilson. (They finished one bucket shy of becoming the first teammates with a pair of 30-point games in the WNBA Finals: "Dang," Wilson said when the stat was read to her. "I messed up on that one, Jack. Sorry. I owe you a basket.") Yet much of the connective tissue here came from Gray. [2]

In the research material ellipsis (three dots) are often used to show the pauses before important information:

Sunday's playoff rematch with the Rams is one of the most expensive games of the weekend slate, with the get-in price at \$167 at Sports Illustrated Tickets... for standing room only. [11]

“Like, we lost a lot of the games off a couple plays, but I feel like our offense has been playing so good and so disciplined, and our defense has been playing even better, and special teams has been playing great ... pound for pound, I look at these teams and I don’t see who is better than us, honestly. [7]

Quite often sports-related articles contain a colon to highlight certain information, show an explanation, generalization, or the author’s conclusion. Here are some examples:

Four other players have seen five or more targets from Mahomes: receivers Tyquan Thornton (9) and JuJu Smith-Schuster (8), tight end Noah Gray (6) and running back Isiah Pacheco (5). [5]

That’s right Texas Tech: no more hiding behind the weakest schedule in the country. [9]

Women’s Soccer: Marta Stuns the USWNT at the 2007 World Cup [12]

The semicolon is rarely used in the research material, but it also contributes to the visual effect of the statement and the structuring of the material offered to the reader:

The role will not be a regular one; Smith indicated to Washington that he would appear on the show before three games, starting with the Lions’ trip east to play the Ravens Monday. [1]

It is worth noting the frequent use of quotation marks both when quoting the words of people mentioned in the article and for interspersing words and phrases into the author’s speech, for example:

Kraft is “expected to play” on Sunday against Cleveland, according to Tom Pelissero of NFL Network. Kraft was a limited participant at Thursday’s practice and was unable to take the practice field the following day on Friday, but one Packers source told ESPN’s Adam Schefter that Kraft received “a little scare” but was “all good.” [3]

Garrett had similar praise for Parsons, saying that he saw the both of them as “two of the very best of this generation.” [10]

In direct speech, which is quite common in the analyzed articles, various punctuation marks may be used together. It also affects the expressiveness of statements. Here is one of such examples:

“Knowing them, ESPN, they’ll want more. They’re certainly going to want more of me on NBA Countdown, and so, who knows? I’m doing First Take, but it’s ESPN, so they know whatever they need me for... I’ll do whatever they ask.”[1].

In general, it can be said that in American sports media texts a variety of punctuation marks are used to make articles emotional, attention-grabbing, often well-structured and imitating direct communication with readers.

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真理真的诞生于争论之中吗？

IS TRUTH REALLY BORN IN A DISPUTE?

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摘要：本文探讨了“真理诞生于争论”这一表达的常见解读。文章指出，与人们通常对科学的认知相反，真理并非诞生于争论之中，因为科学讨论和争论的动力并非源于怀疑，而是源于对真理的信念，或者至少源于对各自所捍卫观点的合理性的信念。公共讨论的必要性不在于学习和更好地理解反对者的观点，而在于“从外部”审视自身，置身于他人思想的共鸣空间，从而澄清自身的论点，理解并评估其说服力。

关键词：真理，争论，科学，内部对话，公共讨论，科学传统

Abstract. *The article examines common interpretation of the expression “Truth is born in a dispute”. It is asserted that contrary to common ideas about science, truth is never born in a dispute, because scientific discussions and disputes are motivated not by doubts, but by the confidence in the truth, or at least in the greater plausibility of the point of view being defended by each parties involved. The public discussions are necessary not so much to learn and better understand the points of view of opponents, but rather to hear oneself “from the outside”, in the resonating space of other people’s thoughts, in order to clarify one’s own arguments, understand and evaluate the degree of their persuasiveness.*

Keywords: *truth, dispute, science, internal dialogue, public discussion, scientific tradition.*

One of the illusions of public consciousness is related to the belief in the magical power of free public discussions on various public issues. Guided by common ideas about the development of society and knowledge, many participants in public discussions believe that it is the freedom to express one’s own opinion during public discussions that is the main guarantor of improving the entire management system of society and increasing the effectiveness of decisions made.

The literal interpretation of the textbook expression “Truth is born in a dispute” leads to the fact that the very public clash of different opinions is often seen as a real way to achieve the most acceptable solution to socio-political or environ-

mental problems for society. Moreover, this method of “giving birth to truth” is considered sanctioned by science itself as a socially organized form of cognition of the world [2].

There is no doubt that public discussion of various opinions is an expression of freedom of speech as an attribute of democracy. However, it would be a profound mistake not to see that freedom of speech and public debate alone are not a guarantee of effective and socially significant decisions in any area of social development, including science.

Contrary to common ideas about science, truth is never born in a dispute, because scientific discussions and disputes are motivated not by doubts, but by the confidence in the truth, or at least in the greater plausibility of the point of view being defended by each of the parties involved [4; 6]. In the absence of such certainty, no scientist enters into discussions and disputes, since there is neither the need nor the motive to discuss an idea that is in doubt. On the contrary, in this case scientists refrain from categorical statements and simply exchange information (oral, printed, and any other) about a problem, the solution of which has not yet generated a sufficiently substantiated hypothesis in any of the existing scientific fields.

Despite the fact that any scientist has a powerful incentive to strive to be heard and understood (after all, knowledge exists as a social phenomenon only within a certain scientific tradition), doubting the truth of one’s own point of view cannot create motivation not only to start a discussion, but even simply to publish the result of a study. It is so, because by publishing the results of his research, a scientist not only claims that members of the scientific community recognize these results as knowledge, but also expresses his willingness to enter into an open discussion with anyone who would dispute the truth of the published results. So, if it comes to arguments, it means that in the unknown depths of scientists’ minds, ideas have already been born that they are ready to defend in a dispute [1].

Special attention should be paid to the fact that scientific discussions are not so much discussions with real opponents in real space and time, as internal dialogues and discussions of scientists with imaginary opponents on the pages of publications [3].

The meaning of a scientist’s professional activity is to continue and develop the scientific tradition in which he was formed, to say “his word” in science, i.e. to acquire new scientific knowledge. Therefore, as the logic of scientific tradition is assimilated and one’s own approach to solving scientific problems is formed, the main form of development of theoretical thinking is precisely the internal dialogue, or “diamonologue”, of the scientist with himself. The external dialogue increasingly recedes into the background, becoming a means of exchanging information and spreading one’s own views. According to socio-psychological re-

search, the effectiveness of research teams is directly related to the ability of each member of the team to perform simultaneously the roles of an “idea generator”, a “resonator”, a critic, and a systematizer, combining various thinking logics and continuously translating an external dialogue into an internal diamonologue [5, p. 279-295].

Like a thought experiment, internal dialogue is a form of theorizing, but not practical interaction with a real bearer of a different way of thinking, a different logic, a different scientific tradition. An internal dialogue is a conversation, an argument, a struggle with a mental opponent, an idealized opponent, theoretically “dissected” in accordance with the scientist’s own understanding of the opposite point of view. At the same time, understanding the opposite or simply a different approach to solving a certain scientific problem is always subordinated to the internal goals of self-development, self-justification, and objectification of a scientist’s own ideas, which cannot but lead to significant deformation, partial distortion, or complete misunderstanding of the “alien” way of thinking.

It is not surprising that the history of science is full of failed dialogues between the creators of scientific knowledge and the paradoxical, at first glance, facts of scientists’ indifference to the ideas of both their predecessors and contemporaries, or the rejection of these ideas without a sufficiently deep understanding of their essence and without attempts to extract the “rational seeds” contained in them from these ideas.

It is hardly an exaggeration to say that all truly great discussions and debates, i.e. those in which knowledge (truth) is really born, unfold in the minds of scientists who may have neither real opportunities nor the desire to meet their opponents except on the pages of publications. In addition, the more intellectual efforts are required to put forward and substantiate a new idea, the more intense the internal dialogues and discussions become and the more the range of real interactions of scientists is limited, sometimes reducing to friendly conversations with like-minded people. As for public discussions, they are necessary not so much to learn and better understand the points of view of opponents (although these goals are undoubtedly pursued), but rather to hear oneself “from the outside”, in the resonating space of other people’s thoughts, in order to clarify one’s own arguments, understand and evaluate the degree of their persuasiveness.

However, it should not be forgotten that scientists compensate for the limitation of the range of real interactions by significantly expanding the range of intradiological communication, since in the very process of thinking any spatial and temporal boundaries are overcome. Only in an internal dialogue can any of the scientist’s contemporaries or predecessors become an interlocutor, and only through thinking can those discussions and debates take place that never actually took place.

Finally, there is a more fundamental reason why a real dispute is born. With any degree of freedom and breadth of exchange of opinions between representatives of various scientific fields, at the time of making a decision, each of them will insist on the truth of their point of view. But no amount of freedom to put forward and refute scientific hypotheses in public debates and discussions is in itself a guarantee of the truth of the winning point of view. The majority of scientists who side with a particular scientific concept may be mistaken, and the minority who stubbornly deny this concept may simply not live to see its “complete and final” refutation. So, even while consistently defending the truth of their position, all participants in the scientific discussion know that none of them has absolute guarantees that the choice of this particular solution to the problem is truly true. That is why not only positive, but also negative research results have always been highly appreciated in scientific knowledge, revealing the falsity of certain concepts, methods, and directions.

Thus, the development of science indicates that discussion is not a “way of giving birth” to truth and not a guarantee of the truth of decisions made, but a necessary condition for the self-development and self-improvement of the emerging knowledge system, providing the opportunity for public discussion and criticism of any scientific idea.

Public discussions, like scientific ones, create an opportunity to identify different points of view on a particular issue and ensure a free and open discussion of any draft solution. However, participants in public discussions, unlike scientists, cannot ignore the fact that uncompromising confrontation in solving socially significant problems often turns into not only ideological battles, but also real human casualties. The right to make mistakes, which is an integral element of the scientific ethos, can spread in non-scientific fields of activity only to the extent that it concerns ideological and theoretical disagreements, but not substantive practical actions, the consequences of which can be not only irreversible, but also fatal to human life.

Whatever the results of public discussions, it must be remembered that no single decision, even the most thoughtful and well-founded, can take into account all the features and opportunities that lurk and re-emerge in the development of human life. Ultimately, there are always unaccounted factors, unknown causes, etc., the ignorance of which is due to the objective limitations of the theoretical and practical basis for making any decision in the field of public life. A person generally has no guarantees of infallibility in any fields of his activity, however, there is an absolute guarantee of detecting and overcoming misconceptions in the process of developing socio-historical practice and knowledge.

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数字物理性在环境主义思想发展中的作用

THE ROLE OF DIGITAL PHYSICALITY IN THE DEVELOPMENT OF ENVIRONMENTALISM IDEAS

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摘要：在当今世界，由于商品和服务生产的持续增长，环境问题日益严峻，这些生产活动不仅影响环境，还会产生有害废物。应对这一挑战需要引入新的环保技术，并转变人类对自然的态度。数字物理性作为一个由视觉图像和技术构成的系统，能够改变人们对身体和世界的感知，从而促成这些转变。它通过数字技术、虚拟现实和其他类型的现实以及社交网络展现自身，促进环境知识的发展和可持续价值观的形成，进而影响人类行为和消费文化。因此，数字物理性为环保主义理念的演进和传播奠定了基础，有助于人们保持对自然的谨慎态度，并形成与自然互动的新体验形式。

关键词：数字物理性，环保主义，数字技术，思维。

Abstract. *In the modern world, environmental problems are becoming more urgent due to the continuous growth in the production of goods and services that affect the environment and create hazardous waste. This challenge requires the introduction of new environmentally friendly technologies and a change in human attitudes towards nature. Digital physicality being a system of visual images and technologies that transform the perception of the body and the world, produces these transformations. Manifesting itself through digital technologies, virtual and other types of reality as well as through social networks it stimulates the development of environmental knowledge and the formation of sustainable values influencing human behavior and consumer culture. Thus, digital physicality serves as the basis for the evolution and dissemination of the ideas of environmentalism, maintaining a careful attitude towards nature and forming new forms of experience of interaction with it.*

Keywords: *digital physicality, environmentalism, digital technologies, mind.*

Environmental issues are increasingly being discussed in the modern world. This is due to the fact that humanity continues to continuously create and produce new goods and services that inevitably affect the environment and bring new often dangerous and difficult-to-recycle waste into the world which harms the whole of nature and, therefore, in the future will harm man himself. In this regard, the demand for the introduction of new, more environmentally friendly and safer technologies in all spheres of life is increasing. In addition, due to the rapidly developing technological progress not only the environment is changing but also the person himself, its self-awareness and perception of the world.

Digital physicality is a phenomenon that reveals the essence of the transformation of human consciousness, personal views on the world and a person itself. It is an adaptive personality mechanism of the digital age which is “a system of visual images and technologies that transform empirical physicality” [7].

The concept of “new” or “digital” physicality was first used by D. Haraway. She also proposed the term “chthulucene” [5]. His main idea is that in the modern world because of the scientific and technological process, subjectivity can no longer be thought of only within the framework of human origin. Its structure has changed – it has become more flexible and complex, consisting of two types of subjectivity: human and machine. This view allows us to trace the prospects of a new socio-cultural reality in which a person, combining with technologies and actively using them in everyday life, gets a new “cyborgicity”. D. Haraway writes about the constructive influence of chthulucene. According to her opinion this concept can become a useful tool in solving environmental problems as it calls for understanding humans as part of an ecosystem. Any action committed by a person has consequences both for himself and for the environment. This vision of the world allows us to change the attitude towards all things and creatures around us, as it considers them as equal participants in the ecosystem, therefore, forces us to take into account and respect their interests and right to exist. The use of environmentally friendly energy systems or new materials, as well as animal care, can be cited as examples of the positive effects of chthulucene.

Similar views are expressed in environmentalism, philosophy, and a lifestyle based on a conscious attitude to the environment. It is also based on the understanding that man is not the master of nature, but a part of it, and his actions directly affect the ecosystem [3]. The Dictionary of Philosophical Terms defines environmentalism as “a system of views characterized by a critical attitude towards the modern model of economic development (primarily industrial), leading to increasing pollution and degradation of the natural environment” [2]. Based on the concept of limits to growth, which aims to define the boundaries of economic and numerical growth of human society within a limited and constantly dwindling amount of resources on Earth proponents of environmentalism argue

the importance of organizing specialized political institutions aimed at developing environmental policy and implementing a variety of large-scale nature protection measures such as: transition to more environmentally friendly technologies, reducing emissions and production waste, creating new protected areas, greening cities, and so on.

More radical ideas of environmentalism are expressed in the demand for a transition to a new lifestyle, a change in consumption standards and the rejection of the principles of “consumer society” as well as the transformation of people’s attitudes towards resources that are non-renewable: minerals, metallic and non-metallic reserves, towards their economical use and conservation.

Environmentalists include international companies such as the International Union for Conservation of Nature (IUCN), the World-Wide Fund for Nature (WWF), and Greenpeace. The organizations listed above are engaged in studying changes in the environmental situation in the world and putting forward new proposals and ideas to resolve issues related to global climate change, reducing forest area, radiation hazards, and caring for and using the planet’s resources. Also, followers of environmentalism as a political ideology are political parties whose programs raise the topics of nature protection, the transition to environmentally friendly technologies and the proper use of resources. The Greens and the Green Alternative are such parties in the territory of the Russian Federation. In addition, there are individual environmentalists who lead a conscious lifestyle that is friendly to nature, try to minimize the destructive impact on the environment and take care of nature. The ideas of such an attitude towards the environment are also being promoted in the environmental trends of the modern world. Every year, there are more and more people who want to become part of the environmental movement. For example, according to VCIOM: “Every second Russian declares his willingness to contribute to improving the environment” [1].

The influence of digital physicality on the promotion and development of the ideas of environmentalism is manifested in the following aspects:

Actively developing digital technologies, especially the Internet and various types of social networks and media, popularize the concept of ecologism. By spreading information about the principles of environmentalism, launching various trends, creating a variety of content, as well as attracting celebrities and authorities who support this lifestyle, large masses of people are attracted which, as a result, increases the number of supporters of these ideas.

The digital space provides new opportunities for self-determination and self-identification of people. Therefore, creating content about environmentalism and its importance to people, nature, and the world as a whole not only helps attract new supporters of this philosophy, but also becomes a prerequisite for the formation of a modern ecological culture, as well as the development of ethical and social norms aimed at preserving nature.

The new perception of a person's own physicality as mentioned earlier is manifested in the development of a sense of human unity with nature which stimulates a change in human behavior towards a more friendly and careful attitude towards living beings and nature in general.

Adherents of environmentalism, as well as virtual communities created in this field, unite in the digital space into a single movement ensuring through environmental activism the promotion of environmentalism ideas as well as their development through digital information transmission channels. With their help it becomes possible to massively disseminate ways of leading a more environmentally friendly lifestyle, methods of recycling, separation of various types of waste and their disposal points, and existing initiatives to protect nature or improve the environment. All of the above allows you to create various digital projects that promote the importance of environmentalism and emphasize the danger of an indifferent, irrational or destructive attitude towards the environment.

Thanks to new types of interaction in the digital space a person gets a new experience. For example, using virtual or augmented reality allows you to experiment with different actions in relation to nature without harming it in reality. On the one hand, it allows ordinary users to find out how one or another of their actions can affect nature and what consequences it can lead to. Various digital tools allow us to develop applications, including interactive and gaming ones, that influence the understanding of the principles of environmentalism and form a careful, responsible attitude towards nature using simulators that demonstrate environmental processes and phenomena, human impact on them, and also allow us to explore nature in the virtual world and observe living organisms [4]. By putting nature at the center of the plot and making it the main task of users to observe the world around them or restore natural objects, such games develop the player's sense of responsibility towards ecosystems which later translates into actions in real life. They also form an empathic attitude towards nature through its digital images. In addition, demonstrating the possible consequences of irrational attitudes towards resources, pollution, and other actions that negatively affect ecosystems makes people think about environmental problems and possible ways to prevent them. In this regard, there is a basis for realizing the importance of caring for nature and transferring such behavior to the real world. On the other hand, the described experience provides an opportunity for companies, scientists and researchers dealing with environmental issues and environmental safety to model various types of ecosystems, implement individual situations or scenarios, including environmental disasters, without harm to the environment as well as explore and discover new safe ways of human impact on nature. In addition, the collection and analysis of large amounts of data on the behavior and environmental habits of the population allows using special programs to

monitor trends in the implementation of the principles of environmentalism by certain groups of people, as well as the environmental situation in individual regions or countries. Visualization of the data obtained during the analysis of the environmental situation in the form of dashboards, infographics and so on allows you to transparently and understandably convey the current situation to people, emphasize environmental problems on the planet or in their region, and as a result form personal responsibility for everyone's actions in relation to nature and the need to adhere to the principles of environmentalism.

The creation of educational programs and digital courses that declare the ideas of environmentalism as well as the demonstration of various environmental scenarios, also helps to increase the levels of environmental education and awareness of people's behavior towards nature.

Digital physicality is manifested in the transformation of a person's perception of his body, the expansion of his physical abilities and the blurring of the boundaries between the real and virtual body. As a result, this phenomenon leads to a rethinking of the functionality of the real human body and its role in various spheres of human life including the environmental one. The virtualization of the body and the ability to fulfill some of the needs in the virtual world reduce the importance and dependence on physical resources. New forms of digital consumption are being created, which reduces the burden on nature in the real world.

Digital technologies also contribute to the development of biomimicry – a scientific approach to technology development based on mechanisms and processes created by nature. One example of such technologies is the creation of photovoltaic panels. Researchers from Imperial College London have developed an innovation that mimics the natural transpiration process in leaves, which has significantly increased the efficiency of solar energy conversion [6]. This development provides energy generation in a safe and environmentally friendly way. In addition, digital physicality also stimulates interest in environmental design that is the creation of technologies that mimic environmental processes.

Therefore, digital physicality as a new form of human existence, manifested in the presence of several realities: virtual, augmented and other types of digital realities as well as in the constant use of digital technologies by modern people in everyday life play a significant role in the development of ideas of environmentalism. The phenomenon of digital physicality in the modern world appears as the basis and also as a tool for the evolution and dissemination of the ideas of environmentalism, its principles and postulates, since it transforms a person's attitude to the environment through the promotion of information about nature and new forms of experience of interaction with it.

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俄罗斯幼儿园的历史
THE HISTORY OF KINDERGARTENS IN RUSSIA

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摘要：本文简要概述了欧洲各国和俄罗斯学前幼儿园的起源、组织和运作情况。

关键词：欧洲和俄罗斯的学前教育，幼儿园，教育。

Abstract. *This article presents a brief historical overview of the origins, organization, and operation of preschool-age kindergartens in various European countries and Russia.*

Keywords: *preschool education in Europe and Russia, kindergarten, education.*

At the current stage of development of Russian pedagogy, we recall with appreciation and gratitude the names of those who stood at the origins of its formation and advancement. Among these outstanding figures, we cite the leading Swiss educator Johann Heinrich Pestalozzi (January 12, 1746 – February 17, 1827) (Fig. 1), who was the first to express the idea of the need for the parallel and harmonious development of all human capacities—intellectual, physical, and moral. Pestalozzi was one of the first to point out the importance of developmental education, based not on dead, truisms, but on direct observation and reflection of the child under the guidance of a mentor teacher.



Figure 1. *Johann Heinrich Pestalozzi.*

According to the great Russian educator K. D. Ushinsky (March 3, 1823 – January 3, 1871) (Fig. 2), “the idea of developmental education is Pestalozzi’s great discovery.” K. D. Ushinsky believed that the “Pestalozzi method” was a discovery that entitled its author to be considered the first people’s teacher.

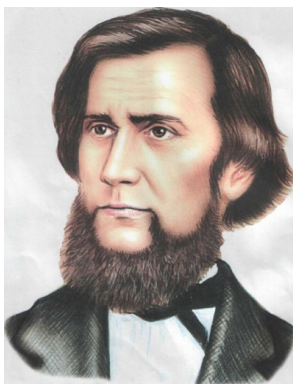


Figure 2. *Konstantin Dmitrievich Ushinsky.*

I.G. Pestalozzi developed the general principles of primary education and specific methods of primary education. His ideas were developed by the world’s greatest educators: Karl Justus Blochmann (19 February 1786 – 31 May 1855) (Fig. 3), German educator Friedrich Adolph Wilhelm Diesterweg (29 October 1790 – 7 July 1866) (Fig. 4), Friedrich Wilhelm August Fröbel (21 April 1782 – 21 June 1852) (Fig. 5) – German educator, preschool education theorist, creator of the concept of “kindergarten” and Alexey Andreevich Khovansky (22 February

1814 – 29 January 1899) (Fig. 6) – educator, philologist, translator, editor-publisher of the first Russian scientific linguistic journal *Philological Notes*



Figure 3. Karl Justus Blochmann.



Figure 4. Friedrich Adolf Wilhelm Diesterweg.

In 1837, Fröbel founded the first children's institution in Germany, which he called *Kinderbewahranstalten* (day home for young children), which he soon renamed *Kindergarten* (kindergarten).



Figure 5. *Friedrich Wilhelm August Froebel.*

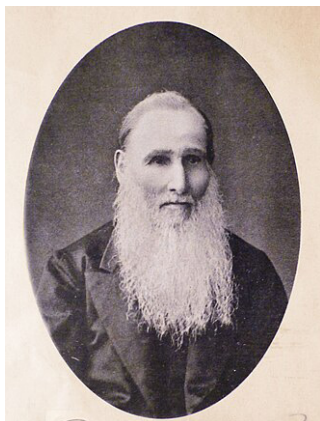


Figure 6. *Alexey Andreevich Khovansky.*

As for the history of kindergartens in Russia, the first kindergarten was opened in St. Petersburg on September 27, 1863, by Sophia Andreyevna Lugebil (Sophie Martha Lugebil, January 20, 1824 – April 6, 1914) (Fig. 7). By 1874, there were 56 of them in Russia, and by 1881, 84.



Figure 7. Sofia Andreyevna Lugebil.

All the first kindergartens were privately owned, founded by teachers, educators, and public figures at their own expense. Fees for kindergartens were often based on the population of the city in which the kindergarten was established, and ranged from 50 to 150 rubles per year. There were also free kindergartens, accessible to the lower classes.

It is worth noting that in 1769, the French educator Jean-Frédéric Oberlin (August 31, 1740 – June 1, 1826) (Fig. 8) and Louise Scheppler (November 4, 1763 – July 25, 1837) (Fig. 9) founded the first institution for young children in history in the small German town of Steinthal. It used games and paid special attention to the development of speech, moral, religious and work education of children, as is recalled by the name of the institution itself - knitting school.



Figure 8. Jean-Frédéric Auberlin.



Figure 9. Louise Scheppler.

In 1816, in Scotland, the English philosopher and educator Robert Owen (May 14, 1771 – November 17, 1858) (Fig. 10) opened an institution in the town of New Lanark that went down in history as the “New Institute for the Formation of Character,” which included a kindergarten and what was later called a crèche.



Figure 10. Robert Owen.

The village of New Lanark on the River Clyde, located 40 km southeast of Glasgow, was founded in 1786 by David Dale, who built cotton mills and workers' housing. The village's population is approximately 200.

Robert Owen's idea of opening a school for the youngest children, understood as “preschoolers,” was successfully implemented in 1835 by the German educator and Protestant pastor Georg Heinrich Theodor Fliedner (January 21, 1800 – October 4, 1864) (Fig. 11) in Kaiserswerth.



Figure 11. *Georg Heinrich Theodor Fliedner.*

The Austro-Hungarian countess, educator, and close friend and student of Ludwig van Beethoven, *Therese von Brunsvik de Korompa* (July 27, 1775 – September 23, 1861) (Fig. 12) organized a number of kindergartens in her homeland. She opened her first on June 1, 1828, in Buda.

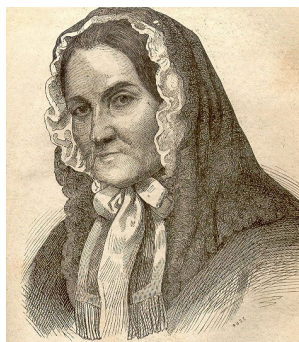


Figure 12. *Teresa von Brunswick de Korompa.*

The outstanding Russian educator Yegor Osipovich Gugel (1804 – June 4 (June 16), 1841) characterized preschool education as follows: “This is essentially an institution where children aged two to six are admitted, who, of course, cannot yet be admitted to schools, so-called schools. Children, under the supervision of an experienced teacher, learn a great deal through play; but, most importantly, they receive moral guidance. Naturally, the nature of such institutions, given the tender age of the children, does not allow for any strict instruction. Innocent fun, teaching order and good behavior are the main goal. All subjects taught serve only

as a means of decently occupying the children. Such institutions are especially designated for the children of poor parents.”

The Russian educator and editor of the magazine “Kindergarten” Adelaida Semenovna Simonovich (April 6, 1844 – November 9, 1939) (Figs. 13, 14), speaking about the importance of continuity in the upbringing of children, noted: *“In the growing up of the young generation, a period of development begins when, in addition to moral influence, adults must acquaint them with those improvements of the mind that have resulted from the progressive development of human thought in general. Here it becomes necessary for education to pass from the hands of parents to outsiders, specifically engaged in the transmission of intellectual knowledge...”*



Figure 13. Adelaida Semenovna Simonovich.



Figure 14. Cover of the magazine “Kindergarten.”

Her sentence, “*To benefit from school, one must be prepared for it, and kindergarten provides this preparation,*” remains relevant today.

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在化学研究对象建模过程中应用定量方法

APPLICATION OF QUANTITATIVE METHODS IN THE PROCESS OF MODELING THE STUDIED OBJECTS OF CHEMISTRY

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摘要: 本文探讨了选择和应用定量教学方法构建化学对象模型这一紧迫的方法论问题。文章展示了如何运用物理化学方法在定量实验中研究化学反应。

关键词: 定量研究方法, 化学对象建模; 滴定; 滴定分析方法; 定量实验; 教学与科研实验室工作。

Annotation. *This article examines the pressing methodological issue of selecting and applying quantitative teaching methods to modeling chemistry objects. It demonstrates the application of physicochemical methods for studying chemical reactions in quantitative experiments.*

Keywords: *Quantitative research methods, modeling of chemical objects; titration; methods of titrimetric analysis; quantitative experiment; educational and research laboratory work.*

The modern world is rapidly changing, affecting all aspects of human life, including science and education. The known laws of chemistry have not fundamentally changed, but the ways in which chemical information is represented and processed have changed radically. The main change is related to computerization, which has influenced not only the speed of processing and accumulating informa-

tion but also the scientific way of thinking and the methodological approaches of researchers to studying nature. It has become possible to mathematically solve many equations of theoretical chemistry, use them to calculate the geometry and energy of molecules, and analyze complex molecular spectra. In modern science, quantitative research methods are becoming a priority. Physicochemical research methods are used to establish the structure of new substances and materials, while mathematical methods are used to construct models of chemical reactions, analyze and process data, and statistically predict the properties of as-yet-undiscovered substances. Computer science creates optimal algorithms for computer calculations used in chemistry. The problem of choosing methods for studying substances and reactions in the process of modeling chemical objects arises. This problem consists of selecting the content of training in the context of the digital transformation of education, identifying didactic units of knowledge and methods of action to be assimilated, developing laboratory and demonstration experiments, defining criteria for rationality and indicators of the quality of the process and results, that is, modern digital technology for teaching chemistry.

The updated federal state educational standard for secondary general education is focused on developing graduates through their education and upbringing as creative and critical citizens who actively and purposefully explore the world, recognize the value of science, work, and creativity for individuals and society, and are motivated to pursue education and self-education throughout their lives. They possess a basic understanding of scientific methods for understanding the world around them, “including experimental and theoretical methods for studying substances and chemical reactions,” and the ability to apply them, and are motivated to engage in creativity and modern innovation.

“Method” (from the Greek *methodos* - research, path to something). The answer to the question “How to teach?” is reflected in the methods and means of teaching. What is a teaching method? In the philosophical dictionary, a method is revealed as a way to achieve a goal, as a certain orderly activity. In didactics, teaching methods are understood as ordered ways of interconnected activity of a teacher and students, aimed at achieving educational goals. G.I. Shchukina considers teaching methods as the most complex component of the educational process, serving multiple connections and dependencies in them. In teaching methods, she distinguishes four aspects (gnoseological, logical-content, psychological, pedagogical) and four functions (motivating, training, developmental, educational). By teaching methods, M.I. Makhmutov understands a system of didactic principles and rules for determining the methods of educational activity. Chemists-methodologists (G.M. Chernobelskaya, S.G. Shapovalenko) understand teaching methods as “the internal form of self-movement of the content of education”. V.P. Garkunov views chemistry teaching methods as a complex pedagogical approach con-

sisting of many components. He identifies three key aspects: cognitive-research (reflecting the self-development of the subject's content), logical (characterizing the internal aspects of chemistry teaching methods, the forms of self-development of the content), and organizational (characterizing the internal aspects of chemistry teaching methods, presentation methods, and independent work). Currently, chemistry teaching in secondary and higher education primarily focuses on the qualitative aspects of chemical processes. It is important to utilize the didactic potential of quantitative methods in the following cases:

- chemical experiment and quantitative interpretation of its results;
- use of certain physical parameters to characterize chemical processes;
- drawing up equations for the relationship between physical quantities, the parameters for which are established experimentally;
- inclusion of students in project-based research activities using quantitative methods, including mathematical modeling;
- expression of the laws of chemical processes in quantitative form.

We will demonstrate using specific examples how physical and chemical methods can be applied in teaching students at universities, colleges, and specialized classes in natural sciences.

Titrimetric (volumetric) analysis –A quantitative analysis method based on the precise measurement of the reagent solution consumed in an equivalent reaction with the analyte. The analytes include: a simple or complex substance, atoms, ions, radicals, and functional groups, the content of which is determined in a given sample.

The titrimetric method for analyzing a substance is based on conducting chemical reactions and establishing equivalence between the interacting substances. The analytical reaction occurs through titration.

Titration –This is the controlled addition of a reagent solution of known concentration to a precisely measured volume of the substance being determined until equivalence is reached in order to establish the quantitative content of the substance being determined.

During the titration process, the state of equivalence is determined.

State of equivalence –this is a state in which the number of mole equivalents of one reagent (titrant) is equal to the number of mole equivalents of the second reagent (the substance being determined).

The equivalence state during titration is usually determined using an indicator or using physicochemical methods of analysis.

Indicator –This is a substance added to a system, participating in the reaction and causing visible changes (color, appearance of sediment, etc.) at the moment the state of equivalence is reached.

Titrant or standard solution - a solution of an analytical reagent with a precisely known concentration, used to find the quantitative content of the substance being determined in the solution.

According to the method of preparation, standard solutions are divided into initial (primary standard solution) and working (secondary standard solution).

For a titrant (standard solution), either the molar concentration $c(X)$ or the molar concentration of the equivalent $c(\frac{1}{z}X)$, or the titer $T(X)$ of the analytical reagent in solution.

Diluted solutions with a reagent equivalent molar concentration of 0.005-1.0 mol/L are typically used as titrants. These are prepared from fixed solutions, from a weighed portion of a solid, or by diluting more concentrated solutions. In the latter two cases, the reagent concentration in the prepared solution must be determined using adjusting substances.

Classification of titrimetric analysis methods

Depending on the type of reactions used, there are 4 main titration methods.

1. Acid-base titration method

Acid-base method (neutralization method) – This is a method for determining acids, bases, and salts based on the reaction of interaction between protolytes – acid HA and base B: $HA + B = A^- + HB^+$.

In aqueous solutions, this is a neutralization reaction:

$H_3O^+ + OH^- = 2H_2O$ or in simplified form $H^+ + OH^- = H_2O$.

Substances to be determined: acids (strong and weak), bases (strong and weak), and salts that undergo hydrolysis.

2. Oxydometry method (oxidation-reduction titration). The method is based on oxidation-reduction reactions:

oxidizing agent + reducing agent → reaction products.

Substances to be determined: oxidizing and reducing agents.

3. Complexometry method. The method is based on the complexation reaction: $Men^{++} + ligand \rightarrow strong\ complex$.

If complexones (Trilon B) are used as a titrant, then what method is called complexometry

Substances determined: metal cations.

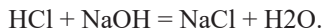
4. Precipitation method. The method is based on a reaction with the formation of a precipitate. The methods based on precipitation with silver nitrate and mercury(I) nitrate are of the greatest practical importance.

Substances to be determined: anions Cl^- , Br^- , I^- , etc.

Example 1. Find the molar concentration of the equivalent (normal concentration) and the titer of a hydrochloric acid solution if 15.25 ml of 0.1038 N sodium hydroxide solution are used to titrate 10.0 ml of this solution.

Solution.

1. Let us write the reaction equation and determine the molar masses of the equivalents of HCl and NaOH:



According to the reaction equation $\text{fequ.}(\text{HCl}) = 1$ and $\text{fequ.}(\text{NaOH}) = 1$, then the molar masses of the equivalents are: $\text{Meq.}(\text{HCl}) = \text{fequ.}(\text{HCl}) \cdot M(\text{HCl}) = 1 \cdot 36/47 = 36/47 \text{ g/mol}$;

$$M_{\text{eq.}}(\text{NaOH}) = \text{fequ.}(\text{NaOH}) \cdot M(\text{NaOH}) = 1 \cdot 40/0 = 40/00 \text{ g/mol}.$$

2. Let us calculate the normal concentration and titer of the HCl solution:

$$\begin{aligned} h(\text{HCl}) &= \frac{h(\text{NaOH}) \cdot V(\text{NaOH})}{V(\text{HCl})} = \frac{0,1038 \cdot 15,24}{10,00} = 0,1582 \text{ n. } T(\text{HCl}) = \frac{c(\text{HCl}) \cdot V(\text{NaOH})}{1000} \\ &= \frac{0,1582 \cdot 36,47}{1000} = 0,005769 \text{ g/ml.} \end{aligned}$$

Answer: $h(\text{HCl})=0.1582 \text{ n.}$ $T(\text{HCl})=0.005769 \text{ g/ml.}$

Example 2. A weighed sample of KOH was dissolved in a 200 ml measuring flask. Calculate the mass of KOH in the solution if 12.40 ml of HCl solution were used to titrate 10.00 ml of this solution; $cT(\text{HCl}) = 0.00420 \text{ g/ml}$.

Solution:

$$T(\text{HCl}) = \frac{c(\text{HCl}) \cdot M(\text{HCl})}{1000}, \text{ from here:}$$

$$c(\text{HCl}) = \frac{T(\text{HCl}) \cdot 1000}{M(\text{HCl})}; \quad c(\text{HCl}) = \frac{0,00420 \cdot 1000}{36,5} = 0,1151 \text{ mol/l.}$$

We calculate $c(\text{KOH})$ using the law of equivalents:

$h(\text{HCl}) \cdot V_{\text{pip}}(\text{HCl}) = p(\text{KOH}) \cdot V_{\text{pip}}(\text{KOH})$, where $V_{\text{pip}}(\text{KOH})$ is the volume of KOH solution taken for titration; $V_{\text{pip}}(\text{HCl})$ is the volume of HCl solution used for equivalent interaction with KOH.

$$h(\text{KOH}) = \frac{c(\text{HCl}) \cdot V_{\text{pip}}(\text{HCl})}{V_{\text{pip}}(\text{KOH})}; \quad c(\text{KOH}) = \frac{0,1151 \cdot 12,40}{10,00} = 0,1427 \text{ моль/л.}$$

We calculate the mass of KOH contained in 200 ml of solution using the formula:

$$h(\text{KOH}) = \frac{m(\text{KOH}) \cdot 1000}{M(\text{KOH}) \cdot V_{\text{р-ра}}},$$

$$m(\text{KOH}) = \frac{c(\text{KOH}) \cdot M(\text{KOH}) \cdot V_{\text{р-ра}}}{1000}; \quad m(\text{KOH}) = \frac{0,1427 \cdot 56 \cdot 200}{1000} = 1,5982 \text{ (g).}$$

Answer: $m(\text{KOH})=1.5982 \text{ g.}$

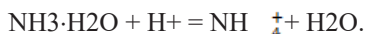
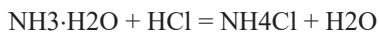
Educational and research laboratory work: Determination of ammonia content in an aqueous solution

The purpose of the work: acquisition of practical skills in working with measuring glassware, titration and experimental determination of ammonia content in aqueous solutions by direct titration.

Necessary glassware and reagents: 10 ml Mohr pipettes, 25 ml burette, 100 ml conical titration flasks, 100 ml beaker, ammonia and hydrochloric acid solutions (with established concentration), methylroth indicator.

The essence of the method The ammonia content in an aqueous solution is determined by acidimetric titration using hydrochloric acid with a specified titer.

The interaction of ammonia with hydrochloric acid is described by the equation:



Titration of a weak base with a strong acid is carried out in the presence of a methylroth indicator (pH range of color transition 4.4-6.2).

Procedure for performing work.

1. Obtain an ammonia solution of unknown concentration from your teacher.
2. Fill the burette with an HCl solution of precisely known molar concentration, after rinsing it 2-3 times with the HCl solution.
3. Using a pipette, transfer 10.00 ml of the ammonia solution to be tested into a 100 ml conical flask, add 1-2 drops of methylroth indicator and titrate to equivalence (the solution turns orange).

Repeat the titration at least three times, the titration results should not differ by more than ± 0.10 ml. Enter the titration results (accurate to hundredths) in the table:

The volume of acid spent on titration, ml			Average acid volume, ml	Ammonia content, g/1000 ml
V_1	V_2	V_3	V_{Wcd}	$m(\text{NH}_3)$

Based on the titration results, calculate the ammonia content in 1 liter of the test solution using the following formula:

$$m(\text{NH}_3) = \frac{V_{\text{av}}(\text{HCl}) \cdot c(\text{HCl}) \cdot M(\text{NH}_3) \cdot V_{\text{flasks}}}{1000 \cdot V_{\text{pipettes}}},$$

Where $V_{\text{av}}(\text{HCl})$ – the average volume of hydrochloric acid used for titration;

$H(\text{HCl})$ – molar concentration of hydrochloric acid;

$M(\text{NH}_3)$ – the molar mass of ammonia is 17 g/mol;

V_{pipettes} – volume of ammonia solution taken for titration, ml;

V_{flasks} – the volume of solution in which the ammonia content is determined.

Report design plan:

1. Date and title of work.
2. Purpose of the work.
3. Brief description of the experiment and equations of the reactions taking place.

4. Results of the obtained experimental data.
5. Calculations based on the data obtained.
6. Conclusions on the work.

In this way, we implement the idea of a rational combination of quantitative research methods, modeling, and experimental methods in the context of the digital transformation of education.

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在急性适应背景下, 研究中国女大学生在一个月生物周期中某些心理功能指标与身体状况的关系

STUDY OF THE RELATIONSHIP BETWEEN CERTAIN PSYCHO-FUNCTIONAL INDICATORS OF THE BODY CONDITION OF CHINESE FEMALE STUDENTS IN THE DYNAMICS OF A BIOLOGICAL MONTH AGAINST THE BACKGROUND OF ACUTE ADAPTATION

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摘要: 本文旨在研究和分析中国女学生在急性适应期心理生理发育、运动能力和功能状态指标之间的关系, 并考虑女孩体内激素水平的变化, 从而为体育教育教学过程的改进提供科学依据。

关键词: 体育教育, 健康, 女学生, 体育活动, 体育锻炼, 身体状况。

Annotation. *The article is devoted to the study and identification of the relationship between the indicators of psycho-physical development, motor fitness, and functional state of Chinese female students during the acute adaptation period, taking into account the hormonal changes in girls to determine and scientifically substantiate the correction of the educational process in physical education.*

Keywords: *physical education, health, female students, physical activity, physical exercise, physical condition.*

Introduction.

Women's health largely determines the health of the nation and future generations—this is well known. Low psychophysiological health indicators among girls and unsatisfactory physical activity among students are common phenomena and therefore attract the attention of physical education and medical specialists, educators, and psychologists seeking to address the acute lack of physical activity and find reliable ways to maintain and improve health. Currently, human health is viewed as a dynamic process of maintaining and developing one's socio-natural, biological, physiological, and mental functions, as well as social, labor, cultural, and creative activity, while maximizing life expectancy cycle [2].

The most accurate assessment of health is based on the results of an in-depth medical examination, but scientists suggest evaluating somatic health based on the results of motor tests, high scores of which indicate optimal functioning of the body's systems and an adequate level of health. The main criteria are primarily anthropometric indicators and indicators of physical qualities, the development of which is determined by morphofunctional development state [1,4].

A woman's adaptive capacity is influenced by many factors. One of the most significant is the level and amount of physical activity. According to available data and our own observations, female students who maintain a high level of physical activity experience significant increases in their overall functional capacity.

Completing any physical or intellectual activity requires minimal strain on the regulatory systems. Students with low physical activity have reduced performance, and the cardiovascular system's response to various types of activity indicates maladaptation.

The individual psychological characteristics of each subject, which are closely related, have a significant impact on the body's adaptive capacity, and, as a rule, the physiological "cost" of intellectual stress is lower, while individuals with a predominance of right-sided signs of asymmetry have worse regulation of vegetative processes.

Gender-specific differences in the regulation of adaptation processes are also important. For example, the tone of the sympathetic nervous system is higher in women, even at rest, making overexertion more likely to develop due to inappropriate stress.

Biological rhythms associated with sex hormones play a significant role in the development of complex adaptive mechanisms in women's bodies. Their influence manifests itself in fluctuations in physiological states and also affects women's overall and specific performance levels throughout the month.

The aim of this study was to investigate the characteristics of adaptive reactions of female students during the menstrual cycle depending on the balance of sex hormones.

The aim of the study was to determine objective indicators of the psycho-physical health of female students against the background of the body's adaptive reactions and to obtain primary material for organizing further research.

In accordance with the main objective of the study, the following tasks were set:

1. To study the psycho-physiological state of female students over the course of a month.
2. Compare the data on the functional state indicators in the dynamics of the month, obtained as a result of the study.

The study involved 27 first-year female students from China with no health problems, including menstrual irregularities.

The survey was conducted during classes at the beginning of the academic year (September-October) in the context of the educational process at RUDN University.

To assess the body's adaptation, complex visual-motor reaction time (CVMR), information processing speed (IPS), and motor responses were recorded, including wrist dynamometry, tapping test, and tremorometry. Additionally, to assess the direction of reactions and the physiological "cost" of the work performed, heart rate analysis was performed using the RM Baevsky method. Subjective assessment of functional state using the SAN test and the level of personal and reactive anxiety (Spielberger test) were also taken into account.

The examination was carried out twice during the month: in the second phase - 5-7 days and in the fourth phase - 22-24 days (maximum increase in progesterone).

The dynamics of indicators of hand strength, hand movement speed, and hand movement coordination revealed changes in the degree of asymmetry of motor functions.

The highest arm asymmetry coefficients were observed in the second phase, while the fourth phase saw a smoothing of functional asymmetry across all the above-mentioned parameters. Furthermore, the highest hand strength values were observed in the fourth phase of the cycle. Wrist dynamometry values for female students were: right hand 17.6 ± 4.1 kg and left hand 15.7 ± 4.2 kg, corresponding to below-average values for the second phase of the cycle. This suggests that significant attention should be paid to exercises aimed at developing female students' strength [1, 3].

During the research it was revealed that the greatest decrease in the level of adaptation according to the stress index is observed in the fourth phase of the cycle.

Subjective assessments of functional status changed as follows over the course of the month: the highest scores for the categories “well-being,” “activity,” and “mood” were found in the second phase, while average scores for these assessments were observed in the fourth phase. The female students also showed average levels of reactive anxiety.

Thus, it can be concluded that the level of sex hormones affects the physical and mental performance of female students and significantly changes the adaptive capabilities of the female body, therefore, in different phases of the biological cycle, the same load is carried out at different physiological costs.

Motor fitness was assessed using tests included in the curriculum for higher education institutions and characterizing basic physical qualities (strength, speed, and endurance) (Table 1). Assessing physical fitness based on the results of the control standards stipulated by the standard curriculum for universities, it should be noted that strength training indicators among female students correspond to the grade of “unsatisfactory.” In the 100-meter dash and standing long jump, the girls demonstrate weak results and fail the “Barchina” level II tests, regardless of the phases of the OMC (ovarian-menstrual cycle). Performance in the 500-meter and 1000-meter runs is rated significantly lower than the grade of “satisfactory” during the studied periods of the month.

Table 1.
Physical activity indicators of Chinese female students.

№.№	Name of the test	x	σ	in %	R
11	Standing long jump, cm	152.2	12.4	7.2	16
22	100 m dash, sec	19.9	0.8	4.0	2
33	Shuttle run 4x10 m, sec	14.5	0.7	5.5	9
44	500m run, min, sec	2.58,0	8.02,0	5.4	16
55	Bending and unbending arms in support on a gymnastic bench, quantity	11.8	2.0	10.7	22
66	Sit-ups from a lying position, legs secured, number of reps	37.7	3.7	6.3	21
77	Low bar pull-ups, quantity	10.6	1.8	10.2	25

Data analysis revealed significant differences in the nature of changes in the functional state of the central nervous system and the functioning of the cardiorespiratory system of the subjects depending on the phases of the OMC. For example, during the postmenstrual phase, an increase in the speed and stability of the visual-motor response is observed, reflected in higher values of the integrated

CNS functional capacity (FVCNS) indicator. During the premenstrual phase, a deterioration in FVCNS indicators was observed.

The identification of an insufficient level of preparedness among female students confirmed that the educational process in physical education does not provide the required level of physical activity, which in turn requires appropriate correction. The obtained results allow us to define a scientifically based approach to selecting tools and methods for teaching physical education to Chinese female students. The level of physical activity chosen should be correlated with and appropriate to the girls' initial fitness level, and the characteristics of the female body throughout the month should be taken into account. Educational programs should emphasize the development of physical qualities such as general endurance and strength of the major muscle groups, particularly the abdominal and back muscles, which contribute to the correction and maintenance of normal posture, improved overall health during the menstrual cycle, and the development of the functional capabilities of the respiratory and cardiovascular systems.

Also, negative indicators may be associated with an acute adaptation period and indicate the continued relevance of the study of Chinese female students throughout the entire period of study.

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艾瑞斯·默多克道德哲学的教育潜力：对高中国际英语学习者批判性思维能力发展的影响

**PEDAGOGICAL POTENTIAL OF IRIS MURDOCH'S MORAL
PHILOSOPHY: TOWARDS THE DEVELOPMENT OF CRITICAL
THINKING SKILLS IN HIGH SCHOOL INTERNATIONAL
STUDENTS OF ELA**

(based on the novel *The Nice and the Good*)

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摘要：本文旨在从理论上论证在高中英语语言艺术（ELA）或类似课程中教授艾瑞斯·默多克的作品，特别是小说《善与善》的意义。文章通过分析默多克伦理学和诗学中的几个关键概念来佐证这一观点，这些概念包括“善”与“善”的区别、“道德关注”以及柏拉图的真理认知观。文章认为，默多克的小说深刻探讨了道德伦理问题，因此为培养学生的批判性思维、分析能力、理解力、论证能力、同理心和道德意识提供了一个有效的框架。

关键词：艾瑞斯·默多克，20世纪英国文学，英语语言艺术，伦理学，批判性思维，叙事，道德关注，柏拉图，善。

Abstract. This article attempts to provide a theoretical rationale for the relevance of teaching Iris Murdoch's works, specifically the novel *The Nice and the Good*, in high school, in English Language Arts (ELA) or similar lessons, substantiating the idea with the analysis of several key concepts in Murdoch's ethics and poetics, namely the distinction between the concepts of "the nice" and "the good", "moral attention", and Platonic concept of cognition of truth. The article argues that Murdoch's novel is a profound exploration of moral and ethical issues, and thus provides an effective framework for developing students' critical and analytical skills, comprehension, argument, empathy, and moral awareness.

Keywords: Iris Murdoch, 20th century British literature, ELA, ethics, critical thinking, narrative, moral attention, Plato, the Good.

Introduction to the topic

The work of Iris Murdoch, a recognized classic of modern English literature, is one of the most significant phenomena in 20th-century literary movement. Critics and researchers note the brilliant originality of her work, the uniqueness of her style, the ideological richness and multifaceted nature of her works, their complex semantics and poetics. Of particular interest for research is the essential connection between ethics and aesthetics, which Murdoch herself highlighted in her philosophical essays and interviews.

While an extensive research of Murdochian morality and ethics has been conducted in Western European studies, there is a lack of methodological material on how to apply these insights in teaching, that is, in the practical lessons on literary analysis in high school (within the scope of English Language Arts (ELA) or similar subjects, or as part of in-depth extra-curricular programs that focus on ethical reading). Modern educational programs (especially in international schools) face the challenge of developing not only language skills, but also “soft skills” such as empathy, moral reasoning, and critical thinking. Undoubtedly, literature is a powerful source that offers a concrete, safe context for exploring complex moral dilemmas, and in this respect Murdoch’s work is exceptional¹⁵.

We admit that Murdoch’s novels could be challenging for an unprepared reader due to the complexity of topics and subtle, nuanced, often hidden internal conflicts, which are at the center of writer’s attention. Still, we rather share the thought that Murdoch’s novels “remain comprehensible and, most importantly, compelling and engaging to a reader” [5], and that “The nuanced teachings of her novels” make them “accessible and significant to education. The books are filled with germane themes which are intrinsic to society today. Iris Murdoch was ahead of her time in many ways...” [Ibid.].

We believe it is possible to distinguish two levels of narrative in Murdoch’s creative process: 1) philosophical-analytical (logical narrative) and 2) aesthetic-artistic (hermeneutical narrative) [see: 8]. The logical narrative is monistic and determined by relevant philosophical influences. It consists primarily of the basic philosophical categories of existentialism and Platonism, which, along with the author’s specific concept of art, form the core of Murdoch’s moral philosophy. We propose a brief outlook on the three key concepts identified in the novel *The Nice and the Good* as possible ideas for analysis in ELA lessons.

1. The concepts of “the nice” and “the good”

We believe it is important to draw students’ attention to two aspects. First, Murdoch’s fundamental distinction between the concepts of “the nice” (pleasant,

¹⁵ E.g., see the work by R. Collin, in which the author advocates ethical reading in high school English classes and uses Iris Murdoch’s (along with Martha Nussbaum’s) ideas about “moral vision” as a philosophical basis for teaching [1].

kind) and “the good” (true goodness, moral virtue) in the context of moral life and moral choices of her characters. “The nice” is often associated with the characters’ false perceptions, or fantasy, about themselves or the world. These perceptions dictate superficial, socially acceptable behavior, often masking selfishness: “What I can’t bear is not being one but seeming one!” [2, p. 250]; “Paula cared very much about what might be called ‘moral style’. <...> She wouldn’t mind what awful thing you did so long as you didn’t talk about it in a certain kind of way” [Id., p. 51].

Self-deception is one of the central themes in the novel: many characters sincerely consider themselves to be “good” people. They observe propriety, try to act according to their duty, and avoid ambiguity. However, Murdoch reveals their inner world, full of selfish desires, envy, cowardice, and attempts to manipulate others. Their “good” behavior is a mask that hides their “selfishness”.

ELA students can analyze how characters justify their actions, how a person may act “nice” to earn approval, avoid conflict, feel morally superior, or simply because it is easier than facing reality. Students can be offered to describe a specific situation where actions that appear acceptable on the surface are actually motivated by selfishness or fantasy. Questions for discussion may include the following: Is this character really doing the right thing? How do the character’s actions affect others? What ‘fantasy’ do they create to justify themselves?

It is of particular interest to focus on a metaphysical dilemma essential in the context of Murdoch’s work, which is most clearly expressed in the following words of the novel’s protagonist, John Ducane: “...one of the great paradoxes of morality <...> To become good it may be necessary to think about virtue; although unreflective simple people may achieve a thoughtless excellence” [Id., p. 100].

The basis for discussions in class can be the significant distinction between the two possible ways towards the Good suggested in the novel. The first kind is connected with the true virtue that comes from the heart, not from the mind¹⁶, and, as such, can be most commonly seen among animals or little children, the latest being depicted as sometimes strange and withdrawn, living in their own world, yet displaying remarkable intuition and understanding in the most difficult situations. Such are the twins in *The Nice and the Good* who see hidden meaning in mystical flying objects and patterns made of stones. The instinctive natural striving for virtue is expressed in the novel through numerous “animal” allusions: the mysterious connection between Theo and the dog Mingo (“spiritual emanation from the dog-man pair” [Id., p. 114]); beast-like, resembling a spaniel, Fivey; the embodiment of nature and instinct, Judy = magical Circe, famous for turning people into animals. Last but not least, the charactonym of Jessica Bird, who, in

¹⁶ According to V. Skorodenko, “an alarming admiration for those who are moral not by choice but by definition <...> brings Murdoch closer to Dostoevsky” [7, p. 9].

contrast to Ducane with his puritanical intellectual mindset, displays an intuitive and instinctive desire for a moral foundation, for the “great certainty” [Id., p. 106].

The second kind of virtue, if ever possible, demands moral discipline and “moral attention” as “moral reality is not known impersonally and passively, but through the active exercise of the individual’s faculties which are guided by value” [4, pp. 4-5]: “He wanted that discipline, that silence, and the thing which lay beyond it” [2, p. 486]. Ducane, like many other reflective and deeply intellectual characters of Murdoch, is piercingly honest with himself, remaining truthful even in his powerlessness: “...although he had little of the demoniac in his nature there was a devil of pride, <...> and Ducane knew this perfectly well” [Id., p. 100]. This is a characteristic trait, echoing the honesty of Shakespeare’s Hamlet, who discovers the cause of the world’s ills within himself. In this context, the novel can also be used to analyze the intertextual allusions and parallels with world literature that are inherent in Murdoch’s works.

The second aspect that students should pay attention to is related to the theme of false vision: how a darkened, reality-detached, selfish consciousness distorts reality, creating various visual illusions and phantoms (“our own projections and distortions” [3]), demonizing other people. The motif of demonizing the characters and endowing them with demonic, magical powers (magicians, or enchanters is a constant special type of characters in Murdoch’s novels) can be clearly traced through the storylines of Paula Biranne – Eric Sears (“Eric slowly, slowly moving towards her like a big black fly crawling over the surface of the round world” [2, p. 192]), John Ducane – Jessica Bird (“...the thought of Jessica winged its way across his mind, like a great black bird passing just above his brow” [Id., p. 93]), reaching its apogee in the image of Joseph Radeechy in whom egocentrism reached truly ugly, twisted and destructive level and who “had discovered and had made to materialize about him a certain dreariness of evil” [Id., p. 315]. Although the protagonist of the novel John Ducane acknowledges the presence of the “minor evil” in the world – the kind of evil that could lure a person like Radeechy into reckless and morally questionable behavior, he discovers the real huge evil inherent in himself: “There are demons and powers outside us, <...> but they are pygmy things. The great evil, the real evil is inside myself. It is I who am Lucifer” [Id., p. 186]. Murdoch’s characters recognize the darkness within themselves, acknowledge the power of virtue, and sincerely strive for it, but upon closer inspection, their actions are dictated by their own egos, which they remain unable to overcome. This motif in turn is reflected in Murdoch’s iconic poetics of light and darkness, referring to the Platonic concept of light (*synaueia concept*)¹⁷. Students

¹⁷ *Synaueia* is Plato’s concept of vision as a combination of subjective and objective types of light. To a large degree, the light imagery of Murdoch’s novel is based on this concept. For more information on the connection of Murdoch’s idea of moral vision with the Platonic philosophy and metaphors of light see: [9].

may be asked to trace and analyze the linguistic and poetic devices Murdoch uses to show the distortion of moral vision in characters, and thus, the distortion and destruction of reality - primarily through the symbolism of light and color.

2. The ethical and philosophical category of “moral attention”

The central concept of Murdoch’s ethical system is “moral attention” – the term which she borrowed from the works of French philosopher and mystic Simone Weil and further developed in her own philosophical essays, particularly in *Against Dryness* and *The Idea of Perfection*.

“Murdoch’s answer to the question how we can make ourselves better is: by paying attention to the Good. However, <...> Good is a ‘nonrepresentable object of attention’ <...> This means that moral improvement is improvement of vision: it requires close attention to what lies outside of the selfish mechanism of the human psyche” [6, p. 5]. The concept of “moral attention” thus involves actively perceiving another’s reality with a “just and loving gaze” [3], requiring “unselfing” or detaching from the ego to recognize what is real beyond oneself. “Cultivating one’s vision in order to see beyond the self to other individual selves is true moral activity” [6, p. 5]. Meanwhile, “it takes work and effort to see things as they are, and the vision may not be comfortable” [4, p. 6]. This idea is represented in Murdoch’s novels through the cave metaphor and the conceptualization of light. The inability of an individual to reach the truth with their consciousness is linked in Murdoch’s work to the archetypal motif of Oedipal blindness. “There are false suns, easier to gaze upon and far more comforting than the true one,” Murdoch writes in *The Sovereignty of Good* [3, p. 98]. That is why “attention is crucial: to counteract or prevent illusion” [4, p. 6].

The storyline in which John Ducane is given the authority to investigate the crime and the decisions he makes regarding Richard Biranne can serve as powerful material for analysis: Does he act according to his internal moral compass, guided by sincere concern for the other, or does he merely follow the formal duty? Does his attitude change afterwards, and what causes this change? Does he learn to see another person objectively, overcoming his own prejudices or resentments? How does his attention to detail change the overall perception of the Other? Such evaluation fosters the development of critical thinking skills as well as empathy in students.

One of the most important principles of Murdoch’s moral concept is the meaningfulness of philosophy detached from real life. In *The Sovereignty of Good* Murdoch writes, “Of course virtue is good habit and dutiful action. But the background condition of such habit and such action, in human beings, is a just mode of vision and a good quality of consciousness” [3, p. 89]. For Murdoch, such “mode of vision” is linked to the Platonic concept of love and light and manifests in the text as true clear vision, which true love grants – that is, the love of the Good.

3. Platonic anamnesis and the pedagogy of truth

Despite the contradictions and general non-linearity of Murdoch's creative process, a certain dynamic can be traced in the dialogue between the two narrative levels mentioned above. In some novels, such as *The nice and the Good* (1968), *Bruno's Dream* (1969), *The Sacred and Profane Love Machine* (1974), the logic of the Platonic concept of escape (or, more accurately, the possibility of escape) from the cave of illusory world limited by human perception through loving anamnesis ("remembrance")¹⁸ is quite clearly discernible. However, Murdoch manages to fully actualize this concept (albeit in a slightly ironic tone) only in the novel *The Nice and the Good*, which reflects the author's last attempt to remain in the sovereignty of the Platonic Good. In this regard, approaching the classical Platonic concept through the narrative and poetics of Murdoch's novel can be a fascinating and valuable academic experience.

The cornerstone of Plato's teaching is the famous myth of the cave, in which Plato makes a conceptual distinction between the world of the senses, or the visible, and the world of the intelligible. At the same time, a key aspect of Plato's symbolic imagery is the permeation of the intelligible (eidetic) world with benign light of the Good. In this regard, the role assigned to the ideas of light and darkness in Murdoch's "Platonic" novels (including *The Nice and the Good*) is not accidental. In particular, the following Murdochian ideas are Platonic in nature: the idea of blindness and separation from the light; conceptualization of light in terms of its natural or artificial origins; the opposition of light and darkness as rational and sensual principles, as objective and subjective, true and illusory, moral and immoral. As poetics of light in Murdoch's work is connected directly to her moral ideas, its literary analysis appears to be substantial and highly relevant in an educational setting.

We would suggest comparative and contrastive analysis of two storylines (Ducane – Kate and Ducane – Mary) which represent the fundamental distinction between the illusory love (= "false love" which "moves to false good" [3, p. 100]) and true love, which is described by Murdoch as the motivating force behind spiritual ascension to the truth. In the end, Ducane's happy illusory love for Kate Gray, who is characterized in the novel as being full of "golden life-giving egoism and rich self-satisfaction" [2, p. 26], appears to be nothing but "pseudo-Good", a moral trap that an individual falls into when searching for truth, as it is lacking the moral foundation, which Ducane then finds in Mary: "Her mode of being gave him a moral, even a metaphysical confidence in the world, in the reality of goodness" [Id., p. 293].

¹⁸ See a detailed explanation of Plato's concept of spiritual anamnesis and perception of the truth in: [10].

The image of Mary Clothier in the novel is an unmistakable allusion to the Virgin Mary, the embodiment of the maternal principle: "...she was of course, he realized, a mother goddess. She was the mother of Trescombe" [Id., p. 293]. In this context, the fact that Ducane initially rushes into Gunnar's Cave to save Mary's son, Pierce (who is at the same time the "alter ego" [Id., p. 414] of Ducane himself), takes on symbolic significance. The episode in the Gunnar's Cave in the novel is the direct allusion to the Platonic cave and a place of deep moral transformation for the characters after their confrontation with their own delusions, fears, and guilt. Students of ELA can be suggested analyzing the rich imagery of the cave episode, including the symbolism of light and the images of white daisies, round face and the moon ("Something white was floating in the air in front of him <...> The face of a woman swam in front of him <...> like the racing moon, indistinct and yet intent, staring into his eyes" [Id., p. 265]) – imagery which refers to the Platonic ideas of *cosmos* and *kalokagathia*, representing the harmonious combination of the beautiful and the good. The culmination of this episode marks a significant turning point in the narrative and the change in the character's perception. Seeing Mary's saving *face* in the darkness of the cave, Ducane completely rethinks his attitude towards existence: "How tawdry and small it has all been. He saw himself now as a little rat, a busy little scurrying rat seeking out its own little advantages and comforts. <...> He thought, if I ever get out of here, I will be no man's judge. Nothing is worth doing except to kill the little rat, not to judge, not to be superior, not to exercise power, not to seek, seek, seek. To love and to reconcile and to forgive, only this matters" [Id., p. 267].

Conclusion

We believe that Murdoch's ethical philosophy, and the distinction between the notions of "the nice" and "the good" in particular, which she develops with relative transparency in the novel *The Nice and the Good*, could provide an effective foundation for the development of students' analytical skills and moral imagination. The dialogues in this novel are not overloaded with metaphysical disputes, and philosophical concepts are logically and consistently woven into the narrative and the overall poetics of the novel. In addition, the positive dynamics of the characters is clearly traceable. The novel is well suited for academic writing (analytical essays) and discussions about morality, ethics, and human nature.

The works of Iris Murdoch remain relevant to today's young people, who are grappling with the nuances of morality and self-identity in the digital world. Integrating Murdoch's ethics into ELA instruction not only enriches literary analysis, but also equips students with vital skills for the modern world.

Unfortunately, due to the confines of the present article, a full exploration of this topic is not feasible. Yet, the prospect of utilizing Murdoch's novels within an educational context remains intriguing and offers ample opportunity for further research.

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以实践为导向的教育是研究生成功就业的基础
**THE PRACTICE-ORIENTED EDUCATION AS A FOUNDATION
FOR SUCCESSFUL GRADUATE EMPLOYMENT**

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摘要: 大学实践导向型教育是本科生、专科生和硕士生在现代就业环境下的重要基石。如何确保“国家和市政管理”专业的实践导向型学习? 如何建立教育机构与政府部门、非营利组织、政治组织和企业之间的可持续联系? 本文旨在探讨这些问题及其他相关问题。研究以贝加尔国立大学(联邦国家预算高等教育机构)下属的赤塔学院(以下简称“学院”)的实践资料及其在国家和市政管理领域人才培养方面的长期经验为基础。

关键词: 联邦国家教育标准, 实践导向型教育, 实习, 学习动机, 实践导向型教育形式

Abstract. *Practice-oriented education in university is a powerful foundation for the employment of bachelors, specialists, and masters in modern conditions. How can practice-oriented learning be ensured for the «State and municipal management» program? How can sustainable connections be established between educational institutions and government structures, non-profit and political organizations, and businesses? The authors seek answers to these and other questions in this article. The research is based on practical material from the Chita Institute of The Federal State Budget Educational Institution of Higher Education «Baikal State University» (further in the text – the Institute) and its long-standing experience in training managers for the area of state and municipal management.*

Keywords: *federal state educational standard, practice-oriented education, internship, motivation for learning, forms of practice-oriented education.*

The modern Russian labor market is characterized by high development and daily transformation in the sectoral structure of the economy. Undoubtedly, these changes directly influence employer's demands on graduates who have just completed their studies. There is a growing need for young specialists capable of quickly adapting to new working conditions and technologies. Current socio-economic and socio-cultural transformations, associated with the dynamism, intellectual, and technological saturation of the labor market, have led to an imbalance between the structure of personnel training and the needs of the labor market. This imbalance lies in the discrepancy between the demand for qualified young labor and the professional training of graduates, who are not always sufficiently oriented towards employment in their specialty after graduating from universities [2].

Practice-oriented education in the field of state and municipal management is a complex, multifaceted process. It requires a systemic approach involving the joint efforts of professors, practitioners and government authorities [4].

In the changing labor market conditions employers increasingly prefer graduates who prioritize practical skills over theoretical knowledge. Thus, the demand for practice-oriented skills (so-called «skills») becomes a key factor in the successful employment of university graduates. What advantages does practice-oriented education offer for employment?

Table 1
Advantages of practice-oriented education for employment

Advantages	Characteristics
Real skills and Competencies	Students acquire not only theoretical knowledge but also practical experience. They learn to solve specific problems and work with tools and technologies relevant to the respective industry.
Competitive advantage	Employers value candidates with work experience, even if gained within an academic program. There's no need to spend time on training from scratch; the graduate is immediately ready to start working.
Understanding industry specifics	Various types of practical training, internships, and project work allow students to understand how industry specifics are structured, the processes involved, and the requirements for specialists.
Development of soft skills	Teamwork, internal and external organizational communications, conflict resolution through case studies, business games – these competencies are formed through practice-oriented education.
Networking	During practical training and internships, students establish useful connections (contacts) with representatives of industry structures and potential employers, which facilitates job searching after graduation or securing employment concurrently with their studies.
Motivation for learning	Applying acquired knowledge in practice during an internship increases its value and student's interest in learning.

Advantages	Characteristics
Workplace adaptation during education	During practical training and internships, students adapt to the conditions of their future work. Graduates achieve maximum productivity faster.
Informed career choice	Practical experience helps students understand what truly interests them and begin forming their career path while still in the classroom. If necessary, they can form additional competencies by pursuing a second education concurrently or through the system of additional professional education.

Educational institutions and employers typically cooperate through internships or practical training, which in one way or another emphasizes the priority of practical experience. This leads to the development of competencies necessary for direct involvement in production processes. These include: the ability to communicate, work in teams, and manage time, basic skills in working with information systems and analytical tools, and adaptability to changing conditions. A competent specialist must be able to think beyond the confines of their profession to be competitive in the labor market and in demand [3].

The integration of practice-oriented elements into curricula helps to reduce the difference between higher education and employer requirements for graduates.

What forms of practice-oriented education are most effective?

Table 2
Forms of practice-oriented education

Forms of practice-oriented education	Content
Internships and practical Training	Working under the guidance of experienced specialists in relevant industry organizations.
Case studies, business games	Analysis of real-world situations, decision-making in simulated environments.
Project-based learning	Participation in projects simulating real-world organizational scenarios, involvement in grant-funded initiatives, and development of teamwork competencies.
Master classes, training sessions from industry representatives	Allow staying updated on the latest trends, technologies, and changes in industry legislation. Focus on acquiring specific skills necessary for working in the industry. An excellent opportunity to establish useful contacts.
Work in academic laboratories	Opportunity to participate in research projects, design their own experiments, analyze data, publish articles, and contribute to science.

Forms of practice-oriented education	Content
Professional skill competitions, hackathons	Tools for developing and assessing professional skills, and a stimulus for innovation. They enable the application of acquired knowledge in practice. These activities develop competencies such as teamwork, professional communication, idea presentation, and time management. They also provide a way to attract the attention of potential employers and offer an opportunity to meet experts and representatives of industry organizations. Successful participation boosts self-esteem and self-confidence.

The participation in various forms of practice-oriented learning provides students with greater opportunities to master professional tools and new technologies within an educational setting. This approach prepares graduates to transition into professional activity almost immediately upon employment. Regular updates to practical modules ensure that educational content aligns with the dynamics of the labor market.

One of the most popular forms of practice-oriented learning today remains project-based learning, which is actively used to simulate real-world production tasks within the educational process. Students work on complex projects that require the application of knowledge from various disciplines. This method develops the ability to analyze problems, develop solutions, and evaluate their effectiveness. Projects can also be implemented in collaboration with enterprises. Thus, students study current industry requirements, acquire valuable practical experience, and develop personal qualities. In this way, the student changes the role of a «learner» to that of a «specialist». Upon graduating from university, a graduate receives not only a diploma but also ready-made experience in a particular organization, connections, and an understanding of how to apply the practical knowledge acquired during their studies [5].

Practice-oriented education in the area of state and municipal management is an urgent necessity today for training competent managerial staff capable of solving complex contemporary challenges, accumulating a set of competencies in economics, psychology, information technology, law, and general scientific disciplines.

The key trends and challenges requiring the application of practice-oriented learning forms in state and municipal management include: an emphasis on digitalization, the development of soft skills, the involvement of practitioners in the educational process, the application of project management elements, the use of case studies, and simulation-based learning that imitates real management processes.

How these tools are applied in the practical activities of Russian universities, particularly at the Institute.

Economic and organizational changes of recent years have led to shifts in the nature of relationships between higher education institutions and enterprises, as well as state and non-state organizations, regarding the training of highly qualified young specialists.

Today, there is no system of state-mandated job placement for university graduates, and enterprises and organizations independently determine their personnel policies. This is accompanied, on the one hand, by a general reduction in the number of employed individuals, and on the other hand, by higher demands on newly hired employees.

In many cases, preference is given to specialists with work experience. Thus, one of the problems associated with changes in the labor market has been the threat of unemployment for young university graduates. Modern university graduates have become one of the socially vulnerable groups of the population. Today, youth play a leading role in the socio-economic development of the Trans-Baikal Territory, therefore, the issue of employment for this social group is acute.

The Institute has long been involved in the employment of its graduates, but due to the rather unique demand of the labor market for economic specialties (it depends on the economic situation in the country and region), it became relevant at one point to establish a career planning center – the recruitment and employment department [1].

Students are often unable to change their situation of life and professional self-determination on their own, as they are insufficiently mature psychologically and socially for this. Therefore, the university proceeds to create relevant structures necessary to support and develop the potential for student's professional self-determination. The results of conducted research show that even after graduating from university, graduates may struggle to decide on a professional career. The reasons for such uncertainty include both internal and external factors: instability in the country's economic development, individual preferences, the psychological unpreparedness of young specialists for responsibility and entering "adult life," and a decrease in demand for certain specialties.

The department helps every interested student not only to mentally prepare for the onset of a new life stage but also to enhance their skills and competencies in order to subsequently secure a position in accordance with their professional specialization. The main objectives of the department are: to organize the process of career guidance and adaptation for potential applicants, students, and trainees to the uncertainties of the labor market; and to effectively position the university within the social and educational systems of the city, region, country, as well as near and far abroad.

An analysis of graduate employment dynamics indicates that approximately 85% of graduates find employment within the first 2-3 months after graduating from the Institute. Practice shows full employment of graduates upon completing their university studies. If there are graduates who, for various reasons, could not find employment independently, the university assists in their placement by offering job opportunities.

The results of employer surveys indicate a high evaluation of graduate quality across various sectors of the region's economy and social sphere. Employer's opinions on graduates from different specializations point to a strong general theoretical background, excellent fundamental knowledge, awareness in related fields of their acquired specialties, a high level of foreign language proficiency, and information management skills.

Employers highlight ability to generalize, analyze, set goals, and choose ways to achieve them of graduates. They also note their skill in solving non-standard professional tasks and effectively presenting themselves and the results of their work.

Employers highly rate the Institute's graduates for their ability to self-organize and self-educate. They note their initiative and proactivity in work, as well as their focus on career growth.

A department of additional education has been established at the university, whose objectives include providing services in the field of additional professional education, assisting in the organization of practical training and internships, offering the opportunity to gain in-depth knowledge and skills in a chosen professional area, and acquiring new competencies in accordance with market demands, essential for a successful career. It must be noted that the system of long-term internships and practical training based in government. Such practice ensures students immersion in a real professional environment already during their studies. Employers thus gain the opportunity to assess a student's potential during their studies and subsequently offer employment. The graduate automatically receives a guarantee that they will successfully find employment after completing their studies. For maximum effectiveness of practice-oriented training, the development of clear regulations for interaction between the educational institution and partner companies is required. Long-term agreements stipulate mutual obligations of the parties regarding job placement and methodological support for interns. The systematic nature of practical training contributes to the gradual adaptation of students to corporate culture and professional standards. This approach minimizes the adaptation period for graduates entering the labor market.

Currently, the organization of internships in the government of the Trans-Baikal Territory is managed by the Department of State Service and Personnel Policy of the Governor's Administration of the Trans-Baikal Territory.

The development of «soft skills» is carried out through interdisciplinary courses and training programs integrated into curricula, through the completion of final qualification works based on requests from government, and direct supervision by representatives of regional ministries (ministers, heads of structural units of government, deputies) during their execution [1].

The topics of final qualification works for the «State and municipal management» program are highly relevant, possess practical significance, and their results contribute to the development of the social sphere and economy of the region and its individual municipalities. It should be particularly emphasized that over 50 percent of final qualification works are carried out in accordance with the letter of the Governor of the Trans-Baikal Territory «On the approval of diploma project topics». In their works, students identify prospects for implementing socio-economic policy in the Trans-Baikal Territory. They consider the possibility of applying a cluster approach as a tool for regional policy implementation. Special attention is paid to topics related to assessing the competitiveness of the region and municipalities, territories of advanced development, and the quality of life of the population. Such works include: «Assessment of the impact of population quality of life on migration processes in municipalities of the Trans-Baikal Territory», «The Influence of the urban district «Chita City» as a zone of advanced development on the socio-economic situation of municipalities of the Trans-Baikal Territory», «Improving administrative-territorial structure as a factor in increasing the competitiveness of the Trans-Baikal Territory». Students also consider issues of energy and resource conservation, the implementation of the «E-Government» program, evaluating the effectiveness of state government and municipal government, and improving the system of population employment.

The development of students research competencies is facilitated by the scientific and practical laboratories established at the university: Laboratories of «Socio-psychological and economic research» and «Innovative technologies in state and municipal management». Work in these laboratories is aimed at forming scientific and research educational trajectories for students and faculty, which contributes to mastering research competencies in shorter periods [1].

It is also important to note that the Institute develops programs involving government to adapt educational standards to current employer requirements. Joint initiatives include the development and organization of internships, practical training for students, specialized courses, and attracting practicing specialists to teaching activities. This approach contributes to the development of competencies in students that are directly in demand in the labor market. The Institute's experience of cooperation with the Ministry of labor and social protection of the Trans-Baikal Territory, the Ministry of economic development of the Trans-Baikal Territory,

and the Ministry of culture of the Trans-Baikal Territory can serve as an example of the successful implementation of such programs.

Questions regarding the adjustment of educational programs to meet the real demands of the modern labor market are regularly discussed during roundtables organized by the Institute with employers. Such interaction with partners ensures the relevance of the educational institution's course content. As a result, graduates demonstrate a high level of compliance with professional standards. Such a graduate no longer asks «What will I be taught?», as they are already rich in experience and confidence.

Students can get an education through dual degree programs, thus earning two higher education diplomas and forming a unique professional profile. Students of the «State and municipal management» program most often choose to pursue concurrent studies in areas such as «Jurisprudence», «Economy» and «Applied informatics».

One of the key trends is the digitalization of state and municipal management. Its integration into practice-oriented education is critically important. How does practice-oriented education in higher education institutions currently prepare for digital state and municipal management is shown in Table 3?

Table 3
Forms of practice-oriented learning in the aspect of digital competency development

Forms of practice-oriented learning	Content
Studying Government Information Systems (GIS)	Students get practical experience by working with key GIS used in government: <ol style="list-style-type: none"> 1. Document Management System (DMS): understanding the logic behind processing official requests, generating reports, and maintaining archives. 2. Sites for state and municipal services: analysis of the structure, functions, and operating principles, and development of propositions for its improvement. 3. GIS for project and resource management: studying software tools for planning, monitoring, and controlling state and municipal programs and projects. 4. GIS «Municipal Finance Management», GIS «Housing and Utilities», etc.: introduction to the functionality and capabilities for data collection and analysis.
Big data analytics and decision-making	<ol style="list-style-type: none"> 1. Training methods for collecting, processing, and analyzing large datasets generated by state and municipal government. 2. Using analytical platforms and tools for forecasting socio-economic processes and identifying trends 3. Developing analytical reports.

Application of digital tools for citizen engagement	<ol style="list-style-type: none"> 1. Crowdsourcing and e-participation platforms for public discussion of initiatives. 2. Managing social media and messengers through official government accounts on social networks.
Digital security and information protection	Understanding cybersecurity threats, principles of personal data protection and confidential information.
Development of soft skills for work in the digital environment	Digital soft skills: adaptability to new technologies, critical thinking regarding digital information, remote collaboration skills.

Thus, V.V. Putin's statement in his address to the Federal Assembly in February 2023, declaring that «significant changes are overdue in higher education, considering new demands on specialists in the economy, social sectors, and all areas of our lives», is becoming increasingly relevant.

The Institute, drawing on its positive experience of over 70 years of history, incorporating the best aspects of the Soviet education system, and currently planning a transition to a new educational model, will focus its attention on practice-oriented student learning.

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数字技术在小学汉语词汇和汉字教学中的应用
**DIGITAL TECHNOLOGIES IN TEACHING CHINESE
VOCABULARY AND CHARACTER WRITING IN BASIC SCHOOL**

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摘要：本文对基础教育阶段汉语词汇和汉字书写教学中数字技术和人工智能的应用进行了理论和分析综述。文章基于国内外文献，探讨了增强现实/虚拟现实（AR/VR）、移动学习工具和自适应人工智能服务（个性化、视觉语义化、加速重复、提高学习动机）的教学效果及其与传统手写练习的结合。文章还讨论了其局限性（学校技术准备情况、方法论支持、“肤浅游戏化”的风险）以及有效融入课程体系的条件。

关键词：汉语；词汇；汉字书写；数字技术；增强现实（AR）。

Abstract. *The article presents a theoretical and analytical review of the use of digital technologies and artificial intelligence in teaching Chinese vocabulary and character writing at the level of basic general education. Based on domestic and international publications, it examines the didactic effects of AR/VR, mobile trainers, and adaptive AI services (personalization, visual semantization, accelerated repetition, increased motivation) and their combination with traditional handwriting practice. The paper discusses limitations (school technical readiness, methodological support, risks of “superficial gamification”) and conditions for effective integration into the curriculum.*

Keywords: *Chinese language; vocabulary; character writing; digital technologies; augmented reality (AR).*

In recent years, the Chinese language has been rapidly gaining popularity in school education, which is associated with China's strengthened position on the global stage and the growing demand for specialists proficient in Chinese. However, teaching Chinese is accompanied by considerable challenges, primarily due to the radical difference between Chinese writing and alphabetic systems. Chinese

uses a logographic script: the number of characters reaches tens of thousands, and the phonetic form of a word is not related to its written form. As a result, there is a substantial gap between mastering oral speech and developing reading and writing skills: knowing how a word is pronounced does not guarantee the ability to read or write it. No alphabetic language presents such a strong discrepancy between these skills. Furthermore, Chinese is a tonal language: tone changes alter meaning, and correct comprehension of written text requires direct visual recognition of characters [Zadorozhnykh, 2014]. All this makes the acquisition of Chinese vocabulary (words and characters) a complex task for schoolchildren. It is estimated that up to 80% of instructional time at the initial stage is spent on mastering character writing [Artyomov, 2021]. As noted by Zadorozhnykh, “the specific features of Chinese graphics make the learning process labor-intensive and hinder its effectiveness” [Zadorozhnykh, 2014]. Kochergin adds that “mastering such a specific writing system requires activating the maximum number of cognitive mechanisms, which complicates learning” [Kochergin, 2000].

Traditionally, teaching Chinese vocabulary in school relies on memorization and multiple repetition. A common technique involves the teacher writing new characters on the board (or demonstrating them on the screen), while students pronounce their meanings and readings in unison according to the transcription. This is followed by prolonged handwriting practice. However, this approach has several drawbacks: monotony and mechanical repetition reduce students’ motivation [Vlasova et al., 2019], and repeated copying without understanding often does not ensure durable memorization. As Artyomov notes, “handwriting new linguistic material indeed promotes memorization by reinforcing auditory and visuo-motor representations,” yet “the existing system of memorizing characters through repeated copying is not ideal and has low efficiency” [Artyomov, 2021]. Thus, learning character writing solely through mechanical repetition is labor-intensive and ineffective under modern educational conditions.

Against this background, the integration of modern digital technologies into Chinese language teaching has become increasingly relevant. Changes in educational models and digitalization have generated a high demand for online Chinese courses and the use of electronic resources in traditional instruction. According to Solyanko, “there is a clear social demand for digital technologies in teaching Chinese written communication, yet studies revealing their optimizing potential are scarce” [Solyanko, 2022]. Nevertheless, teachers actively experiment with digital tools to improve learning effectiveness. Digital technologies significantly expand access to authentic materials—Chinese texts, multimedia resources, communication with native speakers—creating new formats of classroom interaction. Visualization technologies are especially promising: “it is evident that visualizing complex characters through digital means can significantly ease their acquisition” [Grinshkun & Grigoryeva, 2020].

The search for optimal methods of vocabulary and character acquisition has long attracted methodologists. Approaches range from mnemonic techniques to technological tools. Some Russian specialists suggest presenting characters not in isolation but in context—alongside familiar characters with shared components or related meanings—forming “eidetic maps” for each new character. This approach has shown positive results, helping save instructional time and improve retention [Artyomov, 2021]. Another method derived from Chinese and international practice recommends beginning character writing only after learners have developed strong oral vocabulary skills and stable sound-meaning associations. Only then should the most challenging element—visual recognition—be introduced, consistent with the didactic principle of “one difficulty at a time” [Artyomov, 2021]. This reduces cognitive load during the initial stage of learning.

However, researchers note that there is still no perfect system for effortless and reliable mastery of Chinese writing. Traditional methods based on mechanical copying show low effectiveness in Russian school practice [Artyomov, 2021]. Therefore, the search for more effective and motivating methods is ongoing. In recent years, many works have focused on the informatization of Chinese language teaching. Researchers classify digital tools according to their functions and stages of instruction and justify their relevance. A separate direction involves immersive technologies. Studies highlight the potential of virtual reality (VR) for creating motivational learning environments. However, the most notable progress has been achieved with augmented reality (AR), which attracts increasing attention internationally.

AR offers a fundamentally new method of visualizing linguistic material. It overlays virtual objects (images, animations, text) onto real-world images in real time. In Chinese language learning, AR allows students to visualize the hidden semantic structure of characters, making memorization more meaningful and engaging. In an experiment by Grinshkun and Grigoryeva, AR was used to facilitate the semantization of characters among 5th–6th-grade students. Using the HP Reveal app, learners scanned character markers and saw corresponding 3D images illustrating character meanings. Tasks included matching characters to 3D semantic models, identifying characters by meaning, and designing simple 3D models for new characters. This interactive work significantly increased students’ interest. The experiment demonstrated that the AR-based approach improved lexical proficiency. The authors conclude that electronic collections of characters and associated virtual objects represent a promising direction, especially when developed by students themselves [Grinshkun & Grigoryeva, 2020].

International studies confirm AR’s high potential. For example, research conducted in Thailand shows that using AR in basic Chinese vocabulary courses leads to higher achievement and better retention compared to traditional methods

[Muangchan & Zhao, 2024]. It is noted that AR can reduce the difficulty of learning Chinese words and stimulate learners' interest and initiative [Yang & Wen, 2022]. Thus, AR helps overcome the major barriers in Chinese vocabulary learning—insufficient visualization and low motivation.

In addition to AR, mobile applications and online services play an important role in learning Chinese. Electronic dictionaries and translators (e.g., Pleco, Trainchinese) provide meanings, stroke order animations, audio, and usage examples. Apps such as Skritter employ spaced-repetition algorithms and require users to write characters on screen until mastery is achieved. Research shows that such applications improve retention due to frequent practice and immediate automated feedback. Online platforms offer games, quizzes, and real-time competitions. As Vlasova et al. point out, digital formats enable more frequent and engaged communicative activity [Vlasova et al., 2019]. Online exchanges and communication platforms provide authentic practice essential for durable vocabulary acquisition.

It is important to maintain balance between digital tools and traditional methods. Many studies emphasize that handwriting remains indispensable [Artyomov, 2021; Zadorozhnykh, 2014]. Only through writing is motor-visual memory formed. Therefore, integrating digital technologies with classical methods is most effective. Grinshkun notes that “combining multimedia visualization (3D AR models) with tactile methods (handwriting, calligraphy) yields optimal results” [Grinshkun & Grigoryeva, 2020]. Digital tools do not replace teachers or textbooks but complement them by reducing routine workload and enabling more focus on meaningful communication. This synergy strengthens vocabulary learning by engaging different perception channels and memory types.

Digital technologies introduce qualitatively new opportunities for teaching Chinese vocabulary in schools. Analysis shows that they help overcome traditional learning difficulties. AR provides the necessary visualization, transforming memorization from mechanical to meaningful. Experimental data confirm improved learning outcomes, including higher achievement, interest, and motivation [Grinshkun & Grigoryeva, 2020; Yang & Wen, 2022]. Alongside AR, interactive applications and online communication expand access to authentic materials and personalize learning.

At the same time, traditional methods remain essential. Combining digital tools with well-established practices ensures optimal results. Digital resources strengthen visualization, interactivity, and training automation, while the teacher guides meaning and speech development. This combination produces a synergistic effect, enhancing vocabulary retention through multiple cognitive channels.

The use of digital technologies in Chinese language teaching continues to evolve. More experimental research is needed to compare tool effectiveness and develop methodological recommendations. Nevertheless, it is clear that digital

technologies, when used wisely, enrich instructional methodology and accelerate the formation of vocabulary competence and character literacy. Thus, integrating innovative tools (such as AR) with traditional practices represents an optimal path for mastering Chinese vocabulary in modern schools.

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为教授哈萨克舞蹈而编写的方法论手册的实质性特征
**SUBSTANTIVE FEATURES OF METHODOLOGICAL MANUALS
PREPARED FOR TEACHING KAZAKH DANCE**

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摘要: 为了理解哈萨克舞蹈作为一种独特的舞蹈文化,其未来发展的责任,本文以首批专业表演者莎拉·日恩库洛娃、奥巴基尔·伊斯梅洛夫和道伦·阿比罗夫为起点,他们为哈萨克舞蹈的形成做出了巨大贡献。本文旨在系统梳理并介绍那些系统整理和呈现民族舞蹈艺术在漫长而原始的发展阶段所积累的资料的作者的著作。迄今为止,哈萨克专家和教师们已经编写了哈萨克舞蹈教材、手册和教学大纲,这些教材、手册和大纲都获得了积极的反馈,并经过了反复的检验。几乎所有这些作品都已成为教学过程中使用的工具。

本文分析了自1965年以来出版的教材,1965年哈萨克舞蹈首次作为一门课程在共和国舞蹈教育机构中开设。

关键词: 教材,舞蹈,教育,哈萨克舞蹈,高等教育机构,作者

Abstract. *Understanding the responsibility for the future of Kazakh dance as a unique dance culture, starting with the work of the first professional performers Shara Zhienkulova, Aubakir Ismailov, Dauren Abirov, who made a great contribution to its formation, we present an article in order to systematize and familiarize with the works of the authors who systematized and presented the material accumulated at a long and simple stage of development national dance art. To date, Kazakh specialists and teachers have developed textbooks, manuals and programs dedicated to Kazakh dance, which have received positive feedback and have been repeatedly tested. Almost all of these works are tools that have come into use in the educational process.*

The article analyzes the presented textbooks and textbooks published since 1965, when Kazakh dance was first taught as a subject in the choreographic educational institution of the Republic.

The key words: *Textbook, textbook, choreography, education, Kazakh dance, higher education institution, author.*

Introduction

Among the professional arts that emerged and developed in Kazakhstan in the 1930s was dance. Kazakh dance, which emerged on the professional stage with the first musical performance, “Aiman-Sholpan,” has continually evolved. Folk dance, which began with Shara Zhienkulova and Dauren Abirov, has undergone a long and arduous journey into performing arts.

While A. Ardobus (Ibragimov, 1900-1959) first choreographed the dance for M. Auezov’s “Aiman-Sholpan” as a choreographer, the work of A. Alexandrov from Moscow was a unique phenomenon in the development of professional choreography. He opened a school at a music studio, where he focused on training professional dancers. He founded the Almaty Choreographic School and accepted its first schoolchildren. “The school’s education was systematized, and along with classical and character dances, rhythm and piano lessons were also offered” [1, p. 118].

Since 1937, this school was headed by A.V. Seleznev. With the direct participation of

A.V. Seleznev, in 1938, the dance department, separated from the music school, laid the foundation for the choreographic school. “From that time on, an annual final concert began to be held, and this tradition has been preserved to this day” [2, p. 74].

In 1965, under the direction of Sh. Zhienkulova, a folk dance department was opened at the school, where professional training in Kazakh folk dance began.

Graduates of the school joined the troupe of the Almaty Opera and Ballet Theater named after Abay. “And the graduates of 2000 arrived on a voucher and founded the ballet troupe of the National Opera and Ballet Theater named after “The K. Baiseitova Theater in Astana (the theater operated until 2013)” [3, p. 173].

The choreography department at the Variety and Circus Arts Studio (now the Zh. Yelebekov College), opened in 1965, is an educational institution that makes a significant contribution to the training of dancers for folk dance ensembles and regional philharmonic groups. Currently, in some regions of the republic, secondary vocational and higher educational institutions train choreographers in various fields.

However, teachers note that the curriculum of the A.V. Seleznev Almaty Choreographic School and the Kazakh National Academy of Choreography, located in

Astana, provides very few hours of instruction in “Kazakh Dance” for the training of professional dancers. Considering that the repertoire of professional dance ensembles developing in the modern Republic is based on national dance, perhaps this subject deserves attention.

Here, I would like to quote the renowned choreographer and People’s Artist of Kazakhstan, Bolat Ayukhanov, who said: “I believe that Kazakh dance as a subject in choreographic schools should be taught alongside classical dance until the final grade, culminating in the state exam.” He continued: “...The Republic needs not only competent classical dancers, but also talented dancers performing folk dance” [4, p. 71]. In our opinion, this is well said.

Methods and Materials

Numerous teachers and scholars are working to teach Kazakh dance, pursuing the right direction to elevate its level to that of classical education. Therefore, to review publications devoted to the teaching of Kazakh dance in educational institutions training choreographers in Kazakhstan, the authors used the following methods:

- a chronological systematization method for analyzing published curricula, teaching aids, and textbooks;
- by differentiating these publications, the authors scientifically formulate their role in the educational process;
- a comparative analysis of works devoted to Kazakh dance determines the appropriate direction for conducting Kazakh dance lessons;
- using an empirical method for differentiating textbooks, teaching aids, and curricula published to date, through an exchange of ideas during meetings with all authors;
- information about the authors of all publications devoted to the teaching of Kazakh dance determines their place in this field.

Main Part

The older generation took up the mastery of classical art, which had arrived late in Kazakhstan, and the training of young specialists. Consequently, a sufficient number of textbooks and teaching aids on Kazakh dance were not published. One of the pioneers in this field was the renowned dancer Shara (Gulshara) Baimoldakyzy Zhienkulova, who dedicated her work to teaching Kazakh dance. Zhienkulova’s work “The Secret of Dance,” which served as the basis for all subsequent educational programs, was published in 1980 by the publishing house “Oner” (Art).

From today’s perspective, this book can be considered to be divided into three parts. The first is dedicated to her work, and the second shares her thoughts on stage attire. The third part describes the techniques for performing each movement of Kazakh dance.

For the first time, arm and leg positions are presented as a teaching aid for Kazakh dance instruction. The main types of dance moves, including the basic movements of women's and men's dances, are recorded and demonstrated. Each movement is also shown in a musical arrangement (musical arrangement).

In the next section, she divided her dance compositions into musical bars, describing the movements. Clothing models adapted to the individuality of each dance are also demonstrated. The majority of Shara Zhiengkulova's dances are choreographed in accordance with the demands of the time. At that time, dances such as "Shakhterlar bi" (miners' dance), "Zhylykshy" (horse breeders' dance), "Kyz kuu" (a sporting game called "catch the girl"), "Almatynyn almasy" (Almaty apples), and others, illustrating that era, were performed by amateur ensembles.

There is every reason to believe that this work by Shara Zhiengkulova defined the direction in which teachers should work. Shara Zhiengkulova's initiative was continued at the Almaty Choreographic School named after A.V. Seleznev. Having begun her career as a teacher at this school, Shara Zhiengkulova's student, Ganikamal Nygmetzhanovna Beisenova, dedicated her entire life to improving Kazakh dance teaching methods. She worked at this educational institution for over half a century, or 55 years to be exact. Today, a fifth generation of teachers and dancers who studied under this teacher and dedicated themselves to Kazakh dance work throughout the country.

Beisenova, along with her tireless work throughout these years, is also the author of several curricula and numerous scientific articles. Her first curriculum, dedicated to Kazakh dance, published in 1993, became the foundation for the work of the next generation of teachers and researchers. G. Beisenova's explanatory note notes that during the first academic year of Kazakh dance, girls and boys are taught separately, and that same year, classes are held at the barre (a wooden or iron support in the ballet studio). The program demonstrates the teachability of arm movements in girls' dances, taking into account their role and the specific features of their body movements.

The program is designed for three years. In the second academic year, classes are held in the center of the studio, and during that same year, paired dances and group dances are mastered. In the third year, individual work with gifted students was primarily focused on dances passed down from generation to generation by older choreographers. This was the first serious methodological program for teaching Kazakh dance. Of course, the program was refined over time. It is known that Ganikamal Beisenova's students perfected their methods of teaching national dance, visiting every region of the republic and teaching Kazakh dance.

Kazakhstan's first professionally trained choreographer, Dauren Tastanbekuly Abirov, also left behind works on the teaching of Kazakh dance through his research, which yielded results in the development of male dance. This is evidenced by the statement of Art History Candidate

K. Aitkalieva: “The main goal of D. Abirov’s research was to study ancient Kazakh folk dances, identify the stages of their creation, and reveal the importance of their further development on the professional stage” [5, p. 13].

The first “Kazakh Folk Dances,” co-authored with the renowned folk dancer and artist Aubakir Ismailov and published in 1961 (second edition 1997), consists of two parts: male and female dances. The entire dance was completely notated, broken down into musical bars. Following the dance, hand-drawn illustrations of the dance movements and descriptions of the dancers’ movements on stage are presented. A. Ismailov, who performed and then drew all the movements of the four men’s and three women’s dances included in this book, including the unique movements characteristic of men’s dance, is a vast work. The scores for the dances are provided separately as supplementary material.

D. Abirov’s work, published in 1997 under the title “History of Kazakh Dance,” consists of two parts. The first presents the history of the development of Kazakh dance based on his scholarly works. The second part describes and demonstrates the performance methods of the movements included in the Kazakh dance curriculum. The men’s dance movements included in this work were fully incorporated into the curriculum.

The work of teacher and scholar Olga Vsevolodskaya-Golushkevich, entitled “School of Kazakh Dance” (1994), created as a result of many years of research, is, as the title suggests, considered the first comprehensive textbook. The textbook, based on a system used in the study of choreographic disciplines, is based on the positions of the arms and legs. Barre combinations were only permitted after mastering the types of dance moves, movements in women’s and men’s dances, and methods of performing spins and jumps. The movements taught by the Kazakh dance teacher and scholar for barre performance were primarily designed to develop leg strength. Meanwhile, movements to develop core flexibility and improve arm flexibility were systematized for performance in the center of the room.

The author’s textbook also focused on revealing the character of Kazakh dance and understanding the musical rhythm of the melody. O. Vsevolodskaya-Golushkevich noted: “All movements of Kazakh dance have profound meaning and an internal psychological state, reflecting the artistic and imaginative thinking of the people, their ancient views and worldviews” [6, p. 6]. Overall, this is a significant legacy for choreographers of the next generation. Because no previous authors have so precisely explained and described each movement from a scientific perspective.

The methodological manual “Kazakh Dance. Methods of Teaching,” presented by G. Orumbayeva and A. Kalelova, instructors at the Abai Kazakh National Pedagogical University in 1995, is the first work on Kazakh dance for university students. This methodological manual demonstrates the system for teaching this discipline, along with methods for performing certain Kazakh dance movements.

The most valuable feature of this manual is the model for barre classes and the types of variations (etudes) in the center of the room. Barre classes have been taught for a long time. However, the value of this work lies in the fact that for the first time, this methodological manual presents combinations composed in harmony with music. Considering that the theory and methods of teaching choreographic disciplines require a special curriculum, it is clear that this methodological manual is based on experience, teaching models, and teaching technologies. It is a unique tool that can be used by beginning Kazakh dance teachers. The textbook “Kazakh Dance” (2002) by Aigul Kulbekova, a professor at the Kazakh National Academy of Choreography and Doctor of Pedagogical Sciences, for students majoring in choreography at universities, clearly didn’t reach all choreographers. Nevertheless, this textbook was published in a timely manner and proved greatly helpful in teaching Kazakh dance. As is well known, the textbook is designed for a four-year, eight-semester course and follows the “from simple to complex” principle. The author followed the principle of a leisurely study of the rich vocabulary of Kazakh dance, taking into account that young people come from remote villages to regional universities. Each academic year of Kazakh dance, beginning with a theoretical course, was aimed at mastering dance vocabulary through practical classes. At the end of the year, assignments for students to complete independently and a list of dances to be learned and mastered were presented.

In 2009, Associate Professor A. Kulbekova of the Kazakh National Academy of Arts T. Zhurgenova and renowned ballet master and choreographer Aigul Tati have published a teaching aid entitled “Program Requirements for the Course ‘Theory and Methods of Teaching Kazakh Dance’” for university students majoring in Choreography. This is also a systematic program written for the Kazakh dance curriculum. The course, which covers the theory and methodology of Kazakh dance, is designed to last two years (10 credits).

The first part contains an explanatory note, organizational methodology, and course-level qualification requirements.

The second part is divided into:

- Contents of the first academic year;

- Contents of the second academic year. The curriculum for the second part for each year includes lectures and practical classes. The musical accompaniment of Kazakh dance is highlighted as a separate topic. Women’s and men’s dance movements, barre classes, and the methods for performing the movements included in them are presented separately. At the end of each course, students study stage dances choreographed by older choreographers, who are now part of the “Golden Fund.”

In 2012, to commemorate the 100th anniversary of the birth of the first Kazakh professional dancer, Shara Zhienkulova, the IV Republican Kazakh Dance Competition was held. As part of this competition, the first textbook, “Theory and Methods of Teaching Kazakh Dance,” was published. The authors were Doctor of Pedagogical Sciences, Professor A. Kulbekova, and Candidate of Art History, Professor T. Izim.

This is the first textbook on Kazakh dance. The textbook is valuable because it is written in both Russian and Kazakh and is convenient for use by all teachers and students. The textbook, covering four years of study, is based on the Kazakh dance curriculum.

The academic year covered three main areas:

- Theoretical course;
- Practical course;
- Methodological materials.

The theoretical course included lectures on the topic, while the practical course focused on Kazakh dance movements. The third course presented teaching materials:

- learning variations (sketches);
- dances to master;
- independent student work;
- essay topics;
- recommended reading list.

The authors note: “The conveyance of emotional changes and graceful movements through musical accompaniment is a characteristic unique to Kazakh dance. A folk musician, while accompanying a dancer, strives to clearly reflect the emotional state of their movements. During the dance, the dancer and musician become one,” emphasizing the importance of musical accompaniment in Kazakh dance lessons [7, p. 114]. At the end of the textbook, sheet music for the dances is provided for study, along with dances filmed on video.

This textbook is valuable because the methods for performing all movements are written entirely in simple language, which can greatly assist students in comprehensively mastering the material when studying Kazakh dance. This textbook, written by experienced teachers, is still in use.

Following this textbook, a manual titled “Kazakh Dance. A Handbook” was published in 2021 by faculty at the Scientific and Methodological Laboratory of Kazakh National Dance, which opened in 2019 at the Kazakh National Academy of Choreography under the direction of Professor T. Izim. The purpose of this manual, published in Kazakh and Russian, was to harmonize the names of Kazakh dance movements. This manual, consisting of 14 sections, ranging from arm and leg positions in Kazakh dance to barre exercises, was developed over the course

of three years. Prior to publication, a national seminar was held, inviting Kazakh dance teachers from all educational institutions in Kazakhstan. At this seminar, each movement was discussed, and their names were determined.

Regarding this work, Doctor of Pedagogical Sciences A. Kulbekova noted: “During the research, laboratory specialists removed similar, duplicate, and outdated materials.” Furthermore, the developers of the handbook objectively discussed the historical facts, theory, and practice of Kazakh folk dance, and analyzed existing sources in their interrelationships. According to experts, in order to preserve national dance and expand the choreographic vocabulary, forgotten materials of great value have been introduced at the present stage” [8, p. 309]. This is precisely the value of this handbook.

Results

As is well known, the educational process in the specialty of choreography is multidisciplinary. Nevertheless, one of the strong pillars of knowledge imparted in the Republic’s educational institutions is national dance. National dance refers to the lesson “Kazakh Dance.” Kazakh dance is taught in vocational technical educational institutions and universities of the Republic. Vocational technical educational institutions train choreographers-performers, specialist choreographers, and directors of artistic groups, while universities train teachers-choreographers and ballet masters-choreographers. However, the educational programs of educational institutions in central cities and those in regional centers differ. This is also due to a reason. The Almaty Choreographic School named after A.V. Seleznev and the school-college of the Kazakh National Academy of Choreography train ballet dancers using an eight-year program and folk dance ensemble performers using a three-year program. There are also differences in the curriculum of arts colleges in regional centers and those of the choreographic school and academy of choreography. As noted during the assessment, arts colleges in regional centers devote more hours to folk dance and Kazakh dance.

This raises the question of how students can fully master the program using written curricula, teaching aids, and textbooks, as well as the latest methodological publications on Kazakh dance. This is because young people entering undergraduate programs have varying levels of knowledge. Our goal is to impart knowledge about Kazakh dance and expand our understanding of folk dance. The work of teachers G. Beisenova, T. Izim, A. Tati, A. Kulbekova, B. Tleubaeva, K. Aitkalieva, and others, who have written programs and textbooks, plays a significant role in this area.

Discussion

Dating back to the early days of professional dance in Kazakhstan, Kazakh stage dance has continually evolved. This is evidenced by the creative paths of many choreographers and performers who have worked along this path. The pe-

riod from A. Alexandrov, who contributed to Shara Zhienkulova's development as a performer, to today's performers spans nearly a century. It is well known that these performers were educated and worked tirelessly to bring folk dance to audiences. It is also well known that a new generation of scholars has made a significant contribution to the introduction of dance into scientific discourse and the development of its theoretical foundation.

The study of Kazakhstan's choreographic art began with L.P. Sarynova and was continued by D.T. Abirov in the 1970s, and many scholars continue to pursue this path today.

The works of Doctor of Pedagogical Sciences, Professor A.K. Kulbekova, and Candidate of Pedagogical Sciences, B.S. Tleubayeva's works on the pedagogical principles of university training in choreography; Art History Candidate and Professor T.O. Izim's works on the stages of development of stage Kazakh dance; and G.T. Zhumaseitova's analysis and demonstration of the development of classical art—these are all achievements of scholars.

It is impossible to separate education and science. Perhaps this is why the educational and methodological works of scholars and teachers studying other dance arts are being implemented in their own educational institutions. In this case, it is probably true that each work of each teacher and scholar has contributed to the advancement of Kazakh dance to the level it currently stands today. In this regard, the works of B.S. Tleubayeva and S.Sh. Tleubayev from Shymkent, G.I. Murzabayeva from Kyzylorda, and K.D. Aitkalieva from Uralsk are noteworthy. Each publication dedicated to Kazakh dance culture, theory, and methodology has its own value. These works are based on the renowned works of older teachers and academic educators who are with us today.

Conclusion

We have reviewed teaching aids and textbooks in use throughout the Republic. Teachers who teach at all of our republic's universities are also working with the same goal. It is therefore clear that we must rely on modern technologies in Kazakhstan's higher education institutions, national choreography based on traditional culture, and the pedagogical and theatrical experience of the national choreographic art. We are confident that if new textbooks are published, based on a system of understanding the origins of traditional dance, its origins, and social environment, along with the history of national choreography, the next generation will undoubtedly increase their activity in research.

However, Kazakh dance has come a long and difficult way to date. Kazakh dance, which emerged and developed through the inquisitive efforts, painstaking work, and talented efforts of several generations of dancers and choreographers, is now beloved by the public for its original expression, national identity, and unique character.

Modern Kazakh dance has reached a level that can be compared with the most advanced dances of the world's peoples. Educational institutions play a significant role in achieving this success.

It turns out that there are very few Kazakh dance teachers. Today, in some educational institutions, it is extremely difficult to entrust the “Kazakh Dance” course to teachers who have never danced, have no sense of the stage, and lack understanding of it. Every year, we train specialists in choreography, yet, as is well known, there is a shortage of Kazakh dance teachers. And there are only a few teachers of “Kazakh bi murasy” (The Heritage of Kazakh Dance). To ensure that the dances included in the “Golden Fund” are preserved and passed on from generation to generation, it is necessary to train teachers in this field.

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中国当代业余舞蹈团剧目发展研究——以四川省为例
**THE DEVELOPMENT OF THE REPERTOIRE OF CHINA'S
CONTEMPORARY AMATEUR CHOREOGRAPHIC ENSEMBLE -
USING SICHUAN PROVINCE AS AN EXAMPLE**

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摘要: 本文探讨了中国业余舞蹈创作的现状和特色。研究以四川省为例, 重点关注非专业舞蹈实践的组织结构和体裁多样性, 以及它们在保护和传承地域文化遗产方面的作用。研究特别关注舞台演出、大型广场舞蹈、将舞蹈融入传统戏剧(尤其是川剧)的业余改编以及少数民族民间舞蹈等体裁形式。通过对具体舞蹈团体的分析, 本文揭示了业余表演框架下艺术自我表达、社会参与和文化遗产的机制。

关键词: 业余艺术, 舞蹈, 文化自我活动, 民间舞蹈, 川剧, 少数民族, 文化中心, 舞台实践。

Annotation. *This article explores the current state and distinctive features of amateur choreographic creativity in China. The research focuses on the organizational structures and genre diversity of non-professional dance practices, as well as their role in preserving and transmitting regional cultural heritage, using Sichuan Province as a case study. Particular attention is paid to genre forms such as stage productions, large-scale public square dances, the integration of choreography into amateur adaptations of traditional theater (notably Sichuan opera), and folk dances of ethnic minorities. Through the analysis of specific dance ensembles, the article reveals the mechanisms of artistic self-expression, social participation, and cultural continuity within the framework of amateur performance.*

Keywords: *amateur art, choreography, cultural self-activity, folk dance, Sichuan opera, ethnic minorities, cultural centers, stage practices.*

Contemporary amateur dance in China represents a unique synthesis of centuries-old traditions and contemporary trends, reflecting the country's dynamic cultural development. It carefully preserves elements of traditional Chinese dance, which have deep ritual and symbolic roots. The technique of classical Chinese dance includes numerous jumps, spins, and other complex movements, primarily circular. Emotions are expressed through precise, synchronized movements of the arms, body, and eyes. These elements are not simply reproduced but adapted to modern conditions, allowing amateur troupes to combine traditional *plastique* with contemporary choreographic styles.

The development of amateur dance art in China is largely determined by institutional support from the state. As rightly noted Li Yanyan "With" Since the founding of the People's Republic of China, one of the priority tasks for the Chinese leadership has been to pay close attention to the preservation of the national cultural heritage, customs, and traditions of China's numerous ethnic groups. Thanks to significant state support, folk choreography now has the opportunity to revive lost traditions. As a result, contemporary choreographic practice demonstrates a surprisingly rich repertoire" [1, p. 380].

In China, there are no publicly available statistics on the number of amateur dance companies nationwide or by province. However, it is safe to say that the number of amateur mass dance companies (Chinese:群众业余文艺团体), including amateur choreographic ensembles, numbers in the tens of thousands across the country. This is evidenced by the fact that, according to data from the Ministry of Culture and Tourism of the People's Republic of China, over 500,000 amateur creative groups are registered under the state program "Cultural Centers for the People," a significant portion of which specialize in choreographic art [2].

Sichuan Province, with a population of approximately 83 million and a diverse ethnic mix, holds a special place in the world of amateur choreography thanks to its historical heritage, including Sichuan opera, and its active cultural policy. The region boasts an exceptional diversity of dance styles, owing to its multi-ethnic composition and cultural diversity. Amateur dance groups are active in universities, schools, community centers, and local community spaces. Chengdu, the provincial capital, is an important center for the development of both traditional and contemporary dance practices.

Sichuan is known for its contribution to the development of amateur choreography due to several factors. Firstly, **ethnic diversity of the region**, including Tibetans, Yi peoples (Chinese simplified彝族) and Qiang (Chinese simplified羌族), contributes to the preservation and popularization of traditional dances, such as the Tibetan dance Guozhuang (Chinese simplified藏族锅庄舞) or ritual dances of the Qiang (Chinese simplified羌族祭祀舞). Traditional choreography of the Yi people, presented by such groups as the Liangshan Sparks

(Chinese:凉山火把节) under the direction of choreographer Aluo Mati (Chinese simplified)阿鲁玛吉), has gained widespread recognition for its preservation of authentic dance forms. The ensemble is known for its performances that combine elements of ritual dance with drum rhythms and acrobatic movements. In 2019, the group won a gold medal at the All-China Folk Arts Festival for its production of "Dance of the Fire Dragon."



Figure 1. Traditional song and dance performance Duoluohu (Chinese simplified)多罗河) nationalities And at the Yanbian Ethnic Torch Festival (Chinese:延边彝族火把节) in Yanbian County, Sichuan Province

In the city of Mianyang there is an amateur group called “Flowers of Qiang” (Chinese:羌族之花), specializing in Qiang dances. Under the direction of choreographer Wang Zhiyuan, the company actively participates in regional festivals, including the annual Qiang Culture Festival, where their ritual dance-based performances attract the attention of both locals and tourists. In 2022, the company was awarded the Provincial Cultural Heritage Preservation Award.

Secondly, Sichuan opera, a unique theatrical art form that combines music, acrobatics and dance, has had a significant influence on local dance companies. In the official cultural system of China, traditional opera (Chinese simplified戏曲), including Sichuan, is mainly owned by professional troupes, structurally organized at the level of provinces, cities, and autonomous regions. However, as noted Liu Xiaozhen, “amateur forms of integration of traditional opera are found, although in a less institutionalized form. Amateur theatre and dance groups operating in cultural centres and educational institutions are developing their own approaches to adapting traditional plastic forms” [3, p. 211].

In Sichuan Province, there are groups at cultural palaces that organize amateur versions of opera, including "sitting singing and playing" (Chinese:坐唱川剧). One such example is the team at the cultural center of the city of Neijiang, whichThe company regularly holds open rehearsals and performances, preserving traditional elements of Sichuan opera in an adapted, accessible format for a wider audience. The group's members—primarily city residents with basic vocal and stage movement skills—perform excerpts from classical pieces, accompanied by characteristic movements, facial expressions, and choreographic elements. Such activities contribute to the preservation of forms of mass amateur art and at the same time support the continuity of the opera tradition.



Figure 2. The staff of the Palace of Culture of the city. Neijiang performs an adapted version of a traditional opera

Of particular interest are experimental projects that reinterpret canonical operatic techniques through the prism of contemporary choreographic trends. These productions incorporate traditional elements such as the *bian lian* technique (Chinese:变脸—the art of instant mask changing) or work with long sleeves “*shu xiu*” (Chinese:水袖), acquire a new meaning when incorporated into the context of contemporary dance or site-specific performances. These processes are taking place with the active support of state cultural institutions, demonstrating official recognition of the importance of amateur creativity as a factor in the preservation and development of traditional heritage.

Thirdly, the active development of modern forms of choreography among young people in large cities. School and student amateur groups cover a wide range of genres, from folk to contemporary forms, including contemporary, hip-hop, and jazz. Chengdu, as the province's cultural center, has become a platform for development.youth groups.

Youth Experimental Dance Theater "New Horizons" (Chinese: dir.新视野舞蹈剧场) under the artistic direction of Li Xiaoyang over the past five years has created a series of innovative performances synthesizing elements of wushu (Chinese simplified 武术) and contemporary dance. Their work "The Edge of Time"(Chinese simplified 时间的边界) received the Special Jury Prize at the 2023 Shanghai International Contemporary Dance Festival. The youth dance group "Spring Wind" demonstrates a creative approach to productions (Chinese: d.春风) from Chengdu, inspired by Chinese poetry and traditional painting. In their performances, the participants use traditional musical instruments and costumes, striving to convey the harmony of nature through choreographic images. The group regularly participates in regional cultural events. Another significant group is the student ensemble "Golden Lotus" of Sichuan University (Chinese: [pronounced "Golden Lotus"] 金莲花). Directed by choreographer Zhang Xiaomei (Chinese: dir. 张晓梅) This ensemble is known for its jazz-modern productions that combine elements of Sichuan opera with Western dance techniques. In 2024, the group performed at the Shanghai International University Arts Festival, where their production "Reflections of Sichuan" was praised for its innovative approach to integrating traditional and contemporary elements.



Figure 3. A fragment of the performance of the student group "Golden Lotus"

Fourth, Sichuan's festival culture, supported by local authorities, provides a platform for amateur ensembles to perform. State support for amateur choreography in Sichuan is also provided through a system of grants and competitions. The annual "Blooming Sichuan" festival brings together over 1,000 groups from across the province, and its winners are given the opportunity to participate in national cultural programs. In September 2023, more than 1,000 people gathered in the city of Deyang 600 dance lovers from the regions of Yungui, Chongqing,

Sichuan and others, representing 14 teams at regional festival of platform dance. This event demonstrated the activity of mass cultural forms and a high level of artistic organization. The Fourth Festival or Competition of Dance Educational Schools (Chinese simplified 舞韵蓉城). The event took place in November 2023 in Chengdu, bringing together groups from universities and vocational schools, showcasing both folk choreography and contemporary compositions, incorporating elements of traditional heritage.

The phenomenon of “square dances” (Chinese simplified 广场舞, guanchang wu) deserves special attention, which became widespread in Sichuan. Originating as a synthesis of physical education, artistic expression, and collective practice, public dances serve an important social function: they foster social bonds, maintain physical health, and foster cultural self-realization. Their regularity, accessibility, and stylistic diversity (from folk and patriotic melodies to pop arrangements) make this form a stable element of the urban cultural environment. Sichuan Province pioneered the systematization of this movement—in 2018, the first official collection of recommended compositions and choreographic patterns was published there. Professor Zhang Wei of the Sichuan University of Culture and Arts notes in his research that “the Sichuan school of ‘square dances’ is distinguished by a particular plasticity and musicality, which is linked to local folk choreographic traditions” [4, p. 88].



Figure 4. A mass performance of amateur dance in a city square in Mianyang (Sichuan Province)

Thus, as the examples of amateur dance groups in Sichuan Province examined above demonstrate, such associations in China represent, on the one hand, a heterogeneous yet, on the other, structurally organized cultural phenomenon.

Their existence is closely linked to state cultural policy, reflects the country's ethnic diversity, and is deeply woven into the sociocultural fabric of contemporary urbanization processes. Despite the absence of a universal typology of amateur dance groups in the scholarly literature or in Chinese cultural practice, our analysis allows us to propose a basis for classifying them according to several key criteria.

First and foremost, a distinction is made based on organizational and institutional status. In this regard, a distinction is made between groups operating within official cultural institutions (for example, district cultural centers, folk art centers, and leisure centers), and initiative associations that emerge on a voluntary basis in residential communities, businesses, or educational institutions. The former typically have a stable material and technical base, a permanent membership, and the ability to participate in competitions at various levels. The latter are more flexible in structure and repertoire, focusing on self-organized artistic activity.

The second significant parameter is genre specialization. In this area, we distinguish between groups performing:

- *folk and ethnic choreography*, including dances of the Han, Tibetan, Qiang, and Yi peoples;
- *modern dance forms*— from jazz-modern and contemporary to hip-hop and street dancing;
- *area dances* (Chinese simplified 广场舞), which are a unique Chinese mass phenomenon, primarily aimed at middle-aged and older audiences;
- *theatrical and dance performances*, associated with the integration of choreography into dramatic art, including in the structure of traditional operatic forms (for example, Sichuan opera).

Classification can also be based on the demographic composition of the participants: children's and youth studios, adult and senior groups, and mixed-age groups. The level of artistic training is also an important criterion: some groups focus on demonstration performances on city or regional stages, while others focus on competitive activities, including participation in national festivals, which requires the presence of professionally trained teachers.

Finally, regional and ethnocultural specifics must be taken into account. For example, in the southwestern provinces of China, including Sichuan, ensembles preserving the folklore and ritual traditions of ethnic minorities are of great importance, while in the eastern and coastal regions, troupes focusing on modern or syncretic dance forms predominate.

Thus, the multi-layered classification of amateur dance companies in China reflects not only formal and stylistic differences but also the profound connection between choreographic practice and social, cultural, and ethno-political aspects. Moreover, the goals underlying the performances of various amateur dance companies can vary significantly, reflecting the diverse aspirations and values of their

participants. Some companies place primary emphasis on achieving official recognition and winning prestigious competitions and festivals. These companies often prioritize achieving high artistic standards through meticulous preparation. To achieve success, they often collaborate with professional choreographers, creating pieces that demonstrate a high artistic standard.

On the other hand, amateur dance groups are actively developing, focusing more on the social and cultural aspects of their activities. For these groups, dance serves as a means of communication, collaborative creativity, and introduction to the art of choreography. Their performances are aimed less at external evaluation than at developing a sense of beauty and collaborative creativity. These groups often include repertoires of works reflecting their shared passions, prioritizing the process of collaborative creativity above the pursuit of success.

In general, each group "develops a specific direction over time, accumulating a repertoire that corresponds to the composition of the student body, the performing style, and the creative objectives. Having reached certain heights and accumulated sufficient potential for new growth in skill, the creative group seeks ground for its development in a more complex repertoire" [5, p. 10]. In this way, amateur groups contribute to the preservation of the distinctiveness of national culture, embodying it in new forms and developing the creative potential of their members.

Conclusion. Chinese amateur choreography is a unique phenomenon that retains great significance in the country's cultural life. Despite differences in approach, all amateur dance companies in China play a vital role in cultivating aesthetically educated and creative individuals. Chinese amateur companies strive equally to preserve cultural heritage and adapt it to the modern era. This interplay between tradition and innovation creates a unique layer of choreographic art that simultaneously reflects historical roots and informs current trends in the development of contemporary performing arts. Furthermore, the activities of amateur companies remain accessible to a wide range of dance enthusiasts, contributing to the popularization of choreographic art among various segments of the population.

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M. M. 普利谢茨卡娅在现代科学研究中的创造性工作和个性：成果与展望
**CREATIVE WORK AND PERSONALITY OF M. M. PLISETSKAYA
IN MODERN SCIENTIFIC RESEARCH: RESULTS AND
PERSPECTIVES**

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摘要：本文旨在分析现代科学对芭蕾舞演员玛雅·米哈伊洛夫娜·普利谢茨卡娅的创造力和人格的社会层面的研究。通过对现有科学出版物的回顾性分析，本文确定了几个关键的研究方向：她与R·谢德林的创作联盟、她矛盾的个性、历史背景和苏联时代对其世界观形成的影响，以及她独特的表演风格。研究表明，尽管已积累了大量相关知识，但关于这一主题的出版物数量相对较少。目前尚无任何著作能够基于普利谢茨卡娅的回忆录和访谈，全面探讨其世界观的转变。因此，本文论证了通过分析她的自传文本，探究其一生中世界观的关键变化这一新研究领域的意义和前景。已确定未来研究的具体任务，包括分析芭蕾舞演员的心理类型，确定其人生阶段以及影响其世界观的事件，并对玛雅·普利谢茨卡娅在不同时期的世界观进行比较分析。

关键词：玛雅·普利谢茨卡娅；玛雅·普利谢茨卡娅的创作；芭蕾舞演员的个性；苏联芭蕾舞；芭蕾舞研究；芭蕾舞剧院。

Abstract. *The article is devoted to the analysis of modern scientific research on the social aspects of the creativity and personality of the ballerina Maya Mikhailovna Plisetskaya. Based on a retrospective analysis of existing scientific publications, the key vectors of scientific interest have been identified: the creative alliance with R. Shchedrin, the paradoxical personality of the ballerina, the influence of the historical context and the Soviet era on the formation of her worldview, as well as the analysis of her unique performing style. It has been established that, despite the significant amount of accumulated knowledge, the number of publications on this topic is relatively low. It has been revealed that there are no works in the modern scientific discourse that comprehensively explore the transformation of Plisetskaya's worldview based on her memoirs and interviews. Therefore, the article substantiates the relevance and prospects of a new research area aimed at identifying key changes in the ballerina's worldview throughout her life by analyzing her autobiographical texts. Specific tasks have been identified for future research, including analyzing the ballerina's psychotype, identifying the periods of her life and the events that influenced her worldview, and conducting a comparative analysis of Maya Plisetskaya's worldview across these periods.*

Keywords: *Maya Plisetskaya; Maya Plisetskaya's creative work; the ballerina's personality; Soviet ballet; ballet studies; ballet theater.*

Introduction

Maya Mikhailovna Plisetskaya (1925–2015) is rightfully considered one of the greatest ballerinas of the 20th century. Her creative career was exceptionally long and spanned a period of major historical transformations. She witnessed and participated in several distinct eras, which inevitably left a profound imprint on her destiny and artistic work. Maya Plisetskaya's legacy extends far beyond a mere list of roles. She left behind not only the memory of a great ballerina but also an example of how an individual can evolve over time, continuously developing both artistically and in their worldview.

The artistic work and personality of Maya Mikhailovna Plisetskaya represent a multifaceted subject for scholarly research.

Research aim: To analyze the social aspects of Maya Plisetskaya's creative work and personality in contemporary academic studies and to identify priority directions for future research on this issue.

Materials and methods: We analyzed scholarly publications indexed in the Elibrary database that focus on the social aspects of Maya Plisetskaya's creative work, life, and personality. Methods such as analytical review, data collection, and generalization were employed.

Research Results and Discussion

Analysis of the available scholarly publications reveals several key vectors along which the study of ballerina Maya Plisetskaya's legacy is currently develop-

ing. These directions not only explore different facets of the Plisetskaya phenomenon but are also often closely intertwined, creating a comprehensive portrait of the artist.

The majority of studies are devoted to analyzing the creative and personal union between Plisetskaya and composer Rodion Shchedrin. Scholars regard this union not merely as a successful marriage but as a unique creative partnership that profoundly influenced the history of ballet theater. Given that Shchedrin, serving not only as her spouse but also as her primary creative collaborator, composed the music for key ballets in the ballerina's repertoire ("Anna Karenina", "The Seagull", "The Lady with the Dog"), researchers emphasize that their partnership became an exemplar of the synthesis of musical and choreographic elements, "where the music was created with consideration for Plisetskaya's unique plasticity and dramatic gift, while her dance images, in turn, were deeply permeated by the musical structure" [1; 2; 3; 4].

This creative dialogue was made possible by the ballerina's own phenomenal personal character, which constitutes the second significant theme of scholarly interest. Researchers focus on the paradoxical combination in her character and work of seemingly contradictory qualities: "exquisite refinement and raw, almost primal naturalness"; "reckless courage and cold, calculating intellect"; "absolute dedication to her art and the ability to firmly defend her position". It was precisely this internal duality that enabled her to embody both tragic and grotesque images with equal success, to excel in the classical repertoire ("Swan Lake", "The Sleeping Beauty") and to effortlessly master the languages of modern choreography, jazz, and even flamenco. Scholars note her unique ability not merely to perform roles, but to "desire" them so passionately that a role would become her destiny and her signature for many years [5; 6].

An integral part of scholarly research involves the examination of the social aspects of the ballerina's creativity. This includes studying the historical periods in which the artist lived and worked. Specific works are dedicated to the analysis of her memoirs, particularly the portrayal of Joseph Stalin and the entire Soviet era within them. Scholars investigate how traumatic childhood experiences (family repressions) shaped her value system, her attitude towards authority, her sense of inner freedom, and that very "uncompromising resilience" which allowed her to build a career despite countless difficulties and ideological pressure. Her path at the Bolshoi Theatre, spanning over four decades, and her interactions with various individuals are examined not only as a triumph but also as a constant overcoming of diverse challenges [6; 7; 8; 9].

A significant number of art history works are dedicated to analyzing Maya Plisetskaya's unique performance style and her contribution to choreography. Research in this area identifies the features of her individual stylistics: "technical vir-

tuosity combined with incredible dramatic expressiveness”, “a plasticity in which every movement was filled with meaning”. Scholars emphasize that Plisetskaya as a ballerina became the embodiment of stage longevity, constantly evolving and discovering new facets in her art. Her views on ballet theater, formed through practice, are regarded as “a coherent aesthetic concept that significantly influenced the development of both Russian and world ballet” [10; 11; 12].

Although separate works have been published concerning the definition and description of Maya Plisetskaya’s psychological type, these studies are predominantly based on accounts from the ballerina’s contemporaries rather than on her personal records, including her memoirs [13].

Thus, our analysis indicates that current research primarily focuses on the social aspects of Plisetskaya’s creativity and her contribution to the development of ballet, while there is a lack of scholarly publications that reflect a holistic approach to the transformation of the ballerina’s worldview based not on the recollections of contemporaries, but on her personal accounts (memoirs, interviews, etc.). The foregoing confirms the relevance and novelty of conducting specialized research dedicated to addressing this gap, which would contribute to a more complete understanding of the great ballerina, taking into account her self-development.

Conclusion

It seems advisable to direct the vector of scholarly research towards identifying key changes in Maya Plisetskaya’s worldview throughout her life based on her memoirs, and to address the following tasks within such research:

Analyze the psychological type of ballerina Maya Plisetskaya as a key factor influencing her worldview;

Periodize the life path of Maya Plisetskaya in the context of events that influenced the formation and change of her worldview;

Conduct a comparative analysis of Maya Plisetskaya’s worldview across the identified periods, based on her memoirs.

All the obtained results will undoubtedly contribute to enhancing the knowledge about the personality of the great ballerina M. M. Plisetskaya, who will continue to be of interest not only to researchers but also to the general public for many years to come.

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表演疗法与 π 方法: 通过价值导航恢复连贯性
**PERFORM-THERAPY AND THE PI METHOD: RESTORING
COHERENCE THROUGH VALUE NAVIGATION**

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摘要: 当代文化中象征性和道德连贯性的瓦解导致了心理治疗中深刻的意义危机。许多患者理解其疾病的医学解释,却无法将治疗融入到日常生活的连贯节奏中。基于拉乌尔·埃舍尔曼(Raoul Eshelman)的表演主义概念,表演疗法(Perform-Therapy)提出了一种新的临床沟通框架,将行动、象征和价值整合到一个单一的治疗系统中。

本文旨在介绍Pi方法,这是一种表演疗法方案,它融合了具身调节、伦理导向和基于价值的反思,从而提高患者对临床实践的依从性和信任度。

本文将Pi方法的概念阐述与一项准实验性试点研究(N=96)相结合,该研究比较了标准心理教育和表演疗法框架。定量结果辅以现象学观察。

当采用Pi方法框架传递相同的临床信息时,治疗接受度从54%提高到87%。使用工作联盟量表简版修订版(Working Alliance Inventory - Short Revised)测量的治疗联盟在表演疗法组中显著增强。抑郁和焦虑症状也表现出中度至显著的改善。

表演疗法通过日常基于价值观的行为帮助患者恢复象征性和道德上的连贯性。Pi方法将双重框架应用于临床沟通,将治疗依从性转化为有意义的参与,并通过具身化的伦理实践重建秩序感。

关键词: 表演疗法, Pi方法, 双重框架, 表演主义, 治疗联盟, 治疗依从性, 基于价值观的实践, 具身意义。

Abstract. *The erosion of symbolic and moral coherence in contemporary culture has led to a deep crisis of meaning within psychotherapy. Many patients understand the medical explanation of their disorder, yet they fail to integrate treatment into a lived, coherent daily rhythm. Perform-Therapy, grounded in Raoul Eshelman's concept of performatism, proposes a new framework for clinical communication that joins action, symbol, and value into a single therapeutic system.*

To present the Pi Method as a perform-therapeutic protocol that unites embodied regulation, ethical orientation, and value-based reflection, thereby increasing adherence and trust in clinical practice.

A conceptual exposition of the Pi Method is combined with a quasi-experimental pilot study (N = 96) comparing standard psychoeducation with perform-therapeutic framing. Quantitative outcomes were complemented by phenomenological observations.

When the same clinical information was delivered through the Pi Method framework, treatment acceptance rose from 54 to 87 percent. The therapeutic alliance, measured by the Working Alliance Inventory – Short Revised, was significantly stronger in the perform-therapeutic group. Depressive and anxiety symptoms also showed moderate-to-large improvement.

Perform-Therapy helps restore symbolic and moral coherence through daily value-based actions. The Pi Method operationalizes double framing in clinical communication, turning treatment adherence into meaningful participation and restoring a sense of order through embodied ethical practice.

Keywords: *Perform-Therapy, Pi Method, double framing, performatism, therapeutic alliance, treatment adherence, value-based practice, embodied meaning.*

Introduction

Over the last three decades, psychotherapeutic theory has diversified to an unprecedented degree, producing hundreds of specialized approaches and techniques. Yet the inner experience of many clients and therapists reflects not integration but fragmentation.

Zygmunt Bauman (2000) described modern life as “liquid,” lacking stable form or continuity. In such a context, psychological suffering becomes not only biological or social but ontological—the loss of inner order.

Today, patients often understand the medical logic of their treatment, yet this knowledge remains detached from daily life. They know the diagnosis but cannot translate understanding into rhythm, care, and embodied self-support.

This gap between knowledge and embodiment can be defined as the postmodern identity syndrome—a state of awareness without inner coherence and reflection without grounding (Grebeniuk, 2025b).

Empirical research in value and cultural psychology confirms that the disintegration of shared meaning systems correlates with anxiety, alienation, and loss of well-being (Leontiev & Shpanskaya, 2019; Schwartz, 2012; Taras, Steel, & Kirkman, 2020).

When ethical and symbolic coordinates fade, psychotherapy risks turning into a collection of techniques without a unifying sense of direction.

Hence, the contemporary task is not to multiply interventions but to **restore coherence**—to return therapy to a frame where body, mind, and value act in unity.

Perform-Therapy (Grebeniuk, 2025a, 2025c) emerges from the aesthetic-philosophical movement of performatism, formulated by Raoul Eshelman (2008, 2021, 2024) as a response to the irony and relativism of postmodern thought.

Performatism proposes that meaning is regained through a deliberate act of belief performed within form—an intentional step taken as if coherence already exists. Through this act, coherence is not merely found but re-created.

In psychological terms, this means that therapy should not endlessly analyze or deconstruct narratives but enact belief in order, rhythm, and value.

The perform-therapeutic process fuses *form* (structure) and *faith* (intentional participation) into a single experiential frame.

The therapist does not argue for meaning but helps the patient to live it directly.

Following Eshelman's principle of double framing, every therapeutic act unfolds simultaneously in two planes:

1. The inner pragmatic frame, which defines concrete behavior (“take medication,” “walk for twenty minutes,” “write in the logbook”); and
2. The outer value frame, which gives existential sense (“I act fairly toward myself,” “I move calmly toward beauty”).

This dual perspective unites biomedical precision with ethical orientation, transforming compliance into conscious cooperation.

Perform-Therapy thus bridges philosophy, psychology, and everyday practice, positioning the therapeutic relationship as a microcosm of restored order—a space where truth is verified through shared action rather than detached reflection.

At the operational level, Perform-Therapy is realized through the Pi Method—a structured navigational protocol that integrates embodiment, ethics, and daily routine.

The model translates complex existential ideas into clear metaphors of navigation, allowing both clinician and patient to maintain orientation between sessions.

The Pi Method consists of nine interrelated components forming a closed self-regulatory cycle:

- Boat (life-space): the vessel of experience—the person's lived environment.
- Hull (daily regimen): the physiological foundation ensuring rhythm and stability—sleep, nutrition, movement, and contact with the world.
- Tiger (inner challenge): the embodied energy of anxiety, depression, or instinct; the task is not suppression but mindful care.
- Harbor (two-to-four-week goal): a reachable aim representing one of the four cardinal values—Truth, Beauty, Goodness, or Justice.

- Oars (daily actions): small, repeatable deeds that create motion and continuity.
- Compass (value navigation): an ethical guide—each finger representing one foundational value.
- Radio contact: a predefined support plan—whom to contact when internal “weather” worsens.
- Logbook: a concise record in the format *fact* → *action* → *benefit*, converting events into structured reflection.
- Emergency protocols: ready responses for crises (“storm,” “restless passenger”) that protect the regimen and prevent collapse.

Each element is sustained by a brief value formula, spoken aloud or silently, connecting physical action with ethical intention.

This linguistic ritual acts as a performative bridge between body and meaning—a secular prayer of alignment.

Therapeutic work proceeds in weekly cycles.

Each week is devoted to one *harbor*—Truth, Beauty, Goodness, or Justice—and consists of daily “oar strokes” guided by the compass of value.

On the seventh day comes stillness—a deliberate pause without external action. The participant reviews the route, inspects the compass, and reflects on what maintained or disturbed balance.

Stillness is not apathy but presence—the embodied experience of equilibrium after motion.

In this way, the Pi Method integrates three interdependent levels:

- Behavioral: structured rhythm and safety plan;
- Symbolic: metaphoric coherence through navigation imagery;
- Existential: restoration of dignity and trust as lived values.

Perform-Therapy thus converts the therapeutic process from interpretation to navigation—a movement *through* meaning rather than commentary *about* it.

Theoretical Framework and Methodology

Perform-Therapy originates at the intersection of philosophical anthropology, phenomenology, and clinical psychology.

Its conceptual foundation lies in performatism—a post-postmodern paradigm articulated by Raoul Eshelman (2008, 2021).

Performatism asserts that after the relativism of postmodern thought, coherence can be restored only through an act of embodied belief: a voluntary decision to act *as if* meaning exists.

Through this act, form becomes faith, and faith becomes lived experience.

The subject, rather than dissolving in endless interpretation, becomes the agent of meaning restoration.

This principle aligns with Viktor Frankl's (1959) view of meaning as a vital necessity for human survival, Eugene Gendlin's (1997) concept of the *felt sense*—the bodily apprehension of meaning guiding authentic action—and Maurice Merleau-Ponty's (1962) description of perception as an embodied, intentional act that gives coherence to the world.

Together these ideas form the ontological foundation of Perform-Therapy: to heal is to restore unity between body, value, and form.

Double framing as clinical mechanism

Eshelman's principle of double framing translates this philosophy into clinical precision.

Every act, thought, or utterance unfolds within two concurrent frames:

- Inner frame (pragmatic): defines what is done, when, and how.
- Outer frame (transcendental): defines why this action matters and what ethical direction it expresses.

When a therapist speaks through both frames—biological and symbolic, practical and ethical—the patient perceives information not as a detached instruction but as a meaningful invitation.

Compliance thus evolves into participation, and adherence arises naturally from trust.

Contemporary research in embodied cognition and somatic psychology supports this integration.

Koch, Fuchs, Summa, and Müller (2012) demonstrated that metaphor and movement are inseparable from cognitive and affective regulation.

Röhricht (2020) emphasized embodiment as a necessary complement to the “talking cure,” arguing that bodily coherence stabilizes emotional coherence.

Payne, Koch, Tania, and Fuchs (2019) synthesized these findings into a cross-disciplinary framework showing how movement, gesture, and ritual reorganize meaning in psychotherapy.

Perform-Therapy builds upon these insights by adding an ethical vector: it unites bodily form with value intention.

Every exercise, phrase, or daily routine becomes a micro-act of alignment between physiology, symbolism, and moral sense—a clinical realization of double framing, where action gains ethical direction and value becomes tangible through movement.

The Pi Method as a structured clinical protocol

Within Perform-Therapy, the Pi Method serves as the practical translation of these philosophical concepts into daily therapeutic work.

It converts abstract ideals—Truth, Beauty, Goodness, and Justice—into visible, measurable steps that patients can enact between sessions.

Each of the nine elements of the Pi Method plays a defined regulatory role (see Table 1).

Table 1
Structural Components of the Pi Method and Their Therapeutic Functions

Element	Domain of Regulation	Therapeutic Function
Boat	Life context	Establishes the global frame of self-experience
Hull	Physiology and routine	Maintains biological rhythm and stability
Tiger	Emotion and instinct	Transforms anxiety into managed energy
Harbor	Cognition and goal-setting	Provides direction through concrete aims
Oars	Behavior	Ensures progress via small consistent acts
Compass	Ethics and value orientation	Keeps behavior aligned with meaning
Radio contact	Social support	Prevents isolation and panic during stress
Logbook	Reflection and learning	Converts daily fact into experiential knowledge
Emergency protocols	Safety planning	Protects the regimen in crisis situations

Note. The weekly cycle through these components culminates in stillness—a reflective pause that consolidates learning before the next voyage.

In this way, the Pi Method forms an ecology of regulation, encompassing physical, emotional, cognitive, and ethical dimensions in a single coherent frame.

A central intervention in Perform-Therapy is the perform-therapeutic explanation—a form of clinical dialogue that integrates medical precision with symbolic clarity.

Rather than presenting information abstractly, the therapist translates it into navigational language:

“Your daily routine will strengthen your hull—your physiological rhythm—and the daily oars will help you keep your course. If the tiger becomes restless, we’ll apply the calming protocol and maintain radio contact. Your compass for this week is fairness toward yourself.”

This performative speech act reframes treatment as a collaborative journey rather than a set of prescriptions.

The patient’s dignity is preserved because their vulnerability is contextualized within structure and purpose.

As noted by Del Re, Flückiger, Horvath, Symonds, and Wampold (2021), the quality of the therapeutic alliance directly predicts treatment outcomes, underscoring the clinical significance of relational framing.

To empirically assess these effects, a quasi-experimental pilot study was conducted comparing standard psychoeducation and perform-therapeutic framing.

The next section outlines the study's design, participants, and quantitative outcomes.

To assess the clinical effects of perform-therapeutic framing, a quasi-experimental pilot study was conducted in an outpatient psychiatric practice.

Ninety-six adult patients (ages 18–65) diagnosed within the anxiety and depressive spectrum (ICD-10: F3–F4) participated in the study. All participants provided informed consent.

- Group A (Standard Psychoeducation, $n = 48$): received a conventional medical explanation of diagnosis and treatment.
- Group B (Perform-Therapeutic Framing, $n = 48$): received the same clinical information, but within the *Pi Method* structure and double framing.

Both groups were offered identical pharmacological recommendations and supportive psychotherapy sessions.

In Group B, clinicians introduced the nine *Pi* components and co-created a personalized navigation plan for one week: defining the current harbor (goal), two or three daily oars (actions), a compass formula (value intention), a radio contact, and brief logbook entries.

Assessments were conducted using the following methods:

1. Treatment acceptance — recorded as the patient's agreement to follow the prescribed therapy (yes/no).
2. Working Alliance Inventory – Short Revised (WAI-SR) — to assess the quality of the therapeutic alliance.
3. Patient Health Questionnaire (PHQ-9) — to measure the severity of depressive symptoms.
4. Generalized Anxiety Disorder Scale (GAD-7) — to assess the level of anxiety.

Categorical data (acceptance) were analyzed using the chi-square test.

Continuous variables (WAI-SR, PHQ-9, GAD-7) were compared using independent-sample t-tests.

Statistical significance was set at $p < .05$.

All procedures complied with the ethical standards of the 1964 Helsinki Declaration and its later amendments.

Results

After receiving the perform-therapeutic explanation, 87% of patients in Group B (perform-therapeutic framing) agreed to begin pharmacological and psychotherapeutic treatment, compared with 54% in Group A (standard explanation).

This difference was statistically significant: $\chi^2(1, N = 96) = 12.46, p < .001$, Cramer's $V = .36$.

These findings suggest that symbolic and value framing increased readiness to engage in therapy by enhancing perceived meaning and trust.

Alliance quality, measured by the Working Alliance Inventory – Short Revised (WAI-SR), differed significantly between groups.

Group A had a mean score of 4.96 ± 0.74 , whereas Group B averaged 5.72 ± 0.61 , $t(94) = 5.59$, $p < .001$, Cohen's $d = 0.97$.

This large effect size indicates that the *Pi Method* strengthens alliance formation—consistent with meta-analyses demonstrating the central role of the therapeutic relationship in predicting outcomes (Flückiger et al., 2018; Del Re et al., 2021; Wampold & Flückiger, 2023).

Table 2

Changes in Depression and Anxiety Scores Two Weeks After the Intervention

Measure	Group A (Standard) $\Delta M \pm SD$	Group B (Perform- Therapeutic) $\Delta M \pm SD$	t	p	Cohen's d
PHQ-9 (Depression)	-2.1 ± 3.4	-4.7 ± 3.6	2.86	.006	0.74
GAD-7 (Anxiety)	-2.4 ± 3.1	-5.2 ± 3.3	3.58	.001	0.90

Note. Both differences reached statistical significance, with moderate-to-large effect sizes.

Although the follow-up period was brief, the direction of change indicates a clinically meaningful trend toward improvement in the perform-therapeutic group.

Qualitative Findings

Phenomenological analysis of *logbook* entries and therapist notes revealed clear differences in patients' language.

Participants in the perform-therapeutic condition frequently used navigational metaphors:

“My hull became stronger.”

“I managed to calm the tiger.”

“I reached the harbor for the week.”

These metaphors expressed not abstraction but embodied regulation of affect and behavior.

Patients emphasized that the model made treatment feel “personal,” “organized,” and “safe.”

Symbolic language helped transform fear and shame into structured action.

Clinicians reported faster rapport formation and lower resistance.

The perform-therapeutic dialogue thus transformed medical authority into shared navigation, underscoring the importance of symbolic framing for adherence (Grebeniuk, 2025a, 2025c).

This is consistent with current evidence on the decisive role of the therapeutic alliance in treatment outcomes (Wampold & Flückiger, 2023).

Discussion

Restoring trust through symbolic participation

The results support the central assumption of Perform-Therapy: trust is restored not by persuasion but by participation in a meaningful form.

When treatment is embedded within a navigational structure, the patient experiences themselves as an active co-navigator rather than a passive recipient.

The therapist ceases to be a distant expert and becomes a partner guiding through symbolic order.

This mechanism directly corresponds to Eshelman's (2008, 2021) concept of double framing.

The inner pragmatic frame (taking medication, following a daily regimen) provides behavioral clarity, while the outer transcendental frame (acting in fairness or beauty) restores moral orientation.

Together they generate performative coherence, in which adherence naturally emerges as an expression of restored integrity.

Research consistently demonstrates that the therapeutic alliance is one of the strongest predictors of clinical outcomes regardless of modality (Flückiger et al., 2018; Del Re et al., 2021).

The *Pi Method* enhances this alliance by providing a shared symbolic grammar of order, allowing both therapist and patient to act within the same meaningful structure.

Each of the nine structural elements of the *Pi Method* (see Table 1) functions as a regulatory interface linking embodiment, emotion, and cognition.

Together they create an archetypal rhythm of movement and rest, reflecting natural cycles of effort and renewal.

The seventh-day *stillness phase* embodies a state of non-reactive presence, comparable to a secular form of mindfulness but rooted in ethical reflection rather than detachment.

Research in embodied therapy confirms that somatically aware practices stabilize affective systems and promote resilience (Röhrich, 2020; Payne et al., 2019).

This cyclic structure mirrors the therapeutic dynamic itself: moments of action alternate with reflection, restoring both rhythm and coherence.

The patient gradually learns to recognize disorganization not as failure but as loss of balance—and to recover equilibrium through deliberate alignment of body, value, and form.

Perform-Therapy extends psychotherapy beyond symptom alleviation toward ethical rehabilitation.

The patient learns to practice fairness, beauty, and goodness not as abstract ideals but as embodied proportions.

Justice becomes the ability to maintain measure;
beauty—the rhythm of emotional harmony;
truth—precision of perception;
and goodness—sustained trust in oneself and others.

The aesthetic form of the *Pi Method*—the boat, compass, and harbor—provides cognitive containment.

Visualization of these images regulates emotion by evoking a bodily sense of order, a process consistent with empirical findings on metaphorical embodiment (Koch et al., 2012).

Symbolic coherence thus becomes a physiological resource for self-regulation.

Ethically, Perform-Therapy reframes illness not as defect but as imbalance, preserving dignity while encouraging responsibility.

This approach resonates with Frankl's (1959) vision of meaning as the last freedom of the person and with Eshelman's (2008, 2021) emphasis on agency through faith enacted in form.

Implications for Clinical Education and Interdisciplinary Practice

The *Pi Method* can be applied beyond psychotherapy proper:

- In psychiatry, as a psychoeducational tool enhancing adherence.
- In psychotherapy, as a symbolic and ethical frame for meaning reconstruction.
- In coaching, pedagogy, and well-being programs, as a daily structure for self-organization.

Clinicians themselves benefit from the model's aesthetic coherence, which provides a framework against burnout.

As Payne et al. (2019) observe, embodied and structured formats support both patient and therapist in maintaining vitality within demanding emotional contexts.

This study is preliminary and has several limitations.

The design was quasi-experimental, not randomized; the sample size was modest; and the observation period short.

Nevertheless, effect sizes between 0.7 and 0.9 indicate strong clinical relevance.

Future research should include randomized controlled trials, longitudinal follow-ups, and cross-cultural replications.

Interdisciplinary studies combining phenomenology, value psychology, and cognitive neuroscience may further clarify how ethical meaning modulates neural coherence, linking philosophical insight with empirical science.

Conclusion

Perform-Therapy and its applied instrument, the *Pi Method*, represent an integrated performative framework for restoring coherence within the fragmented mental landscape of late modernity.

By joining embodied action, symbolic form, and ethical intention, this approach transforms psychotherapy from a discourse of interpretation into a practice of navigation.

Clinically, the *Pi Method* unites nine structural elements—the boat, hull, tiger, harbor, oars, compass, radio contact, logbook, and emergency protocols—into a single system of regulation linking behavioral, emotional, and ethical processes.

The daily “oar strokes” sustain rhythm and continuity; the compass preserves moral orientation; the harbor provides attainable purpose; and the day of stillness allows reflection and consolidation.

Within this rhythm, the patient learns to act in alignment with meaning rather than react to symptoms.

Empirical results from the pilot study confirm that perform-therapeutic framing significantly increases treatment acceptance, strengthens the therapeutic alliance, and facilitates early symptom reduction.

Qualitative findings show that patients experience greater agency, clarity, and calm, while therapists report reduced fatigue and renewed purpose.

These outcomes demonstrate that symbolic framing restores trust by transforming medical instruction into shared navigation.

Theoretically, Perform-Therapy operationalizes Eshelman’s principle of double framing within the clinical encounter, uniting biomedical precision with existential orientation.

Each daily action becomes a speech-act of integrity—a micro-performance in which adherence turns into participation and structure into meaning.

Future research should further explore the neuropsychological and cross-cultural dimensions of this method.

The broader aim is to reintroduce value navigation — Truth, Beauty, Goodness, and Justice — into the clinical vocabulary as living coordinates of mental health.

In restoring coherence through embodied form, Perform-Therapy aspires not merely to alleviate symptoms but to return the individual to a state of measured wholeness, where trust in life becomes an enacted reality.

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通过体育锻炼培养大学生的自学和自我提升能力
**DEVELOPMENT OF SELF-EDUCATION AND SELF-
IMPROVEMENT OF UNIVERSITY STUDENTS THROUGH
PHYSICAL EDUCATION**

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摘要：本文探讨了在体育课期间组织大学生进行自我教育和自我提升的潜力。本研究旨在通过实验验证一项专门开发的、融合体育教学工具和教学技术的自我发展项目的有效性。研究对象为来自不同专业的120名大一、大二学生，分为实验组和对照组。在为期16周的时间里，实验组学生除了参加必修课外，还完成了个人体育活动计划，记录自我监测日志，设定目标，并反思性地分析结果。研究评估了学生行为的自我调节能力、体育锻炼动机和身体素质等指标。结果显示，与对照组相比，实验组学生的自我调节指数和内在动机均有显著提高 ($p < 0.05$)，耐力和力量的提升也更为明显。结论认为，将有针对性的自主学习和自我发展元素融入体育教育过程，能够提升该学科的教育潜力，培养学生的自主学习意识，并激发他们对自主体育锻炼的持续热情。本文概述了课程内容和设计以及学生自主学习的方法论建议。

关键词：学生自主学习；自我提升；体育教育；体育锻炼动机；自觉自我调节。

Annotation. *This article examines the potential for organizing self-education and self-improvement for university students during physical education classes. The aim of the study was to experimentally substantiate the effectiveness of a specially developed program integrating physical education tools and pedagogical technologies for personal self-development. The study involved 120 first- and second-year students from various fields of study, divided into control and experimental groups. Over the course of 16 weeks, students in the experimental group, in addition to mandatory classes, completed individual physical activity programs, kept self-monitoring diaries, set goals, and reflexively analyzed their results. Indicators of conscious self-regulation of behavior, motivation for physical education, and physical fitness were assessed. The results showed a statistically significant ($p < 0.05$) increase in the self-regulation index and intrinsic motivation, as well as a more pronounced increase in endurance and strength in students*

in the experimental group compared to the control group. It is concluded that incorporating elements of targeted self-education and self-development into the physical education process enhances the educational potential of the discipline, fosters student ownership, and fosters a sustained desire for independent physical education. Methodological recommendations for designing lesson content and student independent work are outlined.

Keywords: *Self-education of students; self-improvement; physical education; motivation for physical education; conscious self-regulation.*

Introduction

The current state of health and physical fitness among college students is characterized by a decline in physical activity, an increase in the prevalence of physical inactivity, poor posture, and excess weight. This is confirmed by numerous studies in the theory and methodology of physical education, emphasizing the need to restructure the content of the Physical Education course to enhance its educational and personal development potential.

Leading Russian authors view physical education at university as an important resource for developing individual physical fitness, moral and volitional qualities, professionally important qualities, and healthy lifestyle skills. They emphasize that external pedagogical influence alone is insufficient: sustainable change is only possible with the active engagement of student self-education and self-development.

In psychological and pedagogical studies, self-education is interpreted as the highest form of personal development, implying a conscious and purposeful change in one's own qualities in accordance with one's chosen goals and values. Research on the student age group demonstrates that it is at this stage that the prerequisites for a subjective position, responsibility for one's own health and career, and a readiness for continuous professional and personal self-education are formed.

A number of authors analyzing students' physical self-education emphasize that regular physical activity becomes a sustainable habit only when students master the skills of self-control, setting realistic goals, planning individual training programs, evaluating and reflecting on their results. However, in current university practice, physical education remains focused primarily on completing the curriculum and passing tests, rather than on developing self-regulation and self-improvement.

Thus, a pressing scientific and pedagogical task is the development and experimental testing of pedagogical conditions that transform the physical education process at a university into a space for student self-development and self-improvement. This determined the purpose and hypothesis of this study.

The aim of the study is to substantiate the pedagogical possibilities of integrating self-education and self-improvement technologies into the process of physical education of students and to experimentally test the effectiveness of a special program aimed at developing conscious self-regulation and motivation for independent physical education.

The hypothesis of the study is that the inclusion of a set of tools for self-knowledge, goal-setting, self-control and reflection in the content of physical education classes will lead to a more pronounced increase in the indicators of self-regulation, internal motivation and physical fitness of students compared to the traditional program.

Methods and organization of the study

The study was conducted at the Department of Physical Education Russian Presidential Academy of National Economy and Public Administration. The study involved a formative pedagogical experiment with a control and experimental group. One hundred and twenty first- and second-year students in various fields of study (humanities and technical profiles), aged 18 to 20, participated in the study. They were assigned to the main and preparatory medical groups based on their health status. The control (CG, $n=60$) and experimental (EG, $n=60$) groups were randomly formed and matched for age, gender, and baseline physical fitness.

The experiment lasted 16 weeks, or one academic semester, and included two phases: ascertainment and development. During the ascertainment phase, baseline measurements of psychological and physical indicators were taken. Students in both groups followed the university's existing physical education programs.

To assess psychological characteristics, the following were used: a questionnaire of conscious self-regulation of behavior (the generalized self-regulation index) and the author's questionnaire of motivation for physical exercise, including scales of intrinsic and extrinsic motivation, educational, professional, and health motives. The indicators were calculated in conventional points.

Physical fitness was assessed using standardized tests: the Cooper test (distance covered in 12 minutes, m), an abdominal strength endurance test (number of sit-ups in 30 seconds, reps), and a flexibility test (forward bend from a seated position, cm). Testing was conducted at the beginning and end of the semester under identical conditions.

During the formative phase, students in the control group continued their traditional curriculum, which included mandatory classes twice a week. Students in the experimental group, in addition to their core classes, participated in a proprietary self-education and self-improvement program integrated into their physical education.

The program included four interconnected modules: "Self-Awareness and Baseline Analysis," "Goal Setting and Individual Program Planning," "Self-Mon-

itoring and Workload Adjustment,” and “Reflection and Results Assessment.” The program consisted of short, problem-based mini-lectures, group discussions, practical assignments, and the maintenance of individual self-monitoring diaries. Under the instructor’s guidance, students developed personal physical development goals, planned additional independent activities, recorded workload parameters and subjective well-being, assessed their progress monthly, and adjusted their plans.

Descriptive statistics (calculating means and standard deviations) and the student’s t-test for independent samples were used to process the obtained data. Differences were considered statistically significant at a significance level of $p < 0.05$. Tables and graphs were used to visually present the results.

Results and discussion

Analysis of the baseline data revealed no statistically significant differences between the control and experimental groups in terms of conscious self-regulation, motivation for physical activity, and key indicators of physical fitness ($p > 0.05$). This allowed us to consider the groups comparable and correctly interpret subsequent changes as a result of the experimental program.

After completing the 16-week training cycle, both groups showed positive dynamics in their indicators, although the magnitude of the changes varied significantly. The experimental group demonstrated a more significant increase in the self-regulation index and intrinsic motivation for physical activity, as well as an increase in the volume of independent training.

Table 1.
Dynamics of students’ motivation and self-regulation indicators ($M \pm \sigma$)

Indicator	Group	Before the experiment	After the experiment	p
Self-regulation index, points	KG (n=60)	55.9 ± 8.9	58.2 ± 8.4	>0.05
	EG (n=60)	56.3 ± 8.7	68.4 ± 7.9	<0.01
Intrinsic motivation for study, points	KG (n=60)	5.2 ± 1.3	5.5 ± 1.4	>0.05
	EG (n=60)	5.1 ± 1.4	6.8 ± 1.3	<0.01
Independent study, min/week	KG (n=60)	51.7 ± 34.5	72.4 ± 40.8	<0.05
	EG (n=60)	54.2 ± 35.1	118.6 ± 47.3	<0.01

As can be seen from the data in Table 1, the increase in the self-regulation index in the control group was insignificant and statistically insignificant ($p > 0.05$), whereas a significant increase was noted in the experimental group (by an average of 12.1 points, $p < 0.01$). A similar trend was observed for intrinsic motivation for physical education: among students in the control group, the increase was limited to 0.3 points, while among students in the experimental group, it was 1.7 points.

Increasing the volume of independent physical activity is particularly important for addressing self-improvement goals. In the control group, the average time spent independently exercising increased from 51.7 to 72.4 minutes per week ($p < 0.05$), representing a moderate positive trend. In the experimental group, this figure more than doubled – from 54.2 to 118.6 minutes ($p < 0.01$), indicating the development of a sustainable need for regular physical activity.

Along with psychological indicators, the dynamics of the main parameters of students' physical fitness were studied, reflected in Table 2.

Table 2.
Dynamics of students' physical fitness indicators ($M \pm \sigma$)

Test	Group	Before the experiment	After the experiment	p
Cooper test, m	KG (n=60)	2240 \pm 205	2320 \pm 220	<0.05
	EG (n=60)	2235 \pm 210	2462 \pm 230	<0.01
Torso lifts for 30 seconds, times	KG (n=60)	24.3 \pm 4.1	26.1 \pm 4.5	<0.05
	EG (n=60)	24.1 \pm 4.3	28.5 \pm 4.2	<0.01
Forward bend from a sitting position, cm	KG (n=60)	7.0 \pm 5.0	8.3 \pm 4.9	<0.05
	EG (n=60)	7.2 \pm 5.1	10.8 \pm 5.0	<0.01

The results presented in Table 2 demonstrate positive dynamics in the physical fitness of students in both groups. Moreover, the increases in endurance, strength endurance, and flexibility in the experimental group were statistically significantly greater than those in the control group ($p < 0.01$). For example, the Cooper test distance for students in the experimental group increased by an average of 227 meters, while for students in the control group it increased by only 80 meters.

The obtained data allow us to assume that the inclusion of specially organized forms of self-education (individual training programs, self-monitoring diaries, goal-setting and reflection) in the process of physical education contributes not only to the growth of subjective indicators of self-regulation, but also to the objective parameters of physical condition.

To visually represent changes in psychological indicators, graphs of the dynamics of the self-regulation index and the volume of independent studies were constructed (Figures 1 and 2).

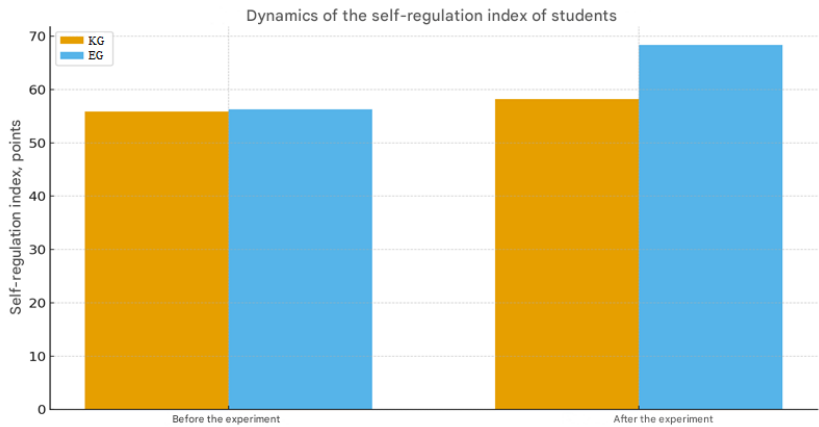


Figure 1. Change in the self-regulation index of students in the control and experimental groups

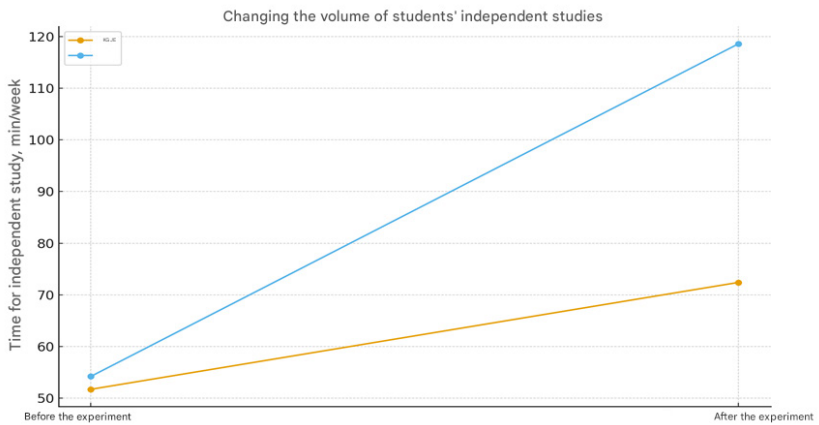


Figure 2. Dynamics of time spent on independent physical exercise by students

A comparison of the experimental data obtained with the tenets of modern self-education and self-development theory suggests that the key mechanism for positive dynamics is the student's transition from being the object of pedagogical influence to being the subject of their own physical education. Independently choosing physical activity forms, setting individual goals, and systematically reflecting on their results ensure personal meaning in participation and, consequently, sustained motivation.

The study's results are consistent with the authors' findings, which view physical education as an important resource for developing students' self-development competencies. The program, implemented in the experimental group, essentially serves as a model for integrating academic and extracurricular activities, aimed at developing conscious self-regulation and responsibility for one's own health.

It should be especially emphasized that the proposed system does not require a radical restructuring of the curriculum and can be implemented within the framework of current educational standards by changing the teaching methods and expanding the block of independent work for students.

Conclusion

The study experimentally confirmed the effectiveness of a self-education and self-improvement program for students integrated into the physical education curriculum at a university. The results demonstrate that the targeted implementation of self-knowledge, goal-setting, self-monitoring, and reflection within physical education classes contributes to a significant increase in conscious self-regulation, intrinsic motivation, and physical fitness. Incorporating elements of self-education and self-development into physical education classes leads to a statistically significant increase in students' behavioral self-regulation and their intrinsic motivation for physical education compared to a traditional program. The development and implementation of individualized physical activity programs, supported by a system of self-monitoring and reflection, ensures a more pronounced increase in endurance, strength, and flexibility among students in the experimental group. A sustainable desire for independent physical exercise can be fostered by creating an educational environment that fosters student agency, responsibility for their own health, and a commitment to long-term self-improvement. The proposed model can be recommended for implementation in the practice of physical education in universities as an option for enhancing the educational and health-preserving potential of the discipline "Physical Education", as well as a means of developing self-development and self-regulation competencies in students.

Prospects for further research include refining the content of individual program modules, developing digital tools to support self-monitoring diaries, and expanding the age range of participants, including master's degree students and students in continuing education programs.

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人格适应的成分理论

THE COMPONENT THEORY OF PERSONALITY ADAPTATION

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摘要：通过对人格适应过程进行科学理论分析和观察，我们得以识别其基本原则，即在广义的意义上，韧性和脆弱性之间的平衡。

关键词：人格适应，适应过程，环境适应，适应平衡，抗压能力，心理不稳定性，韧性，脆弱性，心理学，心理治疗，心理实践。

Abstract. *The conducted scientific and theoretical analysis and observation of personality adaptation processes allows us to identify their fundamental principle, based on the balance of resilience and vulnerability in the broad sense of these concepts.*

Keywords: *personality adaptation, adaptation process, adaptation to the environment, adaptation balance, stress resistance, mental lability, resilience, vulnerability, psychology, psychotherapy, psychological practice.*

Adaptation is understood as the process of adjusting to changing living conditions. This topic is always relevant and interesting for scientists in various fields. At its core, adaptability is identified with the ability to survive both as a cell and as an organism as a whole. But what is the fundamental principle, the basis of this important construct? What reactions does the adaptation process imply, and in what areas of scientific research should analytical conclusions be pursued? In my opinion, resilience and vulnerability stand out as clear fundamental components of adaptation.

Resilience itself includes the following components, necessary for its realization as a holistic construct, but also as a basic component:

- lability – the body’s flexibility in interacting with the environment in its orientation toward life. This, in my opinion, implies a kind of adaptability that, at its core, fosters development in the direction of creation, growth, kindness, love, harmony, and balance. In particular, I have written extensively about this in my discussions on psychological health.

- regeneration – the ability to restore both organic components and the psyche itself, functioning comprehensively. It is important that regenerative processes are activated, acted upon, and realized in a progressive direction, making an individual's life better, more productive, and more harmonious. - Physiological-level attitudes – the genetic basis of biological health, the immune system, and other body systems.

- Psychological-level attitudes, which define a certain general psychology of an individual's thinking. The incredible importance of these attitudes is clearly illustrated by positive beliefs, a general psycho-emotional state that reduces potential anxiety in adverse, and especially long-term, life circumstances, as well as a model of behavior and how a person “goes through life” while solving the problems set before them.

- the presence of resource sources – opportunities and conditions conducive to self-healing when the need arises. As well as resources for maintaining a high level of “mental climate” (I would use this term based on an understanding of the general state of the psyche in the interpretation of personal self-perceptions of a subjective and objective nature).

- willpower as an integral part of resilience. A focus on overcoming difficulties and finding ways to achieve goals and objectives. Resilience itself is a developing construct, and therefore susceptible to influence, but what is crucial is the humanistic, kind direction of activating internal and physical strength, energy for the benefit of life, which, as I wrote above, determines psychological health!

Vulnerability as a concept, in its broad sense, encompasses more than just the intellectually perceptible semantic component of weakness, sensitivity, and fragility. But if one takes a more inquisitive look at the depth of this definition, the essence of the “soul” under philosophical analysis becomes comprehensible. I would like to emphasize the multifaceted nature of vulnerability as such, emphasizing its components:

- sensitivity,
- sensuality, which also implies responsiveness,
- the value of life in understanding its finiteness,
- the ability to experience the broadest spectrum of “living” emotions, awakening them within oneself through memories and the direction of one's thoughts.

For me, being vulnerable means being alive, recognizing one's weaknesses and improving them, strengthening and cultivating within oneself the necessary qualities and abilities for further growth toward life and self-actualization.

And this is characterized by a certain beauty and ornateness, the intricacy of the living in its functional manifestation, and therefore of life itself, as exemplified by the entire individual being. Based on these conclusions, I have identified the following formula for the component nature of the adaptation process:

Adaptation = balance of resilience and vulnerability.

Balance in this theory is individually oriented, implying the spectrum of personality traits of each individual.

Further development in a positive and constructive direction is an indicator of finding and maintaining this balance.

Awareness and acceptance of one's own vulnerability as a life resource is a powerful impetus and support for a harmonious personality, one who embraces life, knows how to live, realizes oneself through constructive and "ecological" goals in tune with reality, and is also oriented toward caring for and respecting all living things, as equivalent to self-expression.

Resilience as a foundation, the desire for health, growth, and life, is largely reflected physically – in the body, but one should not forget the incredible significance of the psychological component of this construct, which sets the general direction for the body's functional viability. Vulnerability as an awareness of all natural processes without justice, but within the overall unique concept of the interdependent regularity of all things; as energy, sensuality, sensitivity, that is, the soul.

Vulnerability is viewed not as a weakness in the essence of the definition given to this term, but in a more multifaceted way – as a construct of empathic spirituality that defines precisely the Human principle of beginnings.

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