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Analysis of Althea syrup containing polysaccharides by spectroscopy

Hajibayli Tahira
Azerbaijan Medical University, Department of Pharmaceutical Chemistry, *Baku, Azerbaijan*
Qafarova Dostu
Azerbaijan Medical University, Department of Pharmaceutical Chemistry, *Baku, Azerbaijan*
Zeynalova Gulnar
Azerbaijan Medical University, Department of Pharmaceutical Chemistry, *Baku, Azerbaijan*
Aliyev Husein
Azerbaijan Medical University, Department of Pharmaceutical Chemistry, *Baku, Azerbaijan*

Purpose of the work. Quantitative analysis of some medicines containing polysaccharides by chemical and physico-chemical methods.

To achieve this goal, the following tasks have been set:

1. To collect information about the pharmacological effects of medicinal preparations containing polysaccharides and their use in medicine

3. Isolation of polysaccharide substances (mucilage substances) from the roots of the medicinal plant.

5. To study the spectroscopy indicators of “Althea", as multicomponent polysaccharide preparation.

Scientific innovation. The quality of analyzed drugs is determined with the help of advanced methods and modern physico-chemical methods.

Practical importance.

The analysis of various medicinal preparations used in plant raw materials containing polysaccharides and in medical practice can be easily used for the purpose of standardization of the control analyse in laboratories and in the educational process of students during the determination of the characteristics and quantity of various medicinal forms.

Materials and methods.

The experiments carried out in the master's thesis were carried out on special devices in the chemical laboratory of the pharmaceutical chemistry department of the Azerbaijan Medical University.

1. Used devices, reagents and chemical supplies

Spectrophotometric studies were carried out on an "Agilent Technologies Cary 60 UV-Vis" (USA) spectrophotometer.

Determination of the rotation angle, specific rotation angle and viscosity of the solutions by the method of polarimetry, the thickness of the cuvette is 1 dm, at a temperature of 20°C «Rudolph Research Analytical. Autopol-I (United States of America) digital polymeter was used.

The IR spectra of the obtained substances were studied using an IR spectrometer of the "Agilent FTIR 630" (USA) brand.

The mass of the preparations and the required reagents was weighed on the analytical balance of the "Aoste Precision Balance" HS 2009 (PRC) brand in the laboratory.
Solvents used during the experiment: purified water, ethyl alcohol "absolute".
Glass containers: flasks with a volume of 10, 20, 50 and 500 ml, pipettes of various volumes.

2. Preparation of solutions and reagents.

For the analysis of preparations (identity and quantitative determination), various reagents and solutions were prepared according to the appropriate method.

3. Analyzed preparation

" Althea ", Republic of Azerbaijan, "HERBA FLORA" LLC. Series: No. 4/II, SII, 21022023
After the analysis of the researched preparations is over, the results of the analysis are obtained and the relative error is calculated and determined.

1) Determining the mathematical numerical average::

$$\bar{X}=\frac{X_1+X_2+X_3+\cdots+X_n}{n}$$

Here n is the number of parallel determinations;

X_1, X_2, X_3, X_n – results of individual assignments.

2) Calculation of the mean square deviation from the arithmetic mean value of individual results:

$$S=\sqrt{\frac{(X_1-\bar{X})^2+(X_2-\bar{X})^2+\cdots+(X_n-\bar{X})^2}{n-1}}$$

3) Calculation of the mean square deviation from the mathematical mean value:

$$S_{\bar{X}} = \frac{S}{\sqrt{n}}$$

4) Calculation of the accuracy of determining the average result:

$$E_\alpha = S_{\bar{X}} \cdot t_\alpha$$

where t_α is Student's coefficient.

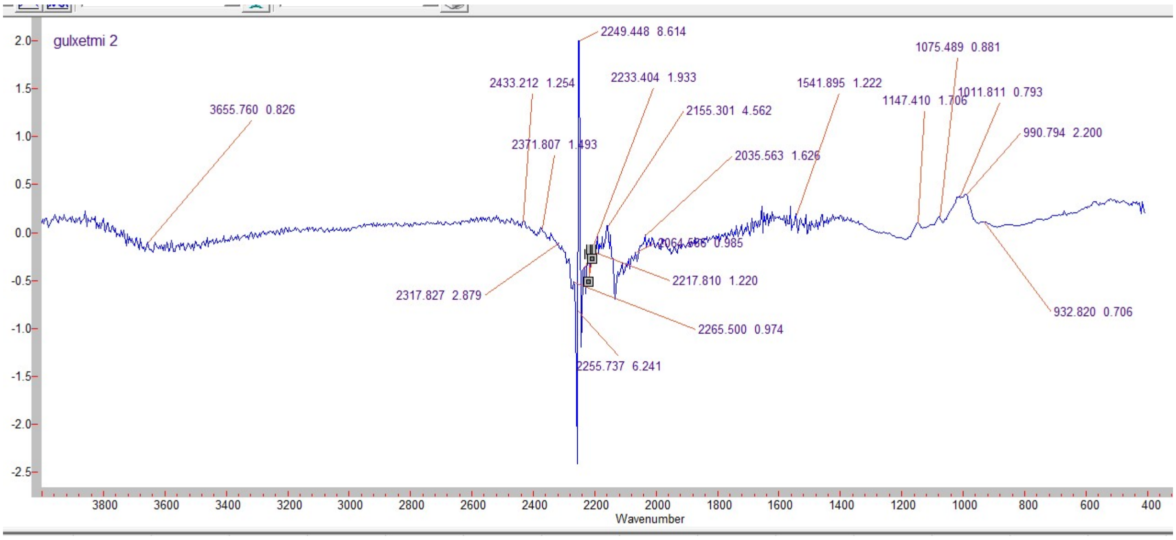
5) Calculation of the relative error of the average result:

$$A = \frac{E_\alpha \cdot 100}{\bar{X}}$$

6) Exclusion interval:

a = /(X+A)-(X-A)/

“Rudolph Research Analytical. Autopol-I" (USA) digital polarimeter was used.



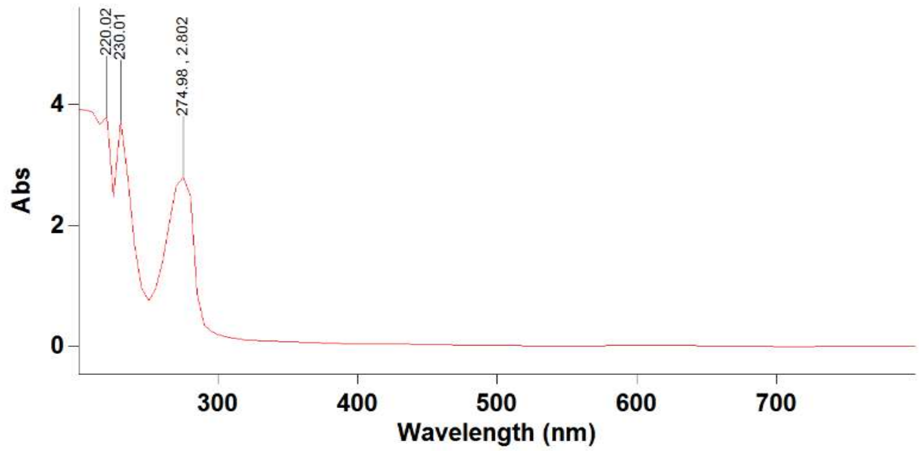
IR spectrum of mucus substances

UV spectrophotometric analysis of mucilage substances isolated from Althea root raw materials.

Althea root was isolated from the raw materials and 1 g was weighed on an analytical scale by taking dry mucus substances placed in a special vial. 1 g of powder was transferred to a flask and 95 ml of water, 5 g of resorcinol and 5 ml of solid sulfuric acid were added to it, and mucus substances were hydrolyzed. This mixture was kept outside for 1 hour for the hydrolysis of mucus substances in an acidic environment. Hydrolysis products of mucilage substances isolated from althea root raw materials were prepared for analysis. "Agilent Cary 60 UV-VIS" device was used to perform spectrophotometry analysis in the UV field. Before starting the analysis, the device is turned on and made ready for analysis.

A quartz cuvette designed for UV spectrophotometry with a layer thickness of 1 cm was used in the analysis. Sulfuric acid, resorcinin solution in water was used as a control solution. First, the control solution was placed in a quartz cuvette with a layer thickness of 1 cm, and then it was entered into the special program of the UV spectrophotometer on the computer and the "Zero" command was given. After the indicators of the control solution were reset, the solution of the hydrolysis products of the mucous substances to be analyzed was introduced into the quartz tub with a layer thickness of 1 cm. Before the analysis, the method was developed in the computer program of the UV spectrophotometer.

Thus, the "Setup" command was given and a new window was opened in the program to create a new method. In the method, the wavelength was set between 200-400, the maximum optical density (Y) 3 was noted, and "medium" was selected for the analysis speed. After preparing these methods, the "Start" command was given and the analysis was carried out in the UV spectre.



The maximum absorption spectrum of althea syrup in the UV field

Thus, the mucilage substances isolated from the raw materials of althea root, which are used to standardize althea syrup preparation, were collected in the form of a 1% solution for analysis. The yield corresponds to the maximum absorption of the 1% solution. The relationship formula between the optical density at the wavelength corresponding to the maximum absorption spectrum and the density of the substance was used for quantitative analysis.
This formula is as follows:

C standard – The concentration of the standard sample
D standard – optical density of the standard sample
C preparation - concentration of the preparation
D preparation - optical density of the preparation

As it is known from the formula, the product of the standard's viscosity by the optical density is equal to the product of the drug's viscosity by the optical density. Find the concentration of the drug using this formula.

$$C_{preparat} = \frac{\text{C standart} \cdot \text{D standart}}{\text{D preparat}}$$

$$C_{preparat} = \frac{1.023 \cdot 2.802}{2.502} = 1{,}146$$

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Economic Sciences

Trends in the development of public investment management in the mining industry of the Republic of Kazakhstan: main risks and problems

Arkadiy Borisovich Ligay
PhD student in "State and local government", Karaganda University of Kazpotrebsoyuz
Zaure Abildinovna Salzhanova
Doctor of Economics, Professor, Karaganda University of Kazpotrebsoyuz

Annotation: This article is devoted to the analysis of trends in the development of public investment management in the mining industry of the Republic of Kazakhstan. The authors draw attention to the main risks and problems faced by investors in this industry, such as the instability of the political and economic situation in the region, a high degree of competition in the market, problems with licensing and permitting documents, as well as difficulties in ensuring a sufficient level of infrastructure and accessibility transport. State measures to reduce these risks and problems and stimulate investment activity in the industry are analyzed. In conclusion, the authors conclude that it is necessary to strengthen efforts to improve the investment climate in the mining industry of the Republic of Kazakhstan.

Key words: investment activity, mining industry, mining and metals industry risks, mining and metals industry problems, government regulation

The mining industry of the Republic of Kazakhstan occupies an important place in the economic structure of the country, providing a significant part of GDP and total export revenues. With vast reserves of natural resources such as oil, gas, coal, uranium, copper, and gold, Kazakhstan has become the object of close attention of international investors and multinational corporations. In this regard, the relevance of analyzing investments in the mining industry and identifying the main risks and problems is becoming increasingly important for making informed investment decisions and forming a long-term strategy for the development of the industry.

This article analyzes investments in the mining industry of the Republic of Kazakhstan, considers the main factors affecting the inflow of investments, identifies key risks and problems that arise at various stages of the investment process.

The purpose of this work is to assess the state of investment activity in the mining industry of Kazakhstan, to identify the main trends and to identify problems and risks associated with investments in this sector.

Capital investments in the sector, for 12 months of 2022, they amounted to 606.3 billion tenge. in the field of metallurgy and 689.2 billion tenge in the extraction of metal ores. The total share of mining and metallurgical companies in the total volume of investments in fixed assets in the industrial sector in the republic has reached a significant 18%. Table 1 provides information on sources of financing in the Kazakhstan mining industry for 2022.

	2022		For reference: as a percentage of the total	
	Thousand Tenge	As a percentage of the total	2021	2020
Investments in fixed assets	15 251 104 090	100.0	100.0	100.0
Including through funds:				
State budget	2 368 507 596	15.5	15.6	19.2
Own funds	11 161 041 078	73.2	70.7	68.7
Bank loans	483 220 847	3.2	2.6	2.3
Of them:				
Loans from foreign banks	27 004 598	0.2	0.5	0.4
Other borrowed	1 238 344 569	8.1	11.1	9.8
Of them:				
Borrowed funds from non-residents	294 974 652	1.9	2.2	2.8

Table 1 – Sources of financing in the Kazakhstan mining industry for 2022

In the structure of the mining industry and quarrying, 78% of the volume of investments fell on the production of crude oil and natural gas: 2.1 trillion tenge, which is 20.7% more in monetary terms than a year earlier (IFO — 118.5%). This is followed by the extraction of metal ores: 366 billion tenge, which is 4.2% less than a year earlier (IFO - only 90.3%). The volume of investments in the field of coal mining increased by 1.5 times compared to last year (IFO — 146.5%), to 66.9 billion tenge. The extraction of other minerals accounted for 61.4 billion tenge, and the provision of services in the industry — 105.5 billion tenge.

The largest volume of investments in the mining industry falls on the oil and gas sector (65.6% in 2021). In 2021, a total of 1,809.1 billion tenge was invested in this sector, which is 10% more than in 2020. At the same time, we see that crude oil production in 2021 decreased by 1.8% compared to 2020, and natural gas production increased by 2.4% in volume terms. Oil and gas production increased by 26.0% in value terms.

The largest volume of investments in the mining industry falls on the oil and gas sector (65.6% in 2021). In 2021, a total of 1,809.1 billion tenge was invested in this sector, which is 10% more than in 2020. At the same time, we see that crude oil production in 2021 decreased by 1.8% compared to 2020, and natural gas production increased by 2.4% in volume terms. Oil and gas production increased by 26.0% in value terms.

In the first half of 2020, investments were made in the exploration and production of oil and gas, amounted to 969.9 billion tenge, an increase of 4.1% compared to the same period last year.

For example, in January-June 2022, income from this type of work increased and amounted to more than 80% (81.6%) of total revenues from mining [4].

The share of investments in the mining industry and quarrying reaches two-thirds of the total investment in industry and a third of the volume of investments in the economy of the Republic of Kazakhstan as a whole in January-August 2022. Speaking about the role of the mining and metallurgical complex of the Republic of Kazakhstan, the head of the Ministry of Industry and Infrastructure Development Marat Karabayev noted that the share of the sector in the country's GDP is almost 9%. In 2022, the industry implemented 19 new investment projects worth 232 billion tenge with the creation of 3.5 thousand permanent jobs [5].

In 2021, investments in this Kashagan region accounted for 60% of the total investment in the mining industry. In the first half of 2019, investments in this sector increased by 32.8%

compared to 2021. In 2021, investments in the coal and brown coal mining sector decreased (-32.9%) to 32.9 billion tenge. However, in the first half of 2019, the dynamics was positive: investments in coal and lignite mines increased by 22.0% and reached 19.3 billion tenge [6].

At the same time, investments in the metallurgical sector decreased by 15.6% to 128.1 billion tenge (Figure 3). Mining and metals funds are inherently funds of equities, debentures and other debentures. Apparently, there are no state budget funds in the sector, which is mainly due to the intensive development of the country's mining and metallurgical complex [7].

Kazakhstan's mining industry is witnessing a number of key trends, such as sustainable development, increased international cooperation, integration of renewable energy sources, and digital transformation. An important aspect is also the transition to new forms of financing, the exploration of new deposits, the improvement of infrastructure and logistics, the development of local production, investment in human capital and the creation of a stable legal and tax system to attract investment. These trends determine the dynamics of the development of investment activities in the country's mining sector.

Due to these trends, Kazakhstan's mining industry is becoming increasingly adaptive and innovative. Companies are looking to diversify their portfolios by developing new markets and resources. They are also actively implementing modern technologies and management methods to optimize their operations and reduce their environmental impact.

The development of investment activities in the mining industry of Kazakhstan also contributes to strengthening the country's economic growth and creating new jobs. The state, in turn, actively supports the development of the industry, providing benefits and incentives for investors, promoting the development of infrastructure and providing the necessary educational resources for the training of qualified specialists.

However, despite all the successes and positive trends, Kazakhstan's mining industry faces a number of challenges, such as instability in global markets, difficulties in accessing finance, as well as resistance from some local communities and environmental groups. For the successful development of investment activities, it is important to take into account all these factors and develop strategies that can balance economic interests, social and environmental requirements.

In general, the government of Kazakhstan is constantly making changes to remove administrative and legal barriers that affect the development of investment practices and thereby affect the investment situation in the country. This is confirmed by investor surveys, which show that progress has been made in this area in recent years. However, some challenges remain.

Figure 1 presents the main problems in the field of state regulation and management that hinder the attractiveness of investments in the mining industry [8].

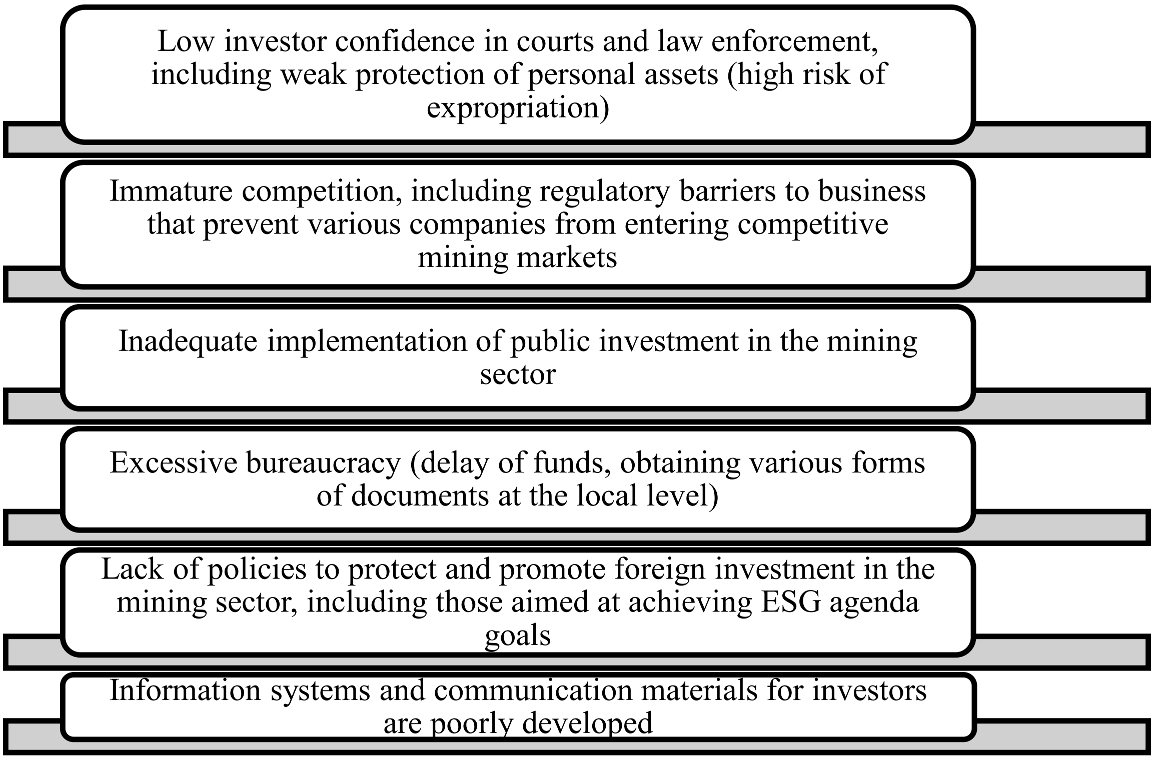

Figure 1 – Main problems in the field of state regulation and management of the mining and metallurgical complex of the Republic of Kazakhstan

There are also production problems, which include:

- Insufficient development of engineering infrastructure and lack of ready-to-operate industrial facilities in the mining industry;
- lack of financial resources for the development of investment potential and diversity of the mining industry;
- capital depletion (increase in capital depletion - from 34.2% to 42.8% (2016-2020);
- shortage of skilled workers in the mining industry [9];
- Lack of a digital platform to facilitate the integration of the industry and related structures (training, logistics, trade, standards, etc.).

A separate element is the legal provisions, which are reflected in the scheme of Figure 2[10].

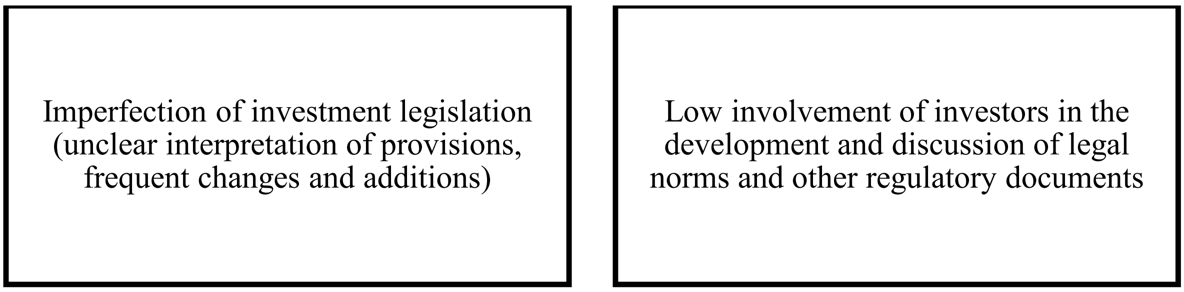

Figure 2 – Legal provisions of the problems of the mining and metallurgical complex of the Republic of Kazakhstan

Structural problems:

- non-diversified nature of investments in fixed assets and FDI in the context of industries and regions;

- small markets for the domestic consumer market (according to the World Bank, this factor is one of the top 6 out of 15 problems that investors pay attention to).

The study confirms the correlation between the number of FDI projects implemented and the size of the population. Only 19.1 million people live in Kazakhstan, despite its vast territory;

- tariff barriers and non-tariff policy of partner countries;
- financial risks for investors [11];
- lack of national ESG standards, including a regulatory framework for carbon [12].

State regulation of investment activities in the extractive sector is carried out through state investment programs; direct management of public investments; creation of a tax system with differentiated tax rates and tax benefits; financial assistance in the form of grants, subsidies and assistance, budget loans; application of financial and credit policy, pricing policy and depreciation policy; antimonopoly measures, privatization of state-owned facilities; by conducting an examination of investment projects.

For the sustainable and successful development of the mining industry in Kazakhstan, it is necessary to work in the following directions, which are reflected in Figure 3.

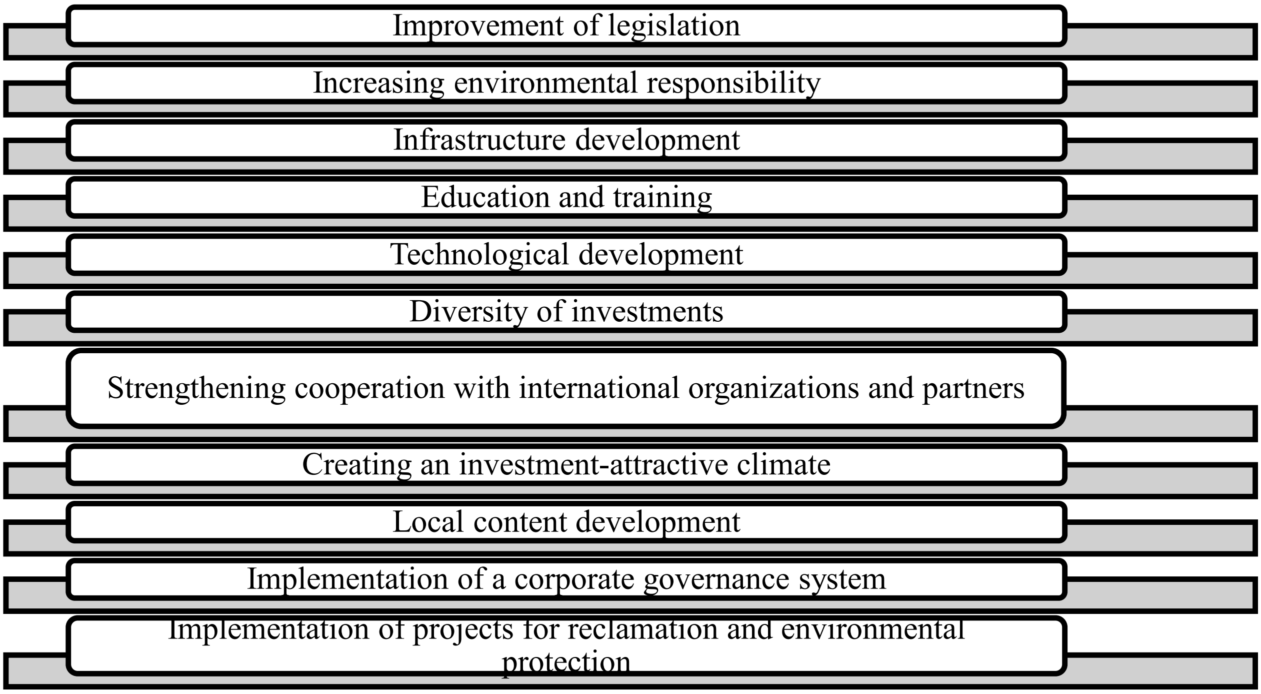

Figure 3 – Directions of development of the mining industry in Kazakhstan

Next, we will characterize the proposed recommendations.

- Improving legislation: Defining and clarifying mining laws and regulations can contribute to the transparency and stability of the industry, as well as facilitate the attraction of investment.
- Increasing environmental responsibility: The development and implementation of environmental standards and regulations, as well as technologies that reduce the negative impact on the environment, is an important aspect of the sustainable development of the industry.
- Infrastructure development: Investments in transport, energy, and social infrastructure in regions with strong mining industries can help improve the efficiency and competitiveness of the industry.

- Education and training: The introduction of training and professional development programs for local specialists, as well as the involvement of highly qualified foreign specialists, can ensure the availability of qualified personnel for the development of the industry.
- Technological development: The introduction of modern technologies and innovations, as well as the support of scientific and technical cooperation with foreign partners, can contribute to improving the efficiency and safety of the extraction and processing of mineral raw materials.
- Diversification of investments in different segments of the mining industry, including exploration, production and processing of various types of minerals, can reduce dependence on certain types of resources and reduce economic risks.
- Strengthening cooperation with international organizations and partners: Participation in international programs, cooperation with foreign partners in the field of mining can provide access to new markets, technologies and investments, as well as contribute to the sustainable development of the industry in Kazakhstan.
- Creating an investment-attractive climate: Improving the business environment, reducing administrative barriers and simplifying procedures for investors can help attract investment in the mining industry and stimulate the development of enterprises.
- Local content development: Supporting local producers and contractors, as well as promoting the use of local raw materials and services in the mining industry, can contribute to job creation, economic growth, and social stability in the regions.
- Implementation of a corporate governance system: Improving corporate governance and transparency in mining companies can improve their reputation and investor confidence, which in turn will increase the investment attractiveness of the industry.
- Implementation of reclamation and environmental protection projects: Ensuring the restoration and protection of the environment in mining areas, including the reclamation of disturbed land and environmental monitoring, is an important aspect of the sustainable development of the industry.

Conclusion

The largest share of budget investments in public administration, defense and compulsory social security is 92.3%. The rate is 67.8 percent in education, 59.4 percent in health care and 50.9 percent in arts, entertainment and recreation.

Investments in environmental projects also increased 2.5 times. If we talk about specific areas of investment, we note a significant increase in investments in activities aimed at protecting the environment (total of about 80.2 billion tenge).

In 2021, the volume of investments in this area amounted to only 32.5 billion tenge. As for the regional distribution of investments, most of the funds for these purposes were directed to Akmola (25.7 billion tenge) and Zhambyl (12.7 billion tenge) regions. The least is in the North Kazakhstan region (without investment) and Shymkent (less than 4 million tenge, that is, about 4 tenge for each resident). The Aktobe (117.2 billion tenge) and Mangistau (108 billion tenge) regions attract investment resources most actively.

As for the volume of investments per capita, the average volume of investments per capita decreased in three regions: in Akmola region - by 4.2%, Pavlodar - by 9.7%, in Astana - by 4%. In all other regions, there was an increase in investment attraction, and Shymkent showed the best indicators - in per capita terms, the indicator increased almost 2.5 times. Average growth in Kazakhstan was 15.7%.

The most active investments are made in the Atyrau region - almost 5.9 million tenge per person (9.7 times more than the national average). More than 1 million tenge per resident per year is invested in Astana. But Almaty's indicators are one and a half times lower than the average - just over 400 thousand tenge. The worst situation in 2022 was in the Turkestan region - one resident had only 145.7 thousand tenge of investments - 4 times less than the national average.In conclusion, it can be noted that the mining industry is an important sector of the economy of the Republic of Kazakhstan and requires active attraction of investments for its development. However, as noted above, investors face a number of risks and challenges that need to be addressed in order to create a favorable investment climate in the industry. An important step in this direction is the adoption of state measures to eliminate these risks and problems, as well as the creation of conditions for the development of infrastructure and ensuring the availability of transport. Only in this case, we can expect sustainable development of the mining industry and an increase in the investment attractiveness of the Republic of Kazakhstan as a whole. By following the above recommendations, Kazakhstan will be able to balance economic growth and environmental sustainability, ensuring the successful development of the mining industry and the strengthening of the local economy.

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REVIEW OF INFORMATION TECHNOLOGIES, MATHEMATICAL ALGORITHMS, AND SOFTWARE PRODUCTS FOR OCCUPATIONAL SAFETY AND HEALTH COST ACCOUNTING AND ANALYSIS IN HIGH-RISK INDUSTRIES

Abikenova Sholpan
Candidate of Physical and Mathematical Sciences, General Director, Republican Research Institute for Occupational Safety and Health
Kadyrbek Baigenzhinov
master, researcher, Republican Research Institute for Occupational Safety and Health

Introduction

In today's globalized world, the issue of Occupational safety and health in high-risk industries is a critical concern for both developed and developing countries. These industries, which include construction, mining, manufacturing, and agriculture, carry a higher risk of injury to workers due to the nature of their operations. To effectively manage Occupational safety and health costs and improve safety measures, organizations rely on information technologies, mathematical algorithms, and software products. This article provides an overview of the tools and solutions used in various foreign countries and in Kazakhstan for accounting and analyzing Occupational safety and health costs in high-risk industries.

Global Perspectives on Occupational safety and health. Occupational safety and health is a global concern, and countries worldwide have established comprehensive regulations to ensure the safety and well-being of workers. Several common elements exist in approaches to managing Occupational safety and health costs, which involve the assessment, reduction, and analysis of expenses related to safety and health.

Information Technologies. Information technologies play a pivotal role in modern Occupational safety and health management, and different countries employ a variety of tools for this purpose. These technologies help organizations collect, store, and analyze data related to safety incidents, worker compliance, and safety equipment management. In the United States, the Occupational Safety and Health Administration (OSHA) has developed the Injury Tracking Application (ITA), a web-based platform that facilitates the recording and analysis of workplace injuries and illnesses. Similar systems can be found in many other countries, allowing organizations to manage and report incidents efficiently.

Mathematical Algorithms. Mathematical algorithms are increasingly employed to predict and assess the risks associated with Occupational safety and health in high-risk industries. These algorithms use historical data, operational variables, and various parameters to forecast potential safety hazards and evaluate the effectiveness of safety measures. In the European Union, the Risk Assessment of Dangerous Substances (RADS) algorithm helps companies evaluate the risks of working with hazardous materials and prioritize safety improvements accordingly.

Software Products

Software products designed for Occupational safety and health cost accounting and analysis are essential for managing safety expenses efficiently. These tools are used to track costs associated with training, personal protective equipment (PPE), medical treatment, and legal expenses related to workplace injuries. In the United Kingdom, software solutions like Alcumus Info Exchange help organizations manage safety data, track incidents, and generate detailed reports for compliance and analysis.

Kazakhstan's Approach. In Kazakhstan, Occupational safety and health in high-risk industries is a top priority, given the nation's growing industrial sectors. The government has established a regulatory framework to ensure safety and health for workers in these industries. To manage Occupational safety and health costs effectively, Kazakhstan has adopted various tools and solutions:

Information Technologies: Kazakhstan uses web-based platforms for reporting and monitoring workplace incidents, injuries, and safety performance. These systems, often customized for specific industries, facilitate data collection and analysis.

Mathematical Algorithms: Mathematical algorithms are gaining traction in Kazakhstan for risk assessment and safety planning. These algorithms help industries identify potential risks and allocate resources efficiently.

Software Products: Local and international software products are used for cost accounting and analysis. These solutions enable Kazakhstani companies to track and manage expenses related to Occupational safety and health while complying with national regulations.

Challenges and Future Prospects

While information technologies, mathematical algorithms, and software products have revolutionized Occupational safety and health in high-risk industries, challenges remain. These challenges include data security, interoperability, and the need for a well-trained workforce to manage these technologies effectively.

For Kazakhstan, the future looks promising, with increased investments in digitalization and a focus on safety culture. The country is expected to adopt more advanced technologies and solutions, aligning its Occupational safety and health practices with global standards.

Conclusion.

In high-risk industries across the globe, managing Occupational safety and health costs is a fundamental aspect of ensuring the safety and well-being of workers. Information technologies, mathematical algorithms, and software products have become indispensable tools in this endeavor. Both foreign countries and Kazakhstan are adopting and developing innovative solutions to address the challenges associated with Occupational safety and health in high-risk industries. As technology continues to advance, it is crucial for organizations to stay updated on the latest developments and best practices to maintain a safe working environment while optimizing their costs effectively.

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FORMATION OF A QUALITY MANAGEMENT SYSTEM AT THE “WESTERN” MEDICAL CENTRE ATYRAU CITY

Gaukhar Kuanova
student “DBA in health care” , Al-Farabi Kazakh National University, Republic of Kazakhstan, Almaty

In today's world, quality management systems for medical services are in constant development, taking into account the changing needs and expectations of patients, advances in medical technology and the desire to provide more effective and safer treatment.
In order to implement the Quality Management System in “WESTERN” Medical Centre according to the requirements of ISO 9001:2015 we have defined and performed the following work stages:

1. Training of employees on the principles and requirements of ISO 9001:2015 to familiarize all personnel with the concepts and principles of quality, terminology and requirements necessary for their work.

Table 1 shows the 24 key definitions and terms that staff need to master.

Table 1 - Main definitions used in the ISO 9001:2015 Quality Management System

№	Terms	Definition
1	Audits	Checks to see if the activities performed for quality assurance and their results are consistent with initial expectations or predetermined considerations.
2	client	A stakeholder who receives an organization’s product or service. Itdefines a person or entity that purchases a product or service from another.
3	Continuous improvement	A tool that contributes to the achievement of the organization’s objectives.
4	Corrective action	Actions to correct the non-compliance.
5	Documented information	The information that an organization must control and maintain and the medium on which it is stored.
6	FMAE	Type of failure and consequence analysis. This is a procedure foranalyzing potential failures in a classification system, determined by the severity or consequences of system failures.
7	Indicator	A tool for monitoring and observing a system based on assessmentand resulting variables. There are structural, process and outcome indicators.
8	Key process	Key processes are those that add value to customers or have a direct impact on customer satisfaction or lack thereof. They form the organization’s value chain.

9	Management	The person or persons responsible for management at the highest level in the organization.
10	Inconsistency	Failure to comply with the requirement.
11	Opportunities	A suitable circumstance, moment, or means for doing, or achieving something.
12	Process	A set of activities that are mutually related or interact with each other and convert inputs into outputs.
13	Merchandise	The result of a given process in an organization. This can be physical products, goods or services.
14	Quality	The extent to which a set of inherent characteristics fulfils the requirements.
15	Quality control system	Organizational structure, procedures, processes and resources required to implement quality management.
16	Quality Manual	A set of documents describing the quality system implemented by the service.
17	Quality Policy	A document that expresses the overall quality objectives of the service, formally expressed by the highest level of management.
18	Register	A record of facts or any other information that is relevant to the audit criteria and can be verified.
19	Risk	The effect of uncertainty.
20	Sphere	Limitations and applicability of the management system.
21	Strategic process	A process to define and implement the strategies and objectives of an organization. Strategic processes and common processes for most types of business.
22	Support process	A methodology for maintaining and ensuring the reliability of equipment used to provide services.
23	SWOT	A tool to analyze the situation of a company, institution, project or person with respect to strengths, weaknesses, opportunities and threats.
24	Operating medium	A set of working conditions in which the object of an organization' activity is carried out.
Note: compiled by the author.		

Training of employees in ISO 9001-2015 standard was organized in 2 stages. At the first stage we trained the heads of structural subdivisions of IC with the involvement of experts of the company specializing in ISO 9001-2015 certification. These employees were also trained for internal audit. At the second stage we organized cascade training for all employees of the clinic according to the schedule. When conducting the seminar, we followed the logic of the ISO 9001-2015 standard presentation, trying to use examples from practice obtained during the initial auditof the Centre.

2. *Establishment of a quality committee*. We established the Committee, which included thedeputy chief physician, pharmacy manager, senior nurse, lawyer, chief accountant of the LLP, general practitioner, surgeon, dentist. When forming the composition of the Quality Committee, we tried to ensure representation of all categories of employees of the Medical Centre. The DeputyChief Physician was appointed as the Chairman of the Quality Committee by open voting, and a nurse was appointed as the Secretary (until the QMS Manager was hired).
In order to fulfil the provisions of ISO 9001: 2015 standard, the Quality Committee will haveto report to the management of health care Atyrau LLP. The purpose of the Quality Committee is to ensure the functioning of the organization's quality management system.

In this regard, the Committee performs the *following functions*: defining the goals and workplan of the MC; reporting on performance against year-end goals and objectives; creating a cultureof continuous improvement in achieving high performance; monitoring the functioning of the quality management system of the MC; analyzing the performance indicators of the quality of management and the quality of medical services provided; developing and approving KPIs for thestaff; analyzing incidents, complaints, risks and claims; analyzing feedback from patients and staff;developing and approving KPIs for the MC.

The regularity of the Committee meetings was determined to be once every 2 months.

3. *Initial Assessment.* The initial assessment of the current state of the health center was determined based on the results of the audit and SWOT analysis (strengths, weaknesses, opportunities and threats) with a detailed description of different areas and activities of the healthcenter. This approach was to provide an overview of the current situation and identify the scope of activities to be certified.

Since, as we know, the health care organization itself can decide which processes will be subject to certification. In our center, it was decided that the scope of certification would cover onlykey processes. Managing, key and supporting processes occurring in the clinic were identified, and a process map was formed.

4. *Development of quality system documentation*. This stage of work is the most labor-intensive. We developed maps of key processes and individual procedures that required improvements based on the audit results. To ensure access of all employees of the MC to the keydocuments, a google-disk was created, as well as corporate google-accounts of employees. A quality manual for the clinic was developed which includes vision and mission, quality policy andgoal planning to realize the policy. The quality manual was developed with reference to standardsand consists of 10 chapters reflecting the ISO QMS principles based on the "plan, do, check, act"cycle. The first 3 chapters correspond to the introduction and include the objectives, scope and presentation of the organization, relevant standards, and QMS terms and definitions. Table 2 shows the structure of the quality manual.

Table 2 - Structure of the Quality Manual

№	Stages of work according to the Deming cycle	Chapters	Table of Contents
1	General Provisions	Object and scope Links to standards Terms and definitions	Presentation of the organization
2	Planning	Context of the organization Leadership Planning Operation	-Application area SWOT analysis, quality managementprocesses; - Quality policy, roles, accountability; -FMAE risk management, action plans, changes; - Planning andcontrol, requirements, product and service development, external servicesinternal services
3	Check	Performance evaluation	Subsequent analysis ofmeasurements
4	Action	Enhancement	Inconsistency
Note: compiled by the author.			

5. Development and implementation of quality indicators. The number of indicators that can be defined can be related to processes, outcomes and structure. Structural indicators are indicators that confirm the existence of a specific procedure or protocol, which should be well structured, documented and easily accessible. Process indicators show compliance with a particular aspect of the protocol, while outcome indicators are numerical and are intended to be measured and compared. They serve to measure change over time.

6. Conducting an internal audit. Once the information has been collected, all processes must undergo an internal audit, which consists of modelling the final audit process to identify possible failures. In our case, this process identified several non-conformities that were correctedbefore the external audit.

7. Conducting an external certification audit. External audit is a two-stage process. At the preliminary stage the documentation is checked. In the final stage, for 2 consecutive days, the auditors review and compare all the documentation prepared, and conduct a tour of all the clinic premises, interviewing various staff members of the center to verify the authenticity of the documentation. At the end of this audit, a report is prepared. In our case, we received a favorablereport and an ISO 9001:2015 certificate.

8. Annual review and renewal of the certificate every 3 years. After initial certification, all procedures shall be reviewed annually and the certificate shall be renewed every 3 years.

As it was mentioned above, the most labor-intensive stage was the development of the quality system documentation. The documentation was based on the process map, quality manual, quality policy. We also prepared standard operating procedures, feedback questionnaires, checklists for checking procedures. All employees of the Centre were involved in the development of these documents. The final documents were approved at the meeting of the Quality Committee. When developing the quality policy we took into account the wishes of the clinic management, feedbackfrom patients and staff. The approved version of the quality policy included the following text:

“Western” Medical Centre is committed to promoting wellness in the region and providing the highest level of care. *We strive to:* treat all patients equally, with compassion and care; ensurepatient and staff safety; communicate the progress of treatment to the patient and family; maintaina high level of professional competence; promote, innovate and implement new cost-effective procedures, and technologies; comply with all regulatory and legislative requirements; strive to anticipate our patients' expectations; and maintain a high corporate spirit among clinic staff. All the processes we have highlighted have been assigned an identification number (see Table 3).

Table 3 - Names and identification numbers of the processes of MC "Western"

Process name	Number
QMS management: analyzing, planning and improvementPersonnel management Management of documented informationManaging risks and opportunities Work of the quality committee Management of external and internal communicationAnalyzing customer satisfaction Analysis of staff satisfactionInternal audit management Non-conformance management and improvement actions	1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9 1.10
Provision of emergency ambulance servicesPatient care in the inpatient unit Provision of counselling, diagnostic and treatment services	2.1 2.2 2.3
Equipment management and maintenance Purchasing and warehouse management Evaluation of suppliers and subcontracted services Infection control, cleaning and waste	3.1 3.2 3.3 3.4
Note: compiled by the author.	

During the analysis of the root causes of a large number of patient complaints about the workof MC staff, we found that this situation is related to the lack of appropriate regulations and procedures in the organization. There was no person in the structure of the center responsible for monitoring complaints and feedback from patients, as well as for timely informing the management about existing problems. In this regard, we proposed to the center's management to introduce the position of a quality manager into the organizational structure.

Manuals and instructions were developed for each of the processes. As part of the thesis work, a minimum list of documents for maintaining a quality management system was compiled.In total, we developed 169 QMS documents for MC "Western" (see Table 4).

Table 4 - Number of developed QMS documents by processes

№	Process name	Number of QMS documents developed by process
1	QMS management: analyzing, planning and improvement	9
2	Personnel management	22
3	Management of documented information	8
4	Managing risks and opportunities	5
5	Work of the quality committee	1
6	Management of external and internal communication	3
7	Analyzing customer satisfaction	4
8	Analysis of staff satisfaction	2
9	Internal audit management	3
10	Non-conformance management and improvement actions	2
11	Provision of emergency ambulance services	14
12	Patient care in hospital	6
13	Provision of counselling, diagnostic and treatment services	67
14	Equipment management and maintenance	7
15	Purchasing and warehouse management	5
16	Evaluation of suppliers and subcontracted services	2
17	Infection control, cleaning and waste	9
Note: compiled by the author		

When developing QMS documents we took as a basis the requirements to documentation described in ISO 9001:2015, regulatory legal acts of the Republic of Kazakhstan, WHO recommendations, standards of operating procedures of the Centre for Accreditation of Quality inHealthcare.
We have created a register of clinic documents which included both regulations and instructions on the clinic's activities, as well as forms of documents and questionnaires. Each document was assigned a footer with an individual identification number. With the help of identification codes, all documents of the center are thus linked into a unified system in relation to processes, purpose, type and uniform requirements for their design.
To ensure timely monitoring and control over the functioning of the quality management system, we have amended the job descriptions of all employees to include the following wording:

1) In its activities, it is guided by: internal documents of the quality management system ofthe : “Western” Medical Centre (regulations, procedures, instructions, rules, standards and other).
2) The SP manager shall stimulate employees to fulfil the QMS requirements.
3) An employee is responsible for offences committed in the course of his/her activities within the limits defined by administrative, criminal and civil legislation of the Republic of Kazakhstan and internal QMS documents. These changes in job descriptions were aimed at strengthening the responsibility of all employees in the implementation of the quality managementsystem in MC “Western”.

As the stage of analyzing feedback from patients revealed poor staff communication skills,we have taken the following actions:

1) Developed a checklist for assessing job applicants during the hiring process;
2) Training in communication skills was organized for IC staff;
3) Placement of personalized QR codes for collecting online patient questionnaires at thedoors of offices and in the corridors of the medical center has been introduced into practice;
4) An Ethics Commission has been established to observe ethical norms, rules of professional behavior and employee relations;
5) Regulations on KPI of the IC employees were developed.

Important attention during the implementation of the quality management system was paidto the process of collecting and analyzing feedback from patients of the MC. We developed a patient route map of the Western Medical Centre, which identified the points of contact between the patient and the staff and information about the organization.
In order to create a positive patient experience at the point of contact with the MC, we have taken the following measures:

1) A patient waiting room assessment checklist has been developed;
2) A checklist for evaluating the performance of the receptionist has been compiled;
3) A patient satisfaction questionnaire was developed to assess the work of the doctor, nurse,and SNMP team;
4) Amended the contract with the outsourcing company that maintains the clinic's websiteand accounts;
5) Employee KPI charts have been developed.

Completion of patient waiting room and receptionist evaluation checklists were included inthe daily work of the QMS manager.
The QMS manager to assess the patient waiting room daily at 8.45am using the following checklist (see table 5).

Table 5 - Patient waiting room assessment checklist

№	Item	yes	no
1.	Entrance area of the MC is clean, no streaks		
2.	There's nothing to prevent you from entering the MC		
3.	There is a container with clean shoe covers at the entrance to the MC		
4.	At the entrance to the MC there is a container for dirty footwear		
5.	The sofa and armchairs in the waiting room are clean and not cluttered with belongings		
6.	Additional lighting in the hall is switched on during winter time		
7.	On-site receptionists		
8.	The receptionists are dressed in uniforms		
9.	There is a TV on in the waiting room		
10.	In hot seasons, the air conditioner is on		
11.	There are no unpleasant odors in the hall		
12.	The cooler is filled with water		
13.	At least 20 disposable cups for the cooler are available		
14.	Signage with Wi-Fi password and login in a prominent place		
15.	Patient coat rack in good condition		
16.	Availability of a complaints book		
17.	Toilet is available for the visitors of the MC		
18.	Toilet in a neat and orderly condition		
19.	There's toilet paper in the loo		
20.	There's soap in the loo		
21.	There are paper towels in the toilet		
22.	The urns in the waiting room and toilets are empty		
Note: compiled by the author.			

In order to improve the level of patient satisfaction with the work of the reception staff of the MC, the QMS manager should assess the work of the registration desk at least 3 times a day atdifferent times according to the criteria presented in Table 6.

Table 6 - Checklist for the evaluation of the registrar's office

№	Item	yes	no
Evaluation of the work in the waiting room			
1.	The receptionist is wearing a uniform		
2.	The receptionist looks tidy		
3.	The receptionist communicates kindly with the visitors of the center		
4.	The receptionist clearly and easily explains to the visitor his/her route to the center		
5.	The receptionist is not busy with extraneous activities, personal conversations in the presence of visitors to the center		
Evaluation of responses to telephone calls			
6.	The time of answering a telephone call when the receptionist is not busy is not morethan 5 seconds		
7.	The receptionist said hello		
8.	The greeting was welcoming		
9.	The receptionist introduced herself and gave the name of the organization		

10.	Got the client's name		
11.	Checked to see how he could help		
12.	The receptionist was attentive to the client's request		
13.	The receptionist was proactive in talking to the customer		
14.	The receptionist provided the necessary information to the client and, if necessary, recorded the client's appointment with a specialist		
15.	The receptionist clarified the time convenient for the client to visit the center		
16.	The receptionist asked the client if he needed a clue on how to get to the MC		
17.	In case of a positive answer to the previous question, the receptionist will inform the client about the option of travelling to the center.		
18.	The receptionist clarified if there was anything else he could do to help the client		
19.	The receptionist thanked the customer for coming forward		
20.	The receptionist said goodbye to the customer		
21.	The receptionist did not interrupt the customer		
Note: compiled by the author.			

Thus, these evaluation criteria will improve the level of patient satisfaction with the work of the registry and the work of its staff.

Importantly, QMS provides the tools to monitor what needs to be done, which inevitably leads to continuous improvement of the service as a whole. In addition, QMS encourages changes, adjustments and improvements based on facts rather than assumptions, as all data is formally recorded and analyzed.

For a clinic to be of high quality, it must have robust indicators that incorporate various aspects of care, including effectiveness, safety, patient-centeredness, efficiency, timeliness and equity, and should not rely on a single parameter.

Unveiling Economic Connections: A Comprehensive Study on Foreign Direct Investment and International Trade in EU New Member States-11

Vigan Disha
PhD (c), South East European University
Besnik Fetai
Prof. Dr. Sc., South East European University

Abstract

The objective of this paper is to delve into a thorough examination of the dynamics governing the interaction between Foreign Direct Investment (FDI) and International Trade within the context of the European Union's New Member States-11 (EU-NMS 11). The research provides a comprehensive empirical evaluation for the period spanning from 2000 to 2020, with a particular focus on these eleven nations. The study establishes a set of hypotheses as the foundation for investigating the relationship between foreign direct investment and international trade within this specific region.
Moreover, the research interprets the empirical findings derived from various regression models, including Ordinary Least Squares (OLS), Fixed Effects, Random Effects, and the Hausman-Taylor model. These analytical tools are employed to assess and elucidate the multifaceted associations between FDI and International Trade within the context of EU-NMS 11.
Furthermore, the study takes into account specific institutional factors within these countries that influence foreign investors' decisions to invest in a particular location. As a result, the study reveals that gravity factors, combined with institutional determinants such as economic integration, control of corruption, political stability, and other indicators of governance quality, have a significant impact on host countries within the EU-NMS 11. The findings from this research significantly contribute to the development of an analytical framework for evaluating the effectiveness of national policies and institutions aimed at attracting foreign investment to these specific EU-NMS 11 countries. Additionally, the research underscores the importance of host countries prioritizing efforts to enhance the effectiveness of governmental institutions, combat corruption, streamline bureaucratic processes, and improve overall economic conditions to foster foreign investment.

1.0 Introduction

The role of foreign direct investments (FDIs) has been a subject of extensive debate among economic policy makers, particularly in assessing their impact on economic indicators in the context of the European Union's New Member States-11 (EU-NMS 11). While some economists argue that national economies may not always experience a positive effect from the inflow of FDIs, others assert that FDIs can have significant positive effects by fostering stronger connections with foreign companies, granting access to technology, know-how, and expansive market opportunities. This, in turn, can lead to increased productivity, structural transformations in

production and services, and a subsequent boost in exports. Additionally, the economic development process is often positively influenced by FDIs, contributing to improved balance of payments and increased employment rates.
Given the economic challenges faced by the EU-NMS 11, the need for more substantial investments has become evident, particularly in light of deindustrialization in the region. Researchers have also highlighted the link between higher FDI inflows and increased trade volumes and output. In this research paper, we aim to analyze the movement and impact of FDIs on trade and economic growth within each of the individual EU-NMS 11 countries.
FDIs have historically played a significant role in driving export-led growth in Eastern European countries that are now part of the European Union. The EU-NMS 11 countries, including Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, and Slovenia, joined the EU in 2004 and later, cumulating a total gross FDI of 700 billion euros. These countries share historical economic and political systems characterized by inflation, political instability, and financial sector crises. Remarkably, only a limited number of studies have explored the relationship between FDI inflows and export performance in the EU-NMS 11 countries. Building on FDI findings, the goal of this research is to determine the impact of foreign direct investments on export performance exclusively within the EU-NMS 11 countries. The thesis structure comprises theoretical research fundamentals, a literature review on the implications of FDI in international trade, a methodology section detailing data sources, and a section presenting research results.

2.0 Literature Review

Research in the field of international economics has undergone extensive examination of the intricate patterns and determinants underlying Foreign Direct Investment (FDI) relationships between countries. These investigations have contributed significantly to our understanding of the multifaceted dynamics that shape the global economic landscape. For instance, the work of Carr et al. (2001) and Markusen and Maskus (2002) has been pivotal in shedding light on the volume and directional flow of FDI between nations. Their research has delved into factors such as market size, geographical proximity, and institutional disparities as influential determinants of FDI. These insights have enriched our comprehension of bilateral FDI patterns, highlighting the relevance of specific country characteristics in shaping investment decisions by multinational enterprises (MNEs).
Brainard's (1997) research has underscored the significance of horizontal FDI, particularly between countries that share similarities. Her findings have illuminated how higher transportation costs and tariff barriers can incentivize multinational corporations to establish local production facilities in foreign markets. Brainard's empirical analysis, based on data from the Annual Survey of US Direct Investment Abroad (Brainard, 1997a), has further demonstrated the intricate interplay between US labor and foreign labor markets, showcasing how multinational production is driven by wage differentials, particularly in developing countries. Brainard's subsequent study (Brainard, 1997b) delved deeper into the activities of foreign manufacturing affiliates owned by US multinationals during the period of 1983-1992. The research has brought to light the complementarity of affiliate activities in developing countries with those in industrialized nations. This suggests that multinational firms strategically employ FDI in countries at different stages of development to effectively segment production into stages characterized by varying skill intensities.
Blonigen et al. (2003) conducted a comprehensive study that harnessed U.S. affiliate sales data, proxies for relevant variables, and a sample of FDI activity from OECD countries. Their research explored the motivations underpinning vertical multinational enterprises. The results of this study have provided compelling evidence supporting the horizontal model of FDI, contributing to the

ongoing debate about the drivers of multinational investment decisions. Ekholm et al. (2003) leveraged data from the U.S. Department of Commerce to unveil the substantial volume of FDI flows between countries, encompassing both large-scale investments and relative endowment factors. Their findings have lent robust support to the Knowledge-Capital (KK) model, which posits that FDI is driven by a combination of firm-specific advantages and location-specific factors. This aligns with the horizontal FDI model, emphasizing the pivotal role of market-seeking investments in international economic relations.

Head and Ries (HR, 2003) conducted a meticulous examination of the production decisions made by a substantial sample of 1,070 large Japanese firms in 1989. Their findings have illuminated how the presence or absence of cost advantages in a host country influences investment strategies. When cost advantages are lacking, foreign investors are found to be more productive than exporters. In contrast, in situations where low-cost foreign production options are available, firms with lower productivity may be inclined to relocate their production operations to capitalize on cost efficiencies. HMY (2004) developed a model that meticulously examined firms' decisions concerning exports and horizontal FDI. This model, cited by Dauti (2016), delved into the conditions under which firms opt for exporting or establishing foreign affiliates. The insights generated by this research have provided valuable contributions to our understanding of the factors driving the internationalization strategies of firms (Dauti, 2016).

3.0 Econometric methodology of testing the relationship between foreign direct investment and international trade in EU New Member states-11

In order to conduct this scientific study and substantiate the initial findings of this research project, the proposed topic will employ advanced scientific methodologies and models. The methodology employed in this paper will be comprehensive, encompassing a range of research-scientific methods. These methods have primarily involved a meticulous review of relevant literature, extensive observation, and rigorous critical thinking.

Throughout the research process, information has been carefully selected based on its validity and credibility, drawing from the works of various foreign and local authors, as well as input from other stakeholders closely related to the research topic. This holistic approach allows for a well-rounded examination of the subject matter and facilitates the extraction of valuable insights and conclusions.

3.1 Econometric Model Equation

$$\mathrm{Trade}_{ijt} = \alpha 0 + \alpha 1 * \mathrm{FDI}_{ijt} + \alpha 2 * \mathrm{GDP}_{i} * \mathrm{GDP}_{j} + \alpha 3 * \mathrm{GDPpc}_{it} + \alpha 4 * \mathrm{GDPpc}_{jt} + \alpha 5 * \mathrm{Corruption}_{it} + \alpha 6 * \mathrm{Corruption}_{jt} + \alpha 7 * \mathrm{WTO}_{it} * \mathrm{WTO}_{jt} + \alpha 8 * \mathrm{Voice}_{\mathrm{Accountability}_{it}} + \alpha 9 * \mathrm{Voice}_{\mathrm{Accountability}_{jt}} + \alpha 10 * \mathrm{Gov}_{\mathrm{Effectiveness}_{it}} + \alpha 11 * \mathrm{Gov}_{\mathrm{Effectiveness}_{jt}} + \alpha 12 * \mathrm{Regulatory}_{\mathrm{Quality}_{it}} + \alpha 13 * \mathrm{Regulatory}_{\mathrm{Quality}_{jt}} + \alpha 14 * \mathrm{Rule}_{\mathrm{of}_{\mathrm{Law}_{it}}} + \alpha 15 * \mathrm{Rule}_{\mathrm{of}_{\mathrm{Law}_{jt}}} + \alpha 16 * \mathrm{Political}_{\mathrm{Stability}_{it}} + \alpha 17 * \mathrm{Political}_{\mathrm{Stability}_{jt}} + \alpha 18 * \mathrm{Distance}_{ij} + \alpha 19 * \mathrm{Language}_{ij} + \alpha 20 * \mathrm{Border}_{ij} + \eta_{ijt}$$

As this paper investigates the dynamics of international trade, with Trade_ijt as the dependent variable, reflecting trade between country i and country j at time t. The primary focus is on Foreign Direct Investment (FDI_ijt), representing cross-border investment flows at time t. The coefficient α1 measures the impact of FDI_ijt on trade patterns. Additionally, Gross Domestic Product (GDP) for country i (GDP_i) and country j (GDP_j) plays a significant role, reflecting the aggregate economic output. The coefficient α2 quantifies the influence of combined GDP on Trade_ijt. GDP per capita for both countries (GDPpc_it and GDPpc_jt) is considered, with coefficients α3 and α4 indicating the impact of individual prosperity on trade dynamics. Corruption levels in country i

(Corruption_it) and country j (Corruption_jt) are crucial factors, quantified by α5 and α6 to assess their impact on Trade_ijt. The World Trade Organization (WTO) membership status for both countries (WTO_it and WTO_jt) is considered, with α7 measuring the influence of WTO membership on trade patterns. Furthermore, governance and accountability variables, including Voice and Accountability, Government Effectiveness, Regulatory Quality, Rule of Law, and Political Stability, are essential in understanding Trade_ijt.
The econometric results and relationships between estimates for the EU New Member States are represented in the below noted table including the models of: OLS (Ordinary Least Squares), Fixed Effects, Random Effects and Hausman Taylor

v1	v2 (OLS Model)	v3 (Fixed Effects)	v4 (Random Effects)	v5 (Hausman Taylor)
	-1	-2	-3	-4
VARIABLES	lnexp_import	lnexp_import	lnexp_import	lnexp_import
lnexp_importlag1				-0.0106***
				-0.00277
lnfd_net_inflows	0.000277**	0.000177*	0.000277**	0.000157*
	-0.000114	-9.32E-05	-0.000114	-8.82E-05
lnfd_net_outflows	-9.63E-05	-0.000146**	-9.63E-05	-0.000124**
	-6.95E-05	-5.78E-05	-6.95E-05	-5.49E-05
lnexport	0.0212***	0.0193***	0.0212***	0.0203***
	-0.000755	-0.000722	-0.000755	-0.000691
lnimport	0.0194***	0.0191***	0.0194***	0.0190***
	-0.000814	-0.000701	-0.000814	-0.000663
lncontrol_corruption	-0.000725***	-0.000321**	-0.000725***	-0.000300**
	-0.000141	-0.000133	-0.000141	-0.000126
lnrule_law	-6.19E-05	0.000392*	-6.19E-05	0.000409**
	-0.0002	-0.00022	-0.0002	-0.000207
lnregulatory_quality	-0.00146***	-0.00106**	-0.00146***	-0.00107***
	-0.000339	-0.000414	-0.000339	-0.000389
lngovernment_effectiveness	0.00153***	0.000998**	0.00153***	0.000791**
	-0.000449	-0.000384	-0.000449	-0.000364
lnpolitical_stability	-0.000659***	-0.00118***	-0.000659***	-0.00118***
	-0.000227	-0.000199	-0.000227	-0.000188
lnvoice_accountability	0.00240***	0.00209***	0.00240***	0.00211***
	-0.000511	-0.000474	-0.000511	-0.000445
lncorruption_score	4.35E-05	7.60E-06	4.35E-05	4.12E-05
	-0.000271	-0.000211	-0.000271	-0.0002
lngdp_per_capita	0.000911***	0.00391***	0.000911***	0.00304***
	-0.000246	-0.000672	-0.000246	-0.000567
code				-1.08E-05
				-0.000301
o.lnwto_accession	-	-	-	
Constant	2.885***	2.913***	2.885***	2.939***
	-0.00231	-0.0068	-0.00231	-0.0104
Observations	143	143	143	143
R-squared	1	0.999		
Number of code		9	9	9

4.0 Result Interpretation

4.1 OLS (Ordinary Least Square)

The lnimport and lnexport had positive coefficients, indicating that higher levels of imports and exports correlated with increased lnexp_import. This suggests that countries engaged in more extensive trade networks tended to have higher import values, possibly benefiting from economies of scale. The variable lnfd_net_inflows, representing foreign direct investment (FDI) inflows, exhibited a positive and significant coefficient. This implies that higher FDI inflows were linked to greater import values. This phenomenon could be attributed to multinational companies importing intermediate goods for their production processes or boosting domestic demand for imported products. Institutional factors such as lncontrol_corruption, lnregulatory_quality, and lnpolitical_stability had negative coefficients. This means that improvements in these institutional aspects were associated with reduced import values. Better institutions often lead to more efficient resource allocation, reduced trade barriers, and less reliance on imports. On the other hand, the coefficients for lngovernment_effectiveness and lnvoice_accountability were positive and significant. This suggested that enhancements in government effectiveness and voice and accountability were tied to higher import values. This could be due to improved governance attracting more foreign trade partners or fostering a more open and dynamic trade environment. We also observed that lngdp_per_capita, representing GDP per capita, had a positive and significant coefficient. This indicated that an increase in GDP per capita corresponded to higher import values. Wealthier countries tend to have a greater demand for imported goods and services. Our model exhibited a remarkably high R-squared value of 0.9997, signifying that 99.97% of the variation in lnexp_import could be explained by the included independent variable

4.2 Fixed Variable

Variables like lnimport and lnexport displayed positive coefficients, implying that higher levels of imports and exports were associated with increased lnexp_import. This observation aligned with the idea that countries engaged in more extensive trade often benefited from economies of scale. Notably, the coefficients for lnfd_net_outflows (which were negative) and lnfd_net_inflows (which were positive, albeit significant at the 10% level) revealed interesting patterns. An increase in net FDI outflows seemed to lead to decreased import values, while net FDI inflows were linked to higher imports. This could be due to multinational corporations' influence on trade patterns. Institutional factors, including lncontrol_corruption, lnregulatory_quality, and lnpolitical_stability, showed negative coefficients. This suggested that improvements in these institutional dimensions were associated with reduced import values, possibly because better institutions lead to more efficient resource allocation and fewer trade barriers. Conversely, positive and significant coefficients for lngovernment_effectiveness and lnvoice_accountability indicated that better governance was linked to higher import values. This might be attributed to enhanced governance attracting more foreign trade partners and fostering a more dynamic trade environment. Lastly, a positive and significant coefficient for lngdp_per_capita highlighted that countries with higher GDP per capita tended to have increased import values. This could be because wealthier nations exhibited greater demand for imported goods and services. It's important to note that the lnwto_accession variable was excluded from the model due to multicollinearity, suggesting that it was highly correlated with other independent variables. Further refinements of the model or the creation of composite variables might be necessary to capture these combined effects. Additionally, the F-test revealed significant variation in lnexp_import across countries, underscoring the rationale for employing a fixed-effects model to account for unobservable, country-specific disparities.

4.3 Hausman Taylor

The lagged import and export (lnexp_import1) showed a statistically significant negative relationship. A 1% increase in the prior period's import and export corresponded to a 0.0106% decrease in the current import and export, with all other variables held constant. We examined the impacts of various economic, political, and institutional factors on import and export, including net foreign direct investment (FDI) inflows and outflows, exports, imports, control of corruption, rule of law, regulatory quality, government effectiveness, political stability, voice and accountability, corruption score, and GDP per capita. Most of these variables demonstrated statistically significant effects on import and export, indicating their relevance. Notably, a 1% increase in GDP per capita (lngdp_per_capita) was associated with a 0.003% increase in import and export, which was statistically significant with a p-value below 0.001. However, the group variable code did not exhibit a statistically significant relationship with import and export. In conclusion, the comprehensive HT estimation provides valuable insights into the intricate connections between import and export and a wide range of economic, political, and institutional factors. These findings offer valuable perspectives for understanding international trade dynamics, shaping effective economic policies, and addressing the challenges posed by globalization and evolving trade patterns.

5.0 Conclusion

In light of the findings and discussions presented in this thesis, several policy implications and contributions can be highlighted. These insights can help inform policymakers, investors, and other stakeholders in their decision-making processes and in the development of strategies aimed at fostering economic growth and enhancing international trade. 8.2 Policy Implications: The positive relationship between Foreign Direct Investment (FDI) and international trade for the EU New Member States-11 suggests that policymakers should prioritize efforts to attract and retain FDI. This can be achieved through the creation of a favorable investment climate, the improvement of infrastructure, and the development of targeted incentives for foreign investors. The thesis highlights the potential role of regional integration in fostering the positive relationship between FDI and international trade. Policymakers should consider deepening regional integration by removing trade barriers, harmonizing regulations, and promoting cooperation between countries in the region. This could lead to an increase in intra-regional trade and investment, supporting economic growth.

Although the results indicate a counterintuitive negative relationship between political stability and import and export, the importance of political stability in creating a favorable investment environment cannot be overlooked. Policymakers should focus on promoting political stability by addressing potential sources of conflict, strengthening democratic institutions, and ensuring the rule of law. The potential spillover effects of FDI on productivity and competitiveness can be maximized by investing in human capital development. Policymakers should prioritize education and skills training, especially in sectors that are likely to benefit from FDI inflows, to ensure that the local workforce is equipped to take advantage of new job opportunities and technological advancements.

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Pedagogical Sciences

МЕТОДЫ ФОРМИРОВАНИЯ КУЛЬТУРЫ ОБЩЕНИЯ СТУДЕНТОВ ТЕХНОЛОГИЧЕСКОГО ВУЗА

Умбетбекова Куляш Мукарамовна
лектор, Алматинский технологический университет, г.Алматы
Акишева Наргиз Аскаровна
студент ФПТ, Алматинский технологический университет, г.Алматы

АННОТАЦИЯ
Статья рассматривает формирование культуры общения студентов технологического вуза в процессепреемственной гуманитарной подготовки. Модель формирования культуры общения позволяет увидеть роль конкретных дисциплин в развитии типологических качеств личности
КЛЮЧЕВЫЕ СЛОВА
Гуманитарные слова, модель, апробирована, культура общения, компетентность, корректировка, компонент.

На современном этапе развития общества, претерпевающего процесс преобразований и обострения социальных противоречий, проблема культуры общения приобретает особую актуальность и значимость. Будучи основой межличностных отношений, общение может способствовать консолидации общества, достижению соглашения или напротив привести к его разобщению при неумении субъектов устанавливать контакт, обмениваться информацией, адекватно воспринимать намерения, установки, эмоциональные переживания партнера, согласовывать действия при организации совместной деятельности.
Общение как философская категория, раскрывающая процесс взаимодействия человека с окружающим миром, принадлежит к числу фундаментальных и разносторонне исследованных проблем. Еще в Древней Греции и Риме уделялось внимание отдельным аспектам речевого общения как ораторского искусства средствами диалектики, эвристики (творчества) и риторики. Впоследствии речевое общение как проблема была поставлена в философии, психолингвистике, социальной психологии, социологии, социолингвистике, общей и педагогической психологии и педагогике. Исследуя данный феномен, некоторые ученые сделали важный в связи с заявленной проблемой вывод о необходимости комплексного междисциплинарного подхода.
В условиях социальных. экономических и политических преобразований, происходящих в нашем обществе, востребован человек с высоким уровнем культуры общения. В статье предлагается совокупность педагогических средств, направленных на решение данной задачи в образовательном процессе.
Культура общения - неизменный атрибут, сопровождавший образованных и интеллигентных людей в течение многих веков. Конструктивное общение, обмен мнениями - необходимые составляющие профессионала. Именно поэтому так важна роль культуры общения в среде представителей молодого поколения, настроенных на получение высшего образования.

Проблема формирования культуры общения, в широком ее понимании, обусловлена необходимостью повышения качества подготовки специалистов, так как усвоение и применение студентами общечеловеческих, гуманистических, этических ценностей и реализация их непосредственно в общении способствуют не только личностному и духовному развитию молодого человека, но и социального, профессионального потенциала специалиста.

«В институтах и техникумах, за немногим исключением, воспитательная работа, по существу, не ведется. А необходимость в этой работе очень велика… Если не будет улучшено воспитание, мы наплачемся с математикой, электроникой и космосом» - В.А. Сухомлинский [1]. Эту мысль великий педагог высказал еще в середине XX века.

Да, эта проблема не является чем-то новым в процессе воспитания и по сей день вокруг этой темы очень много мыслей и идей.

Л.Л. Шевченко была разработана системная модель воспитания духовно-нравственной культуры учителя [2]. В современной педагогической литературе уделяется многовнимания проблемам становления типологических качеств личности студентов, обучающихся в различных профессиональных сферах. А также создана модель формирования «культуры общения как базового основания личности будущего специалиста» предполагающая, что преобразующее воздействие осуществляется с помощью базовых гуманитарных курсов «Педагогика и психология», «Социология» и «Этика» [3]. Описаны модели формирования культуры делового общения будущих инженеров [4] и будущих государственных служащих [5]. Нами обоснована модель формирования культуры общения студентов непедагогических вузов [6]. При работе над моделью мы опирались на труды В.П. Беспалько, Ф.Ф. Королева, Н.В. Кузьмина, В.П. Симонова.

Модель была с в процессе работыс первокурсниками. Центральная идея моделиохватывала адаптационные процессы студента-первокурсника к новой для него вузовской жизни ироль формирования культуры поведения в этих процессах.

В ходе дальнейших исследований нами установлено, что разработанную модель можно трактовать более широко, распространяя ее воздействие на весь период обучения студентов в вузе. Таким образом, становится возможным говорить о культуре общения как о многоаспектном феномене, отражающем различные грани комплексного понятия – «воспитанность личности».

Роль гуманитарного знания в воспитательной работе негуманитарных высших учебных заведений огромна. Через гуманитарные знания в современном технократическом обществе происходит аккумуляция гуманистическогопотенциала культуры, осуществляется передача егоот поколения к поколению. Рассматривая всю систему гуманитарной подготовки технологического вуза, можно проследить несколько этапов работы. Условно можно разделить процесс формирования культуры общения на три этапа:

1. На этом этапе преимущественное внимание уделяется формированию нормативно-организационного компонента условий реализациикультуры общения. Работа подразумевает получение знаний по основным теоретическим вопросам культуры общения, практическим аспектам этикета и развитие положительной мотивационной установки – значимости культуры общения для жизни и профессии. Это реализуется посредством введения для студентов- первокурсников кураторских часов и внеурочных мероприятий. Здесь культура общения принимается тождественной поведенческой культуре.

2. На этом этапе преимущественно формируется содержательно-регулятивный компонент

условий. Эта работа возложена на гуманитарные дисциплины, которые студенты проходят на первом и втором курсах:профессиональный русский язык и философию. Результативной работой является написание и защита итоговой гуманитарной работы, в процессе подготовки которой студенты могут скорректировать свои мировоззренческиеустановки, развить собственное, гуманистическое понимание мира, способность самоконтроля, самоанализа, самооценки, что в конечном счете обеспечит возможность коррекции поведения.

3. На третьем этапе внимание акцентируется на психолого-педагогическом компоненте условий реализации формирования культуры общения. Эта проблема решается изучением курса «Психология и педагогика». Эта дисциплина способствует повышению общей и психолого-педагогической культуры личности, формированию целостногопредставления о психологических особенностях человека как факторах успешности его деятельности, умению самостоятельно мыслить и предвидеть последствия собственных действий, самостоятельно находить оптимальные пути достижения цели и преодоления жизненных трудностей. Знания по педагогике, полученные студентами, способствуют также и такой грани воспитанности личности, как формирование педагогической компетентности выпускника – возможно, будущего преподавателя технических дисциплин. Так как преподавателей специальных кафедр набирают в основном из числа студентов того же вуза, профессиональную психолого- педагогическую культуру им приходится нарабатывать непосредственно в процессе работы, что порой приводит к снижению качества преподавания. Важно представлять себе недопустимость подобного эксперимента на людях, так как в педагогике эксперимент – это всегда неповторимая социальная практика, а конкретнее – чья-то жизнь, здоровье, профессиональная компетентность. Таким образом, здесь мы рассматриваем психолого- педагогическую компетентность как один из аспектов культуры общения личности. Окончание третьего этапа означает самостоятельное построение студентами моделей общения в различных жизненных ситуациях.

Однако мы не склонны думать, что воспитывают только гуманитарные дисциплины. Определенные качества личности формирует любой предмет, и важно понимание самим преподавателем воспитательного потенциала своей дисциплины. Преподаватель воздействует на студента стилем педагогического общения, своим поведением, интересом к предмету, к студенту, однако направление вектора этого воздействия зависит, в том числе, и от педагогического мастерства и общей культуры преподавателя. К сожалению, это воздействие не всегда бывает воспитывающим в истинном смысле этого слова.

Корректировка понимания моделиформирования культуры общения студентов технологического вуза была проведена на основании данных социологического опроса студентов и инициативных научных исследований,

которые показали неизменный интерес студентов квопросам воспитания, формирования культуры общения и поведения, и в то же время явную недостаточность воздействий, призванныхсформировать эти аспекты.

Нами в феврале 2021 года был проведен социологический опрос, в который включался блок вопросов по воспитательной работе. Опрос проводился методом анкетирования. Были опрошены 400 студентов первых и вторых курсов. Анализ анкет позволил выявить следующиетенденции.

На вопрос: «Знаете ли вы о проектах, проводимых правительством Алматы для молодежи?» ответы распределились таким образом: да, принимаю в них участие – 4%; да – 21%; нет – 75%. Возможно, такое распределение ответов вызвано сравнительно низким уровнем оповещения и агитации или более высокой степенью загруженности студентов технических вузов по сравнению с гуманитарными.

В разделе анкеты, относящемся непосредственно к вопросам воспитания, студентам было

предложено ответить на вопрос:
«Считаете ли вы себя воспитанным человеком?» Мнения распределились следующим образом: считают себя воспитанными 49% опрошенных, признали себя скорее невоспитанными – 2%, остальные затруднились с ответом. В качестве уточняющего был задан вопрос, делают ли студенты замечания другим в случае нарушения культуры поведения и общения – только 38% ответили утвердительно.
В то же время 51% студентов Алматинского технологического университета заявили, что чувствуют себя субъектом воспитания в процессе аудиторной подготовки и внеаудиторного общения. 40% сообщили, что воспитательная работа в вузе играет в их жизни положительную роль, однако 9% завили, что их никто не воспитывает.
На вопрос о том, достаточно ли в вузе проводится внеаудиторных мероприятий, 50% сочли, что достаточно. Действительно, внеаудиторному досугу уделяется много внимания, в университете действуют: команда КВН, театральная студия, клуб экскурсоводов, хор, тур-клуб, футбольная команда, работает студенческая гостиная. Тем не менее на вопрос: «Хотели бы вы принять участие во внеаудиторных мероприятиях?» только 32% ответили согласием. Видимо, социальная активность вообще путь немногих, а воспитать надо все-таки большинство, что приводит к мысли о необходимости возложения основной воспитательной нагрузки на учебный процесс, в частности на гуманитарную его составляющую.
Проследить становление формирования культуры общения в процессе изучения гуманитарных предметов и позволяет разработанная нами модель. Она понимается как взаимосвязанный и взаимообусловленный комплекс, объединяющий несколько компонентов(целевой, содержательный, процессуальный и контрольно-диагностический), обеспечивающих психолого-педагогическую готовность к позитивному общению и дифференцирующих уровни постижения культуры общения.
Целевой компонент модели ориентирован на достижение готовности студентов к позитивной коммуникации на основе формирования культуры общения.
Содержательный компонент, который включает необходимые знания, умения и навыки, дает установку на реализацию намеченной преобразующим экспериментом цели. Содержательный компонент объединяет в себе принципы, функции и содержание. Формирование культуры общения студентов непедагогических вузов опирается на принципы системности, преемственности и деятельности. Системность подразумевает логическую связь всех элементов процесса формирования. Преемственность характеризует диалектический характер обучения, каждый содержательный этап открывает возможность для постижения нового. Последний принцип указывает на характер формирования культуры общения – в процессе деятельности.
Процессуальный компонент модели определяет выбор форм и методов воздействия на студента, а также условия реализации формирования культуры общения студентов непедагогических вузов.
В качестве оптимальной системы методов мы избрали:

1) объяснительно-иллюстративный (лекции) – для передачи основного объема информации;

2) методы совместной деятельности (учебные дискуссии и обсуждения, моделирование ситуаций), позволяющие студентам самостоятельно, но под контролем преподавателя решать коммуникативные задачи и получать комплекс необходимых этикетных умений;

3) методы проблемного обучения (деловые игры и коммуникативные тренинги), моделирующие конкретные ситуации общения и позволяющие получить различный спектр коммуникативных навыков, необходимых как для делового, так и для межличностного

общения;

4) репродуктивный метод (тестирование, выполнение контрольных заданий) – для контроля за процессом усвоения знаний, умений и навыков.

Условия реализации процесса формирования культуры общения представлены тремя компонентами: содержательно-регулятивными, нормативно-организационными и психолого- педагогическими.

Контрольно-диагностический компонентхарактеризует результат процесса формирования культуры общения студентов технологических вузов. За критерий воспитанности принимается психолого-педагогическая готовность студентов к позитивной коммуникации. Структура психолого- педагогической готовности к позитивному общению объединяет в себе четыре составляющих, которые могут быть представлены в виде
показателей, имеющих количественное выражение, а также различные уровни постижения культуры общения, подразумевающие комплексную диагностику. Контрольно-диагностический компонент позволяет осуществлять как комплексный, так и поэлементный контроль за процессом формирования культуры общения, что дает возможность коррекции и упорядочения процесса.

Современный выпускник высшего учебного заведения, в соответствии с государственным образовательным стандартом, должен обладать многими знаниями и умениями в области культуры общения. Поэтому, сегодня невозможно решать задачи научного осмысления и построения педагогического процесса без включения в него содержания, предусматривающего обучение студента общению.

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АКТУАЛЬНОСТЬ ДИСТАНЦИОНННОГО ОБУЧЕНИЯ В ПРОФЕССИОНАЛЬНОМ ОБРАЗОВАНИИ

Умбетбекова Куляш Мукарамовна
Лектор кафедры «ГиИЯ», Алматинский технологический университет, г.Алматы
Насиров Ядикар Курванжанович
студент ФИИТ, Алматинский технологический университет, г.Алматы

АННОТАЦИЯ

Статья посвящена проблеме современного образования- дистанционному обучению. Основной задачей статьи является обосновать и аргументировать дистанционный формат образования как новую форму обучения. В статье дан анализ форм обучения, приведены основные направления развития дистанционного обучения, показаны отличия дистанционного обучения от традиционного. Выделены проблемы, решаемые обучающимися и преподавателями в дистанционном обучении.

Дистанционное обучение может рассматриваться как самостоятельная форма обучения, потому что обладает существенными отличиями, которые не могут быть реализованы в традиционной форме.

Ключевые слова: дистанционное обучение, профессионализм, интернет, карантин, исследования, дистанционное образование, информационное общество, Educon, непрерывное образование, образовательная среда.

Информационное образование населения — это требование XXI века, насущная необходимость. Появились новые понятия — «информатизация общества», «информационное общество», «информационная культура» и т. д. Отстать в области информационных технологий и их использовании — это значит обречь страну на зависимость от других.

Особая актуальность создания системы дистанционного образования (ДО) сегодня обусловлена целым рядом факторов: огромные территории, развитие рыночной экономики, усиление миграции населения, сосредоточение научно-технических центров в крупных городах, формирование новых потребностей населения к образованию и другие.

Система ДО позволяет получить основное или дополнительное образование параллельно с основной деятельностью человека. В конечном итоге создаваемая система дистанционного образования (СДО) направлена на расширение образовательной среды в образовательном процессе.

Дистанционное образование — это термин, который используют применительно к широкому спектру образовательных программ и курсов, начиная от курсов повышения квалификации, не имеющих аккредитации, заканчивая аккредитованными программами высшего образования, которые реализуют возможность тесного общения студентов со своими преподавателями и сокурсниками, как это происходит при очном обучении. Для того чтобы обеспечить эффективное взаимодействие, при дистанционном обучении используется целый набор инструментов, включая интерактивные компьютерные программы, Интернет, электронную почту, телефон, факс и обычную почту.

Дистанционное образование становится чрезвычайно популярной формой обучения в силу своего удобства и гибкости. Оно устраняет основной барьер, удерживающий многих профессионалов и деловых людей от продолжения образования, избавляя от необходимости посещать занятия по установленному расписанию.

Дистанционное образование является одной из форм системы непрерывного образования, которая призвана реализовать права человека на образование и получение информации. Оно призвано стать новой образовательной моделью, позволяющей осуществлять непрерывное самосовершенствование, направленное на формирование у индивида технологий быстрого получения, обработки информации и практического применения [1].

Каждое образовательное учреждение ставит перед собой большие задачи в воспитании и образовании студентов. Алматинский технологический университет зарекомендовал себя как высшее учебное заведение, соответствующее новым стандартам и канонам образовательного процесса.

Современное образование всегда будет являться источником развития общества, а общество постоянно оказывает влияние на образование и его роль. Главной целью образования становится не передача знаний и социального опыта, а развитие личности студента, его способности самостоятельно ставить учебные цели, проектировать пути их реализации, контролировать и оценивать свои достижения.

В нашем понимании современный вуз – это центр успеха, здоровья, инновации, методики, творческого потенциала – вот те слова, которые чаще всего должны звучать в образовательном учреждении.

На современном этапе человеческого развития дистанционное обучение является современным видом образования, приобретающим все большую популярность.

Цель дистанционного метода заключается в осуществлении учебного процесса на расстоянии в режиме реального времени, где студент и преподаватель общаются посредством интернет связи, преподаватель передаёт, а студент получает знания и задания, сдает контрольные работы. При этом, преподаватель может быть удалён от студента на любое расстояние, они могут проживать в разных странах и на разных континентах. Такое обучение стало возможным, благодаря развитию интернет-технологий, распространению электронных средств связи. Дистанционное обучение отличается от очного образовательного процесса методикой проведения занятий.

Традиционное обучение студентов включает лекции, практические работы, самостоятельные исследования, письменные задания и устные опросы.

Дистанционные технологии в образовании предполагают наличие некоторых изменений в применяемых методиках:

1.Лекция или подача готовой информации: требует определенного уровня самодисциплины от студента.

2.Самостоятельное исследование (реферат): не изменяется, так как в обоих случаях (очное образование или дистанционное) студент предоставляет преподавателю результат поиска или исследования, который он выполняет самостоятельно.

3.Практические работы: значительно усложняются. Требуют от преподавателя разработки детальных пошаговых инструкций и углубленной консультации по выполнению работы.

4.Устный опрос: требует от студента самодисциплины, так как опрос на расстоянии дает возможность пользоваться подсказками, шпаргалками и другими средствами, не допускаемыми в очном школьном образовании.

Проводя исследования основ дистанционного обучения, Виштак Н.М. отметил, что перспектива развития дистанционного образования связывалась с вытеснением традиционных форм образования. Но по мере широкого внедрения технологий дистанционного обучения в педагогическую практику пришло осознание того, что ее методы и средства могут быть применимы во всех формах образовательного процесса [2].

В современной методике накоплен научный опыт, который раскрывает сущность понятия «методы обучения», но единого мнения опять-таки не существует. Методисты определяют метод обучения как способ упорядоченной взаимосвязи деятельности преподавателя и обучающихся, направленный на решение задач образования. Сагиндыкова, А. С. считает, что метод обучения – это способ обучающей работы преподавателя и организации учебно-познавательной деятельности обучающихся по решению различных дидактических задач, направленных на овладение изучаемым материалом [3].

Но более целостное определение метода обучения, которого мы придерживаемся, формулирует А.В. Сластенин: «под методами осуществления целостного педагогического процесса следует понимать способы профессионального взаимодействия педагога и обучающихся с целью решения образовательно воспитательных задач» [4].

Учебная информация производится с использованием различных дидактических средств, в том числе учебников и учебных пособий в электронной форме. Этот метод является одним из наиболее экономичных способов передачи информации и предполагает большой объем самостоятельной работы студентов с учебной литературой.

Систематически применяется использование исследовательского метода при организации дистанционного обучения, что предполагает постановку проблемы и формулирования задач по ее решению самими студентами. Преподаватель предоставляет методические рекомендации по способам решения поставленной проблемы, далее студенты самостоятельно изучают научные и учебные источники по исследуемой проблеме, проводят наблюдения и выполняют различные действия поискового характера.

Важную роль в выработке навыков и умений применения полученных знаний играют практические занятия, что требуют от преподавателя глубокой методической проработки этого вида занятий, так как необходимо предусмотреть предварительную подготовку обучающихся по теме практических занятий. А дальше рассматриваются задачи повышенной сложности или задачи творческого характера. Контроль знаний, умений, навыков, полученных в процессе обучения, оказывает стимулирующее воздействие и влияет на поведение студента, помогает выявить пробелы в знаниях, формирует творческое отношение к обучению и стремление развить свои способности. Контрольные мероприятия устанавливают обратную связь от обучающегося к преподавателю. Самостоятельная работа обучающихся при дистанционном обучении является ведущей, органично сочетая и дополняя все организационные формы учебного процесса.

Глобальные системы ДО призваны обеспечить возможность реализовывать просвещение и образование самых широких масс населения России за счет использования таких средств массовой информации, как телевидение и радио.

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The improvement of cognitive qualities through play

Gulhayat Matlab Abdullayeva
ASPU, senior teacher

Abstract

Early childhood education contributes to a child's cognitive development. International organizations are working very hard to raise the number of literate youngsters since education is the cornerstone of a nation's ability to prosper economically. The right employment will be assigned to the individual based on their educational background. Childhood education largely focuses on the last several decades. Play-based learning is a well-established approach to cognitive development. Currently, game-based pedagogy is another area of concentration in an educational situation for teaching and learning. This approach will lessen school dropout rates in underdeveloped nations, to a certain extent.

Video games draw in youngsters more readily, making learning easier for them. Growing technology is a significant development in the field of education in current digital age. The digital version of grandma's game is currently evolving. Maintaining the ideas of classic games while designing electronic games will improve student learning, particularly in early childhood schooling. Video games that are structured, goal-oriented, and based on educational outcomes are essential for enhancing children's growth and development.

Key Words: Cognitive development, Imagination, Social context, Sociocultural Symbolism

Introduction

Early theorists, educators, and researchers have all talked about how play-based learning is crucial for supporting young children's cognitive development. However, due to a growing emphasis on academic skill preparedness, play's significance has been downplayed by some educators, curriculum designers, policy makers, and the general public. As a result, the amount of time dedicated to child-centered, active play-based learning has decreased in many preschool classes in recent years. This discussion's central claim is that play-based learning offers a fantastic setting for supporting young children's cognitive development, particularly for the critical thinking abilities necessary for cognitive depth. Robust longitudinal studies are required to examine the breadth and long-term cognitive impacts of early play-based learning because the study data on play's function in encouraging such development is conflicting.

A child's development is approached holistically, taking into account all facets of their growth, including their physical, mental, social, emotional, behavioral, and cognitive ones. Any delay in the child's development will have an indirect effect on their future. Early education is fundamental to the development of children. The majority of nations have policies, institutions of higher learning, and advocacy groups working to improve education for all children, regardless of their physical or mental disabilities, socioeconomic background, cultural background, gender identity, or parental literacy or employment status. Early childhood is defined as the first eight years of life following birth. Early childhood care and education is a word that is commonly used to describe a variety of mechanisms and processes that promote and maintain development during the early years of life. These mechanisms and processes include education, health care, intellectual stimulation, physical, social, and emotional care, and nutrition. It also covers the assistance that a family and the society require to foster the healthy development of children. The game-based learning strategy is the cornerstone of early childhood education in the digital age.

The conventional games are replaced by digitalized play because it is more enjoyable, boosts motivation, is simple to play, encourages self-learning, encourages teamwork, and is educational. Though video games have many drawbacks, they may also serve as an instructional tool with certain tweaks.

Academic Achievement

Assuming that cognitive talents are fundamental and drive academic results, conventional wisdom and the majority of studies on the relationship between cognitive abilities and academic accomplishment have viewed cognitive abilities as basic entities (e.g., Cattell, 1987; Sternberg et al., 2008). The two most important theories of cognition that best explain this relationship between cognitive ability and academic accomplishment are investment theory and dual-process theory. The investment theory holds that biological, genetic, and health factors—rather than education—have a greater effect on the development of cognitive ability (Cattell, 1987; Deary, Penke, & Johnson, 2010). Accordingly, cognitive talents are seen to provide the foundation for the development of academic performance, and academic performance is the outcome of the investment of cognitive abilities and the environmental stimulation provided by, for example, educational environments (Cattell, 1987).

Impact of digitalization on education

In the past, learning began with traditional plays before the establishment of formal education. Every nation has its own customary "grandma's games," which support children's intellectual, social, emotional, and physical growth as well as their capacity for problem-solving, logical reasoning, memory, critical thinking, and leadership. Video games increasingly encroach on these traditional games as a result of worldwide digitalization. The advent of technological devices further simplified game-based learning. Video games have certain disadvantages, but overall, they are seen as an aid for learning outcomes and are used as a teaching strategy in both early childhood education and subsequent college curricula. Numerous studies back up the idea that kids' academic performance may be improved by using digital game-based learning. “The video games can produce broad enhancements in perceptual, motor, and cognitive skills”.

Cognition and play

The IQ test is used to gauge a kid's cognitive ability, and the results are used to grade the youngster. It establishes the child's degree of participation, the use of winning techniques, and their level of sportsmanship. Conversely, engaging in play activities can enhance cognitive abilities such as problem-solving, creativity, memory, and logical reasoning. Logical reasoning and problem-solving abilities are required when playing video games with puzzles and mazes. Electronically Games with puzzles and mazes offer real-time navigation, raise the amount of internal drive, suggest potential paths through the maze, and produce eye candy. Playing video games, particularly those with an emphasis on academic or instructional goals, requires a significant amount of visuospatial cognition.

Spatial skills and academics

It's been claimed that playing video games will increase spatial abilities or that blending spatial skills with the game itself will do so. The researchers' conclusions that "Practicing video games improves cognitive and spatial skills because a spatial task requires three different spatial skills" support this approach. Mental rotation, spatial vision, and spatial perception: "Spatial perception is the capacity to deduce an object's orientation from one's own orientation. The capacity to visualize a visual stimuli rotating is known as mental rotation. Among all the abilities, spatial vision is the hardest to define exactly. Video games may be utilized as a pedagogical tool for early childhood education since they increase cognitive function.

Video game as pedagogical method of teaching and learning

A video game is defined as "a game which we play thanks to an audiovisual apparatus and which can be based on a story." Video game use has skyrocketed in recent years because to advances in digitalization and electronic devices. The use of multimedia on smartphones, such as iPhones, iPads, and Android phones, has become common in the educational sector as a convenient teaching and learning tool. The elementary school students are taught using narrative stories, rhymes, and analogies. The early children's educational outcomes have advanced thanks to the play-integrated strategy. Stimulated video games imitate real-world activities, which helps parents better understand their child's social and emotional engagement in daily life. Engaging in computer games such as mazes, puzzles, mental rotation, building blocks, matching forms, item identification, and spatial language can enhance children's spatial awareness and academic achievement.

Digitalized spatial games and their effects on cognition

Maze: a game where the object is to locate a path or a means to get to the designated location. There are several paths within the provided maze, but only one of them will lead to the desired location. When a youngster plays with mazes throughout their early years, they learn to think logically and solve problems. By eliminating the wrong option, the youngster must use their spatial skills to explore the path. The youngster needs to use their attention, visuospatial, visuo-constructional, and executive function skills in conjunction to complete the maze. The maze becomes more challenging when there are more incorrect shorter or longer tracks added, when there are several proper start and endpoints displayed inside the maze, and when there is a time limit to complete the game. as a player wins, the game may be designed to offer rewards and a point system in addition to hints as needed. The computer game provides enjoyable visual feedback of the object's actual movement in the path. The child's internal drive to play will increase as a result.

Puzzles are games or toys that require the player to solve by logically arranging broken pieces, numbers, words, or items. The title "jigsaw puzzle" refers to the logical arrangement of the shattered parts, and most pre-primary schools consider them to be early instructional toys. Proper imagery, mental rotation of the bits and pieces, and spatial relation are necessary for the sequential placing of the fragmented segment of the item. The game's complexity will rise when there are more broken and smaller parts in it. To build a jigsaw puzzle, one need just divides the entire image into separate pieces and reassemble them to solve the puzzle, without the need for formal templates. Anyone may create it because it is simple to make, including parents and school teachers. The youngster can be given the puzzle game with or without the reference image to figure out how to solve it. Images of commonplace items found in living rooms, kitchens, bedrooms, study areas, classrooms, and cars, as well as fruits, vegetables, animals, birds, good habits, and grooming activities, can be incorporated into the design. It will assist the child's academic results and raise their cognitive level even higher.

The ability to pay selective attention to particular stimuli, maintain sustained concentration, and regulate and monitor behaviors are just a few examples of the several processes that make up attention, which is described as a complex cognitive function. Focus should be placed on the teacher's ability to selectively attend to visual and aural inputs, the length of the lesson, and student feedback. Play in the classroom helps to make this easier. The play may be performed in an unstructured, organized, or formal manner. In addition, the game's video version offers a time restriction, great graphics, and feedback as the player completes the task. As a result, the kids' attention span may be sustained during the play session.

Academic motivation encompasses a broad spectrum of characteristics, including an individual's pertinent beliefs, perceptions, values, interests, satisfaction, and attitudes. For children to excel academically and in school, they must be very motivated to study. According to research, pupils' motivation levels can be increased by playing games. The games offer pleasures for the eyes and ears all during the playing time.

Playing in a team is one of the most crucial things a youngster can learn during this stage of development. In role-playing and pretend play, team members must communicate with one another. It is necessary to comprehend and abide by certain laws and regulations when engaging in this kind of gaming. The instructor can incorporate it into their lesson on moral principles. "The most efficient learning occurs in a social context," according to Vygotsky.

Cognitive Development and Modes of Social Interaction

How social contact dynamically forms a conducive environment for mental development is an issue that offers hope for the field of cognitive development research. In the past, social interaction's importance to healthy cognitive development has either been overstated or understated in psychologists' responses to relevant concerns. A recent surge in research on parent-child and teacher-student relationships has resulted in a naturalistic and semi-naturalistic study of the issue.

The convergence rate hierarchy's fundamental concepts are straightforward. One way to conceptualize cognitive growth is as a process that gradually moves closer to a greater level of understanding and proficiency. Such convergence has to happen at some pace, and there are a lot of variables that influence that rate. The young people's level of social contact, such as their participation in symbolic communication with seniors, is one fundamental component.

As we have already said, traditional schooling's approach to teaching differs greatly from the natural way that children learn in their daily lives. Teaching is dis-embedded and structured around domains of knowledge rather than being embedded in the course of cooperative goal-directed behavior (Slaughter, 1982).

Conclusion

There are more early education dropouts as a result of the increasing academic pressure. "Play usually increases curiosity in human children, which helps with learning and memory." Because they have toys at school, preschoolers were somewhat nervous. The following factors, which are taken from Funk, should be taken into account while selecting a video game for educational purposes: The facilitator's position, the number of players, the age and characteristics of the participants, the type of game, the needed degree and nature of engagement, information and rules, the role of luck, difficulty, competition, duration, and the games' surroundings all play a factor in whether the goal is educational or therapeutic. Keeping in mind all of these things and using play-based learning throughout the formative years of school will pay off in the long run.

One of the most active fields of developmental science study has been school-age children's cognitive development. However, the scope of the research has been relatively limited, primarily drawing from behaviorist theories of learning and conditioning, Piaget's theory of cognitive development, school-related worries about intelligence and achievement testing, and, more recently, information-processing theories.

These days, a lot of cognitive-developmental researchers are taking a wider, more integrative approach, focusing on connections between the classic behavioral categories (cognition, emotion, social behavior, personality, and so on) and concepts that emphasize the cooperation or interaction between the child and environment. Additionally, there has been a shift in focus away from traditional techniques and statistics, which frequently do not permit adequate tests, and toward developing and using methods and statistics that permit direct testing of cognitive-developmental theories.

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THE PROCESS OF İNTRODUCİNG STUDENTS TO SOUNDS AND LETTERS

Lala Musayeva
doctoral student, teacher of Azerbaijan State Pedagogical University, ORCİD: 0000-0002-7701-5716

In our opinion, the leading component of the pronunciation and hearing culture of a primary school student is the ability to correctly connect the visible and audible words. The effectiveness of the development of not only oral, but also written speech of young students directly depends on the formation of this skill. The development of a clear idea about the relationship between sound and spelling in the Azerbaijani language is based on the differentiation of sound and letter in the child's mind. One of the real tools that can help students understand the natural connection between oral speech and its written form is the task of establishing orthographic-spelling correspondences in words. It is orthoepy, in particular, that deals with the study of cases of literary pronunciation and orthographic coordination, atypical for the pronunciation system, where the contrast between sound and letter composition is so obvious that it cannot be ignored.

Along with phonetics-graphics, orthoepic-spelling comparisons will increase students' success in forming correct ideas about the relationship between sound and spelling in the Azerbaijani language, and thus will create a solid foundation for mastering both literary pronunciation and spelling.

Keywords: orthoepic, spelling, comparison, pronunciation, hearing

Students learn the difference between sounds and letters from the first steps of learning: "sounds are pronounced (spoken) and heard, letters are written and read." It is true that while children easily adopt this theoretical position, they are constantly at odds with their practical activities. In various situations where sounds and letters are mixed up, students are usually "offended" by the sounds. A.M. Peshkovsky compares the fear of sound to the fear of vertigo in a tightrope walker: "Yes, indeed, you can learn to balance on a tightrope and lose your head by searching the abyss of sounds for a moment. But the question is, which is better: to wear a blindfold over your eyes for the rest of your life, or to get used to looking at this abyss? The first method is very quick and easy (the bandage is applied, it is on the first page of every textbook and for life), the second requires time and labor. [5, p.21]

It is quite possible to overcome the fear of sound, to maintain the necessary respect for the letter, to approach its solution not formally, but with the understanding of the great role played by the difference between sound and letter in the correct oral and written acquisition. M.V. Panov notes that "the confusion between sound and letter is not harmless" [4, p.6]

This leads children to move away from listening and hearing spoken speech and associate it with written speech, which in turn leads to both unliterary pronunciation and illiterate writing.

Observations show that young schoolchildren (and often teachers too!) have not formed a correct idea about the relationship between sounds and letters. The evidence is a variety of formulas (quite correct and mostly incorrect): "the sound is represented by the letter", "the letter has a sound (there is no sound)", "the letter is formed from the sound", "the letter is read by sound", etc. . The following definition accurately and correctly expresses the nature of the relationship between the sound and the letter: the letter means the sound, the sound is determined (determined) by the letter. Words reflect the functional side of writing: writing "a graphic sign that serves to determine sounds (phonemes) in writing .. . [2, p.31]

The ability to distinguish the sound and letter composition of a word is initially developed in young students in cases where the sound and spelling exactly coincide. Then - through the establishment of phonetic-orthographic correspondence in words: students observe and analyze cases of correlation between the sound of words and their written description characteristic of the pronunciation system. In such examples, the inconsistency between the sound and graphic composition of the words, according to the researchers studying the phonetics of the Azerbaijani language, is associated with positional phonetic changes of sounds that are not stable in writing, which are not recognized by speakers, they simply do not pay attention to them, and the gap between pronunciation and writing remains outside their field of vision. The primary school should make great efforts to make this gap a conscious fact of the children. Nevertheless, the methodology is forced to express the following: "As a result of practical exercises, children's ideas about the difference between pronunciation and writing are so automated that the student does not notice the discrepancy between sound and graphic features" [3, p.75]

An important factor determining the success of the development of children's vocal speech in primary grades is the fullest use of the material of the Azerbaijani language program, fixed school textbooks of the Azerbaijani language, and reading to improve students' pronunciation.

The use of program material on the Azerbaijani language is of decisive importance. Current Azerbaijani language programs for primary grades require students to work on correct pronunciation, but they do not include a special section "Orfoepiya" (the term "orfoepiya" is not included in the eleven-year school curriculum) and therefore a special task for the formation of pronunciation skills of young students there is no time. And although this work does not require special hours, nevertheless, the teaching of literary pronunciation and accent norms, of course, requires spending some time on the lesson. The way out of this contradictory situation is through the practical assimilation of orthoepic and accentological norms along with the study of the program material on the Azerbaijani language. The development of the sound side of children's speech is carried out purposefully in the lessons of literacy, grammar and spelling, classroom and extracurricular reading, in fact, it does not stop in the lessons of all other subjects.

The existing textbooks can be used as the main tool for raising the pronunciation culture of young students, around which additional teaching aids should be concentrated. Additional tools include: a system of pronunciation exercises (in the form of additional exercises for textbook texts, as well as in the form of exercises on specially selected didactic material), pronunciation tables and posters; cards for individual work with students.

Although orthography and orthography are constantly in conflict, in fact they are not opponents, much less enemies, but allies and friends. Both orthography and orthography provide the communicative feature of speech culture, such as correctness. Without proper speech, oral and written communication between people is difficult.

Non-uniform pronunciation worries us no less than non-standard spelling. Imagine meeting and talking with people who unevenly pronounce only one word: one "chats", another "calculates", the third "checks", the fourth "shocks", the fifth "tickles", etc. Communication between them, of course, will not be broken, but it is difficult to call it comfortable and pleasant for each interlocutor. It is true that if spelling illiteracy catches our attention at once, then we have learned not to pay attention to orthographic illiteracy. For many years, the lack of attention to spelling in elementary school has led to a real disaster: many teachers firmly believe that spelling, literary pronunciation hinders the formation of spelling skills of young students. This is the fear of sounds that becomes chronic in elementary school: either vaguely heard, then not clearly pronounced. Therefore, the lack of formation of the ability to distinguish the orthographic and orthographic appearance of a word in a small school child, as a result, pronunciation and spelling become "two incompatible hostile elements" in the child's mind. [1, p. 224]

The improvement of pronunciation culture also means the increase of children's spelling knowledge. The higher the culture of the spoken word, the more orthoepically correct students speak and write more correctly.

In the teaching of Azerbaijani literary pronunciation to young schoolchildren, the relationship between orthography and orthography is first of all manifested in the constant, systematic comparison of the orthoepic and orthographic appearance of non-traditional, specific words in elementary grades. Specificity is a particularly careful attitude to spelling in the development of orthography. What is the reason for paying special attention to spelling in the process of educating children's literary pronunciation? Fragility of elementary school students, unformed spelling skills. Regular comparison of orthography and spelling for the sake of orthography can be a serious obstacle to the strengthening of orthography skills of young students, therefore, certain means are needed to ensure the "integrity" of literate writing skills that are still being formed in elementary school children.

In order to strengthen, or rather, even "protect", the fragile spelling skills of students, orthographic work in primary grades should be carried out in such a way that unifying and comprehensible aspects of spelling are brought to the fore.

The planned way of teaching orthoepy involves the acquisition of orthoepic norms by young students through two types of speech activities: reading ("from letter to sound..." and writing ("... and back") words with orthoepic meaning and grammatical forms. The leading role belongs to reading: orthoepic skills formed during reading are transferred to children's natural oral speech and become strong skills.

The special method of teaching orthoepy in primary classes, in turn, requires special orthoepic exercises. Orthoepic exercises with visual support are the main methodical tool for achieving orthoepic literacy of elementary school students. Presentation of exemplary pronunciation by the teacher, reproduction of the orthoepic appearance of words by children is carried out on the basis of the visible word. Authoritative recording of re-dictated orthography guides children back to the literal composition of the word. Based on the visual appearance of the word (when the artistic pronunciation coincides with the spelling) and starting from it (when there is a discrepancy between the letter and the sound composition of the word), young students master the ability. They must correctly associate spelling and spelling, which is key to the successful mastery of both. Comparing orthography and spelling, relying on the written or printed word is a way to preserve spelling skills in elementary school students.

Orthoepic exercises are not the same in their focus: some are designed to get acquainted with the basic rules of literary pronunciation, others - to combine the received information and form the necessary spelling skills. At the stage of acquaintance with the orthoepic norm, isolated words act as didactic material, which allows students to focus their attention directly on the studied event. Such materials are partially available in Azerbaijani language textbooks and reading books.

Excerpts from children's literature classics have a special place. Exemplary language material for orthoepic exercises develops students' aesthetic taste and forms their linguistic abilities. In addition to intellectual activity, interesting texts create a positive emotional attitude to work in children.

Children's work with spelling vocabulary plays an important role in the work on spelling habits. Although a dictionary is called a spelling dictionary, this does not mean that its use should be limited to spelling only. The dictionary is multifunctional in its purpose, because it provides information not only about the spelling of unverified vowels and consonants in words, but also about the correct pronunciation, modification and use of words in context, and finally, the interpretation of the meanings of some of them. It is simply careless to leave out such necessary and extremely important information. In the teaching of the mother tongue, the linguistic vocabulary intended for primary classes should remain in the background, or even in the third place. No self-made dictionaries of difficult words, even the dictionaries at the end of the Azerbaijani language textbook, can replace a child with a real dictionary like adults. Constantly using a dictionary in Azerbaijani language lessons, regularly turning to it for help and advice will help to develop the ability to work with a book, which is vital for every person. The culture of working with a dictionary should be inculcated starting from primary school age. It is necessary to allow the child to become addicted to communicating with the dictionary, as with a faithful friend. Let "Dictionary of Spelling" be not only a handbook on certain specific issues of the language, but also a real guide for improving students' oral and written speech. To do this, it is necessary to teach children not just to look at the dictionary, but to look diligently, with a bias, to see those "sparks of feeling" behind the words.

The process of mastering the orthoepic norms of the language takes place mainly in preschool and primary school age. Therefore, the role of the school in the formation and development of correct oral speech skills is great. In primary school, a lot of attention is paid to filling and enriching the vocabulary of schoolchildren, but little time is devoted to teaching literary pronunciation norms - the orthography of the Azerbaijani language. Work on the pronunciation (sound) side of speech plays an important role in the system of students' speech development. For a long time, due attention was not paid to this direction. It was believed that children entering the first grade have sufficient pronunciation skills to allow them to freely perform speech activities. However, the study of the pronunciation skills of young schoolchildren shows that the majority of first-graders have significant defects in this aspect of speech: many of them have weak speech, the speech apparatus works slowly, breathing and voice are not correct, many have physiological disorders of diction, students are unable to speak their own words. they don't know how to use it. All this greatly affects the student's speech activity. The first is work on speech technique, which is understood as the result of correct breathing, clear diction: speech is achieved when the ability to control the muscles of the speech-motor apparatus is acquired. The principle of paying attention to the issue of language and the physical development of speech organs emerges from this example of teaching speech.

Special spelling exercises are conducted in grammar and spelling lessons. The period of teaching literacy is considered propaedeutic, its task is to prepare children for active and conscious perception of orthographic facts in the lessons of the mother tongue. At the propaedeutic stage, the acquisition of orthoepic norms by young students is carried out by imitating the teacher's exemplary oral speech. In the subsequent orthoepic work, children's imitative activity becomes more and more meaningful, it turns into conscious actions to master the norms of literary pronunciation. In the fourth grade (four-year elementary school), with the correct preparation of orthoepic work, students already gather a certain experience that allows them to summarize, systematize and deepen what they learned earlier.

The typology of orthoepic exercises depends on the nature of orthoepic phenomena that become the subject of acquisition by young students. Limiting the cases of coincidence and divergence of literary pronunciation with the spelling of the word, we distinguish two types of orthoepic exercises: pronunciation exercises corresponding to the spelling of orthoepic exercises; exercises in pronunciation as opposed to writing.

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CONDUCTING CAREER GUIDANCE WORK THROUGH THE MOBILE WEB APPLICATION "PROFI" IN THE CONDITIONS OF DIGITAL TRANSFORMATION OF SOCIET

Baimurzina Bayan
Teacher of the Higher School of Natural Sciences of Pavlodar Pedagogical University named after Alkey Margulan (Republic of Kazakhstan)
Utilova Aigul
Candidate of Pedagogical Sciences of the Higher School of Pedagogy of Pavlodar Pedagogical University named after Alkey Margulan (Republic of Kazakhstan)
Baidalinova Bibenur
Candidate of Biological Sciences, Professor of the Higher School of Natural Sciences of Pavlodar Pedagogical University named after Alkey Margulan (Republic of Kazakhstan)

This article is dedicated to describing the organization of career guidance work in a pedagogical university. Career guidance work in a university holds significant importance. It is organized and conducted as part of ensuring the continuity of educational levels to attract prospective students to the university. Its role for the university has grown in terms of seeking new opportunities to attract learners. The organization of career guidance work has gained special significance in the present day and has become a important stage in the preparation of the educational process at the university.

Today, many higher education institutions face the challenge of recruiting students, and this issue affects all universities without exception. Without effective career guidance activities, a modern university is not competitive, as students are the main competitive advantage. Therefore, if a university plans to function and develop in a competitive environment, it needs to approach the selection of career guidance methods creatively and systematically.

The principles of integration, regionalization (considering the interests of specific employers, labor market characteristics, migration processes, and the social, professional, and educational demands of the population), and continuity (gradual formation of students' professional self-determination and personal and professional development) should underpin the career guidance activities of the university.

Means and methods of specialized and pre-specialized training have long been the subject of study by educational researchers. Theoretical aspects of specialized education are presented in the works of A.V. Barannikov and A.G. Kasprzhak.

T.Y. Tsibizova [2], analyzing approaches to supplementary education, notes that despite differences in interpretation, there is a common position on viewing it as an independently significant component of the education system that cannot be substituted or replaced by the school. Among the functions of supplementary education, educational, developmental, socializing, and corrective aspects are emphasized.

N.N. Zaguzina [3] points out that modern social trends require students to make career choices early on, and by the time they finish school, they should have an understanding of their future professional interests. This underscores the need to create conditions for a smooth and seamless transition from school to higher education and the implementation of the concept of lifelong learning. Pre-university preparation can serve as an element of the lifelong education system, with its content built on the principles of organizing informal education for high school students based on the university.

Pre-university preparation of students is examined in the research of S.G. Grigoriev, I.I. Melnikov, L.Y. Nesterova, N.Y. Rumyantseva, and others. These authors set the goals of pre-university preparation, analyze its content, programs, and provide recommendations for planning and conducting preparatory courses. However, most of these studies focus on pre-university training in core school subjects (mathematics, Russian language, history, physics, etc.).

The career guidance activities of the university are seen as a scientifically grounded system of preparing potential applicants for free and independent career choices, designed to consider both individual characteristics and the need for the effective allocation of labor resources in the interest of society. The methods of university career guidance work can be categorized as passive and active [4].

Modern individuals are provided with the opportunity to independently choose their profession, test their skills in various fields, and plan their future. The success of future life and career depends, in most cases, on making the right career choice.

Currently, many contemporary universities traditionally hold "Open House Days," both at the university level and at individual schools, where they organize tours, exhibitions, masterclasses, open lessons on professions, and more. While these methods are undoubtedly necessary, as mentioned earlier, all these activities fall under passive methods. The younger generation today requires a modern approach, so the focus should be on effective career guidance methods that engage graduates in active actions to explore professions and generate their interest.

It is through appropriate forms and methods of preparation that the orientation of future young professionals in the labor market takes place. Therefore, it is crucial to involve employers in addressing this issue, as they have a genuine and knowledgeable understanding of the current socio-economic situation in the country. It should be noted that there is currently a shortage of teaching staff in our country. Addressing the staff shortage is one of the top priorities of the university's career guidance work.

However, this type of university activity will be more productive if career guidance work is organized online, utilizing new services and tools. According to our research, more than 95% of school students have mobile devices or gadgets that allow them to access the internet, with approximately 85% of them using mobile phones or smartphones for this purpose [5]. Around 80% of students use these devices in the learning process. Consequently, communication channels and access formats to various services for the modern school generation are changing, including access to career guidance services. According to the statistics from Yandex's search analysis service (wordstat.yandex.ru), the search term "career guidance" has been growing by 35% annually. In 2021, the number of search queries was approximately 80,000 per month, and in 2022, it reached 150,000 per month [6]. Thus, there is a growing demand for online career guidance services, a willingness to use them, and, as a result, the need to create and develop such services."

What are the advantages of online career guidance services?

-Firstly, it provides easy access and direct interaction between users and the career guidance services.

-Secondly, it offers quick updates and the latest information, such as current professions and educational opportunities that such services can provide.

-Thirdly, it enables extensive educational analytics as these services can reach a broad audience not limited by geographic location.

Lastly, it allows for the creation of individual tracks and user support in an online setting.In this context, a mobile web application called "Profi" was developed.

"Profi" was created based on the methodology of online career guidance. It focuses on identifying and developing talents and aims to assist students in their educational and professional development and self-determination, especially those seeking admission to a pedagogical university. The service targets school students and their parents. Based on statistical data about the service's visitors, several typical user profiles can be identified:

1. School students under 18 years old who, when visiting the mobile web application, first take a professional orientation test to determine their existing set of inclinations, skills, and abilities. Based on the test results, they receive recommendations and a list of additional education programs that can provide them with fundamental knowledge and skills in their chosen professional field.

2. Parents of school graduates can optionally take the professional orientation test jointly with their child. By the results of the test, not only can they identify inclinations but also gain a better understanding of the profession. They can select additional education programs that can help the child gain a basic understanding of the chosen professional field, along with the necessary knowledge and skills that may serve as a foundation for further education.

Within these scenarios, the mobile web application serves as a navigation tool, providing recommendations on selecting a professional field and defining the user's next steps needed to explore the chosen area.

3. Educators interested in obtaining a second higher education degree.

These scenarios illustrate the flexible approaches of the mobile web application "Profi" to professional orientation and navigation. It has the capacity to provide a wide range of relevant information and personalize it based on the user's needs. This approach also involves engaging users in some activity, encouraging them to take certain actions that can help them gain more precise direction in their professional and educational future. Thus, it becomes an iterative process where users take a test, receive structured information about their inclinations, skills, and abilities, get recommendations on selecting a professional field, and then choose an additional education program to develop and enhance specific skills and acquire new knowledge, which can be valuable for future education and career development.

The main advantage of online career guidance services is the fast and direct communication with users, the ability to provide the most up-to-date information about the job market and education, and the technology to personalize it according to users' needs to form an "individual educational trajectory." In the context of career guidance work, the educational goals are the professions or professional tracks that interest users, and which can be pursued through specific ways of obtaining primary and professional education. The online service "Profi" is aimed at developing technological and informational capabilities to help users shape their professional goals and receive individual tracks for achieving them.

Creating, using, and developing digital solutions in career guidance allows for the integration of data and, thereby, enhances the effectiveness of solving the entire complex of tasks related to organizing and implementing career guidance on a regional, industry, or educational ecosystem scale (professional-educational clusters, educational networks). The development of the "educational career guidance" trend in the digital environment intensifies the convergence and blending of educational, gaming, and career guidance digital products, enriching each other. Digital transformation processes will effectively overcome the outdated deficit in career guidance, "embedded" directly into the educational process at all levels of basic education.

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DEVELOPMENT OF COMMUNICATIVE ASPECTS OF SPEECH IN ENGLISH

Islam Aibarsha Islamovna
PhD
Chamen Madina

Аңдатпа

Бұл мақалада ағылшын тілінде сөйлеудің коммуникативті аспектісі мен қабілеттерін қалыптастыру және оқушыларға ағылшын тілі сабағында сөйлеу дағдыларын үйрету кезінде кездесетін қиындықтарды жеңу жолдарын қарастыруға бағытталған. Сөйлеу дағдыларын оқыту үдерісінде пікірталасты оқушылардың коммуникативтік аспектісі мен дамыту тәсілі ретінде пайдалануға ерекше назар аударылады.

Аннотация

В этой статье основное внимание уделяется формированию коммуникативного аспекта и способностей к разговорному английскому языку и рассмотрению способов преодоления трудностей, с которыми сталкиваются учащиеся при обучении навыкам говорения на уроках английского языка. Особое внимание в процессе обучения речевым навыкам уделяется использованию дискуссии как способа развития и коммуникативного аспекта учащихся.

Annotation

This article focuses on the formation of the communicative aspect and the ability to speak English and the consideration of ways to overcome the difficulties faced by students when teaching speaking aspects in English lessons. Special attention in the process of teaching speech aspects is paid to the use of discussion as a way of developing and communicative aspect of students.

Key words: *Communicative speech, speaking aspects, modern education, effective methods of teaching languages.*

The language of the XIII century is English. The English language used in international communication is important for those traveling to far and near abroad, students studying abroad, and employees. Currently, students strive to speak English fluently, realizing that they are necessary for their future studies and activities. The state of modern foreign language teaching and accumulated knowledge show that teaching students communicative speech is of great importance.

Introduction. Modern education sets itself one of the most difficult tasks – to teach a student to speak English fluently, competently and fluently, i.e. in the same way as in his native language. This task is possible only if a number of conditions are met: high-quality teaching, competently written teaching literature, a student who wants to listen to every word of the teacher and do absolutely everything that is required of him.

Kazakhstan entered the world stage quite a long time ago and at the moment between Kazakhstan and a number of foreign countries have formed strong relations. In order to meet international standards, it is necessary to be able to communicate qualitatively. Communication means not only communication at the highest state level, but also communication to do basic things: buy something abroad, go on vacation to Europe and much more.

Without basic speaking aspects, it will be difficult for a person to express what he wants from the world around him. In this case, the goal in the formation of communication aspects is to teach the student to express his opinion and his thoughts, to express his position, to defend his own point of view. It is important to emphasize that the role of the teacher in the discussion process is extremely important and extremely complex, since he must not only monitor the literacy of his student's speech, but also help him listen to the opinion of his opponent during the discussion and teach him to defend his point of view. In other words, not every teacher can cope with such a task. It is necessary to have a sufficient level of qualification, to have experience in teaching discussion and speaking, to know the characteristics of their students: their strengths and weaknesses, and, of course, the availability of high-quality educational literature is of great importance, which helps the teacher to achieve success in this field.

Methods. Many scientists are convinced that the ability to speak a foreign language is the main skill that modern teachers want to pass on to their students. And this corresponds to reality, because in the modern world it is not enough to know grammar, rules, be able to read and write. It is also important to be able to express your thoughts clearly and clearly in English. When teaching the ability to conduct a discussion in a foreign language, listening plays an extremely important role – that is, the perception of foreign speech by ear. Listening helps the student to memorize new phrases, expressions, idioms and cliches in a foreign language so that he can reproduce them in the future without any problems.

It is important to note that at the moment there are 4 reasons why students are afraid to speak English:

1. Criticism from the teacher. The fear that the teacher will start criticizing the student because of a speech mistake.

2. The phenomenon of the absence of thoughts on a particular topic, i.e., when there is nothing to say. Students may be poorly oriented in the topic under discussion and, as a result, have little to say about it or remain silent at all.

3. Native language. Students in the classroom often switch from English to their native language language due to low vocabulary in English.

4. Different levels of training of students. Teaching a large group, the teacher sees students who speak well and are not afraid to express their thoughts, and those who are constantly silent. For the latter category of students, it takes more time to adapt and to start speaking.

Results. Listening is connected to our memory. It is known from the biology course that several types of memory are distinguished in humans. Their classification depends on the subject of the study. Of course, we know how each type of memory works, and there is no need to characterize each of its types. The main thing is that each type of memory plays a huge role in learning listening. After all, if there is no memory, there will be no point in listening, because a person will forget everything he has just heard.

We face listening every day: we listen to music in English, periodically watch short videos entirely in English or turn on subtitles if something is not perceived by ear, read news on social networks, sometimes in English, watch movies and TV series in English or go to English themed clubs, to communicate with native speakers, we communicate on social networks or via Skype with native speakers. Life develops in such a way that we become more and more dependent on knowledge or ignorance of the English language. At the moment, there are a huge number of professions and occupations where knowledge of the English language is in demand. There are organizations with vacancies where the candidate's knowledge of English will be the number one item from the list of all requirements. The reason for this, despite a significant number of sanctions, is that Kazakhstan continues to to work with many foreign organizations, the domestic and foreign policy of the country is developing. For high-quality, effective and productive cooperation, it is necessary that not only middle and senior managers are able to communicate in English at the proper level, but also most or all employees of the company. At the moment, there is a tendency to use English-language words and phrases for ordinary communication with Russian-speaking speakers. For example, we often hear in advertising, in everyday speech phrases such as: "a lot of hype", which means "a lot of hype" in English, and this word came to us from the English language "hype", "bring me a manual" - bring me a manual, instructions (from the English word "hype").manual"), "give me a laptop" - give me a laptop (from the English word – "laptop"), "I was inspired by this idea" - I was inspired by this idea (from the English word "inspire" – inspire, inspire) and many other examples.

No modern English textbook will allow itself to skip the listening section. This tendency takes place in order for a non-native speaker to get used to English speech more and better, especially if learning does not take place in an environment of a foreign culture. For example, the quality of perception of information by ear will be much more effective if the student lived in an English-speaking country than in a Russian-speaking one. This is already a scientifically proven fact. When a person is placed in conditions unknown to him, he has no choice but to adapt to the current conditions, otherwise survival may be at risk: without knowing the language, if a person finds himself in a foreign country, he will not be able to provide basic needs: starting from buying food and clothing, ending with the basic need for communication.

In this situation, a person has no choice but to absorb information on the fly, so people learn English much faster if they constantly hear it, if a person does not use their native language in communication with other people in any situations.

Discussion. In our opinion, the following can be suggested as effective methods of teaching English: in English lessons , conversations with students in their native language should be reduced to a minimum, since this is very demotivating for students. The student has a program in his subconscious that if he does not know any word, he can switch to his native language to express his thoughts. This is categorically wrong. Instead of such an approach to learning, it is better to offer students to constantly express themselves in English only in the lesson, and if the student does not know a particular word, then let him look for a synonym for this word or just give a definition in English corresponding to this particular word. This method is effective, firstly, because students will have a desire to replenish their vocabulary, and secondly, it will provide an opportunity for students to be able to explain and highlight their position in a foreign language faster and faster, and thirdly, it will be good practice for other students, because they will be able to hear new words for them, write them down in their notebook, and then memorize them.

The second effective method is to increase the number of foreign language lessons in schools. This is necessary so that the number of hours and, as a result, speaking, increases compared to the current number of hours. To achieve a sufficiently high level of language proficiency, it is necessary to study it constantly, at best every day. Unfortunately, this is not so easy to provide in real life, because in secondary schools, in addition to a foreign language, there are also general subjects that are mandatory for study. It is impossible to exclude one subject and put an extra hour of English in its place. There remains the option of increasing the number of hours of English.

Conclusion. After the review, we can make a general conclusion that the use of any of the techniques can positively affect the process of learning not only English, but also other languages. In our opinion, Stanislavsky's methodology deserves special attention. The success of language learning, the success of understanding English by ear, success in speaking and developing other aspects in the language depends on the desire of the student himself, but, nevertheless, it is important to emphasize that the role of the teacher here is colossal. Of course, as it was noted earlier, working with the language should be daily if the student's goal is to master the language at a qualitative level. In addition, for more productive teaching of a foreign language, the school should carefully select the teaching staff, as well as pay more attention to technical equipment, since it plays an important role in performing tasks for the development of speaking aspects. In any case, whatever kind of discussion and whatever technique you choose teacher, the main thing is that she fulfills the main task – to teach the student to talk freely and openly express his thoughts in an understandable and logical way.

Of course, the technique of listening to texts with English speech is very important. It is important to note that it is necessary and possible to listen not only to native speakers of the British version of English, but also to other accents. This is necessary so that the student can understand quite complex accents and be able to answer questions without any difficulties. Unfortunately, this technique, for the most part, prevails either in universities at the faculties of foreign languages, or in schools with in-depth study of a foreign language. Thus, all of the above methods of learning English, one way or another, are associated with teaching a student to communicate in a foreign language without a language barrier.

Thus, all of the above methods of learning English, one way or another, are associated with teaching a student to communicate in a foreign language without a language barrier.

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The Role of Motivation in Education

Aigul Mekebayeva
Master of Arts in Educational Studies, Kazakh Ablai Khan University of International Relations and World Languages

1. Introduction

The notion of "problem children" is well-known in Education. According to Galloway et al. (1998), their behaviour might be a matter of concern for their teachers and the educational institution itself, as well as their family and the whole community. Moreover, teachers explain their poor behaviour and low academic achievements by the lack of motivation (Galloway et al., 1998).

Motivation is an important emotional aspect of the human life, as it may drive people to success from a very early age. This success can be achieved in sports, arts or in science, but the basis of it is in the way they were motivated while being educated.

As long as, motivation has a significant role in the learning process, many scientists have conducted research on how it "works", in order to manipulate it to foster a necessary form of behaviour in students. Therefore, the range of theories on motivation varies.

This article will first of all focus on discussion of the theories of Achievement Motivation and Intrinsic Motivation, along with an explanation what they contribute to our understanding of the way students learn. Then, the issue of motivation will be addressed to implications of the theories for teaching and learning.

2. Motivation theories

2.1. Achievement motivation

Achievement motivation was first established by Murray in 1938 and was further developed by researchers such as Atkinson and Covington.

As defined by Atkinson (1964),

The theory of achievement motivation attempts to account for the determinants of the direction, magnitude, and persistence of behaviour in a limited but very important domain of human activities. It applies only when an individual knows that his performance will be evaluated in terms of some standard of excellence and that the consequence of his actions will be either a favourable evaluation (success) or an unfavourable evaluation (failure). (p.240-1)

2.1.1. Expectancy-Value theory

Expectancy–value theory of achievement motivation was evolved by Atkinson. The main concept of the approach is that students' attitudes towards a task is governed by the level of *value* they impose on the result of the task and *expectancy* of this result. Therefore, the students mostly do not prefer to choose difficult tasks, as they are afraid of being devalued by their contemporaries in cases where they are unable to perform well. Furthermore, learners are eager to accomplish tasks at an intermediate level of difficulty rather than easy ones, since if it is simple it brings only little satisfaction. It follows that individuals' motivation, in the course of the task accomplishment, is to avoid failure (Schunk, 2004). Galloway et al. (1998) suggest that the learners' feelings of anxiety might be the cause of their motivation to avoid failure. Galloway et al. (1998) also claims, 'The motive to avoid failure is so named because it is argued that the most effective way of reducing anxiety associated with failure is simply not to undertake achievement related activities in the first place: *nothing ventured nothing lost*' (p. 25). However, Atkinson (as cited in Galloway et al., 1998) argued that the students, who are more motivated to avoid failure than to achieve success, presumably do not choose the task of the intermediate level, but “advanced” or “elementary” and vice versa. This implies that students’ choice of the tasks, due to the difficulty, may vary. It also can be argued that, learners tend to have favourite subjects in which they have confidence in success and may choose a very difficult task to perform. Schunk (2004) assumes, ‘achievement motive varies with the domain, how well such a global trait predicts achievement behaviour in specific situations is questionable (p. 345).’

2.1.2. Self-worth Theory

Not infrequently it can be noticed how students find excuses for their unsatisfactory test results or inability to cope with the task. The self-worth theory explains why students try to justify themselves when they poorly accomplish their assignments.

According to Covington(1984), ‘the basic assumption is that several factors influence one’s sense of worth and adequacy, including performance level, self-estimates of ability, and degree of effort expenditure’(p.8). Covington (1984) presupposes that the more effort students make to get a high grade, the more they feel humiliated when they fail, as it leads them to think that they have a low level of ability. At the same time, if they do not work hard and fail, they can justify themselves and do not feel very ashamed, since this does not imply that they have low ability. Though, the perceptions of ability and effort depend on the learners’ age: young children perceive ability and effort as one and the same thing, whereas adolescents know the difference between them. Young learners tend to think that they can improve their abilities by their diligence, while high school students are positive that prosperity depends on their ability. Therefore, if they try hard and fail they may feel self-unworthiness due to their low ability (Covington, 1984). Covington (1984) presumes, ‘self-worth theory assumes much of student achievement behaviour is best understood in terms of attempts to sustain a reputation of competency, and hence worth’ (p.11).

Although, the self-worth theory places emphasis on the awareness of ability and effort, these notions might be interpreted differently in diverse cultures. For example, Japanese and Chinese students believe that one may show progress by being diligent (Schunk, 2004, p.350, 351).

2.2. Intrinsic motivation

Previously, it was discussed that children tend to give preferences to particular subjects and they may choose difficult tasks as they are positive that they are able to cope with them. It can be assumed that this happens owing to students’ intrinsic motivation, as they probably like a particular subject because it triggers their curiosity and makes them to seek to know more. Therefore, they feel confident in accomplishing some tasks because they are in their “element”. These school children do not study for good grades, they do it for pleasure to satisfy their innate needs.

2.2.1. Self-Determination theory

As mentioned above, only some subjects can be of particular interest to students, and self-determination theory explains that that is due to the assumption that “intrinsic motivation exists in the relationship between individuals and activities” (Ryan & Deci, 2000, p.56). Therefore, it is impossible for all of the students to give preference to one particular subject or task and vice versa.

Self-determination theory explores the intrinsic motivation from the very beginning of human life. It claims that from nascence children show diverse positive behaviours without being extrinsically influenced (Ryan & Deci, 2000). It also suggests that this develops in small children in the form of ‘an undifferentiated need for competence and self-determination’ (Schunk 2004, p.379). Some researchers claim that, in order to make students intrinsically motivated, "autonomy" has to be present in the sense of "competence". Furthermore, the theory assumes that the person's social surroundings may have an impact on his intrinsic motivation and also stresses the question of "autonomy" as opposed to "control" (Ryan & Deci, 2000). Intrinsic motivation can be reached when the human needs of the students, to be more accurate "autonomy", "competence" and "relatedness", are satisfied (Towndrow, Koh & Soon, 2008).

Sometimes it is difficult to define whether the child is intrinsically motivated or not, in the school context, owing to the extrinsic rewards given by teachers. This implies that the intrinsic motivation might be diminished by the external effects. Moreover, as stated by Ryan and Deci (2000),

A recent meta-analysis (Deci, Koestner, &Ryan, in press) confirms that virtually every type of expected tangible reward made contingent on task performance does, in fact, undermine intrinsic motivation. Furthermore not only tangible rewards, but also threats (Deci & Casio, 1972), deadlines (Amabile, DeJong & Lepper, 1976), directives (Koestner, Ryan, Bernieri & Holt, 1984), and competition pressure (Reeve & Deci, 1996) diminish intrinsic motivation because people experience them as controllers of their behaviour. (p. 59)

2.2.2. Rewards

In the teaching practice in primary schools, it can be frequently noticed how teachers use colourful stickers in the shape of a star or a smiley face, proxime accessits and other rewards to motivate their students to study well and to behave appropriately. Although this motivational strategy is widely thought to work well, much research (except the one discussed above) on how it can undermine the intrinsic motivation was done. For example, in accordance with Dumont, Instance and Benavides (2010), 'A meta-analysis by Cameron and Pierce (1994) showed that giving extrinsic rewards for something which students would have done anyway decreased intrinsic motivation, with detrimental effect on creativity, invested effort and performance'(p.101). It follows that if the students are willing to accomplish the task, they do not need any rewards. On the other hand, as Jensen (2005) postulates,

The brain makes its own rewards. They are called opiates, and they can produce a natural high similar to that produced by morphine, alcohol, nicotine, heroin and cocaine. It probably does not matter to the brain whether the reward is concrete… the brain's reward system ordinarily doles out good feelings on a daily basis, which suggests that the brain has a built-in bias to experience pleasurable causes and effects. (p.104)

Consequently, the learner who is driven by the intrinsic motivation, after having finished the task successfully, will be rewarded by his brain and there is no need for other rewards.

In addition, motivation, which was aroused by some extrinsic causes, is only a temporary effect. Once the learners are used to receiving rewards they would like them to be bigger or more significant. Moreover, due to the singularity of the students' brain only one type of the reward is not enough. It is assumed that the rewards should be given by taking into consideration the personal characteristics of each child (Jensen, 2005).

2.3. Familial influence

Schunk (2004) notes, that family might be a crucial factor that influences the achievement motivation. A situation from Price's (2008) life experience can be regarded as an example of familial influence. He narrates about the time when he was a high school student. As one of the best students in mathematics and science, he was offered the opportunity to take part in a summer employment programme, in which a test was conducted to measure the potential of the participants. The result of the test was that Price did not have a chance to enter graduate school. The very same day, he had a conversation with his parents, who supported him strongly, whereby he subsequently graduated from the "great law school" (Price, 2008). If his parents had not supported him and believed in his prosperous future, he might have not achieved his aim, since parents' approval is essential for children. Even though, Schunk (2004) believes that it is hard to define what behaviour is, the most powerful aspects, in the sense of motivation and the significance of the family, should be studied more, as parents perform diverse behaviours (for example, giving rewards and punishments) and these behaviours can be performed by their mentors and friends, as well. However, the author may argue that there is no need to define the most influential behaviour, since the best way to encourage a child to do well at school is, presumably, to strike a balance between all the behaviours and to work collaboratively with the teachers. Although, it seems impossible when the child is in high school, Cunha and Heckman (as cited in Dumont et al., 2010) found that, 'the economic returns to initial investments at early ages are high. Early investment in cognitive and on-cognitive skills lowers the cost of later investment by making learning at later ages more efficient' (p. 260). In other words, parents may benefit from their involvement in school during the child's early stages of learning when their children grow up and demonstrate high academic results.

Adherents of the self-determination theory also emphasize the importance of the familial influence, but for reasons associated with intrinsic motivation. Some researches indicate that children, whose parents prevent them from being more independent, are less likely to act instinctively than the children whose parents provide them with space for independent development (Ryan & Deci, 2000). It follows that these students often have to be told what to do, thus are less likely to be intrinsically motivated.

Hereafter, self-determination theory presumes that family, along with school, might either help or stop the evolvement of intrinsic motivation. It depends on whether autonomy and competence are encouraged or not (Ryan & Deci, 2000).

3. Implications

3.3. Expectancy-value theory

Despite the fact that the expectancy-value theory is one of the oldest and cannot be equally applied to all groups of students and their achievement spheres as argued by Schunk (2004), it might be implicated in the modern way of teaching. The theory tries to predict the learners' choices of task difficulty depending on their fear of failure. Therefore, the application of the theory is probably an advantage for teachers, since they have a possibility to improve the progress of their class by applying their knowledge of it.

While analyzing the expectancy-value theory Schunk (2004) concluded, 'the best way to promote achievement behaviour is to combine a strong hope for success with low fear of failure' (p.343). Perhaps, in order to attain that, the first thing that the teacher should do is 'to encourage students to develop subjective task value' (Elliot & Dweck, 2007, p.303). Wigfield (1994), on the basis of some researches, assumes that, with age, children start regarding themselves as less capable in accomplishing some tasks. As a consequence, they stop paying attention to the importance of the tasks (Wigfield, 1994). Elliot and Dweck (2007) suggest, that mentors should allow their learners to expose themselves and to choose the tasks exactly suitable for them and not use "controlling statements and behaviours". In this way, it will be possible to attain strong involvement and self-management and, most importantly, to evolve "subjective task value". Moreover, educators are also advised to choose important and original issues to deal with, so that the learners can evaluate the work according to its usefulness and significance (Elliot & Dweck, 2007). So Wigfield (1994) presumes, one of the reasons for the decline of children's achievement motivation is that 'children become much better at understanding and interpreting the evaluative feedback they receive, and engage in more social comparison with their peers' (p.60). For instance, in Kazakh society, teachers frequently compare the students with each other and especially with their brothers or sisters, who did better at school than they are doing at the moment. They suppose that, if they hold up someone as an example, it will increase the students' achievement motivation. They believe that if they put to shame the students, who are probably difficult to teach, they will struggle to do better. Although this strategy works with some students, mostly it fails. Therefore, teachers also ought to put more stress on the way they express anticipation of the learners' improvement, as it should be concluded as a fact that all of the students in the class have the ability to learn and will certainly do that if they try hard (Elliot & Dweck, 2007). Finally, in order to enhance a strong hope of success, educators should give the students assignments of intermediate level to assist them to recognize their enhancement in the domain (Elliot & Dweck, 2007). The students should be educated in a propitious and loving environment where they are appreciated and secure (Elliot & Dweck, 2007) and these feelings will provide low level of fear of failure.

Although, the teacher endeavours to apply all the recommendations given above, there may probably be some children who do not feel themselves valued and safe. It is worth mentioning that there is not any better observer than the teacher and only teacher knows his or her students the best. Therefore, it is presumably not hard for the educator to spot the learners who succumb to their fear the most and try to help them if they need special individual attention, since the reasons for their low achievement motivation may vary.

3.4. Self-Worth Theory

Covington (1984) concludes that 'the most important task facing the teacher is to instruct students in ways that keep growing preoccupation with ability from interfering with students' willingness to learn'(p.16). He also suggests several strategies to reach this aim.

To start with, educators preferably ought to avoid lesson plans which require competition between students. Such "non-competitive learning structures" increase students' desire to do well and decrease their wish to avoid failure. In addition, several strategies based on the "non-competitive learning" such as "mastery learning", "cooperative learning", "contract learning" are advised. The main idea of the "mastery learning" is that the students can improve their competence in a particular domain to the necessary degree by doing tests several times. It is believed that, 'this approach tends to diminish causal importance of perceived ability in achievement' (Covington, 1985, p. 16). Another approach is the concept of the "cooperative learning" used in group work. However, this group work is not typical, since each of the students is in charge of some parts of their joint work. The advantage of such group work is that the learners, who feel embarrassed to inquire about something from a teacher, have a chance to do it in the group, as well supporting low ability students (Cooperative learning techniques, n.d.). Finally, "contract learning" is the "non-competitive learning structure", which allows collaborative work of teachers and their students by creating a contract, in which they indicate the strategies relating to improving academic progress. This concept places emphasis on the effectiveness of the effort involved in performance, as well as possible explanations of failure except for low ability, for example, over ambitiousness of the student or inappropriate examination of the assignment (Covington, 1985).

Covington (1984) also presumed that the teacher should try to make learners believe that their ability can be enhanced. For instance, memorization of the material by repetition may help students in being quick and successful in accomplishing a task and it can be considered as a feature of the competence (Covingon, 1985). However, Covington (1984) assumes that, "the greatest disservice would be to encourage students to adopt a falsely optimistic view of their capacities in order to gain a short-term advantage. From this perspective, then, the most reasonable strategy would be to encourage *additional* sources of worth beyond the mere possession of ability. These alternative sources of satisfaction come from a job well done or from the pride that results in self-improvement" (p.17).

Nevertheless, using non-competitive strategies in the lessons will not diminish the ideology of the community that competitiveness is "half the battle", even though, educational institutions should cherish generative mind function in the interests of the children they bring up (Covington, 1985).

In Kazakhstani schools, the above mentioned strategies are not completely applied in the classrooms. For example, teachers do use group work, but these groups compete with each other regarding whose work will be the best. In addition, not all of the group members work equally, because they are not under the teacher's control, and as a rule strong students accomplish their group's task by themselves and divide the ready work into pieces between the team members. Moreover, they will never reveal that someone did not participate, thus low skilled students do not progress. However, if the child tries hard and fails, teachers usually assess their effort, but not ability. Therefore, they tend to overstate learners' grades only up to one point. It is believed that diligence is a good trait for a student and it should not be diminished by a grade denoting failure. Furthermore, if the learner has a low ability in a particular domain, he is supported by additional classes, since in Kazakh culture it is thought that success can be achieved by more practice. So, if the learner has a low ability in Mathematics, he should train more in doing sums with a tutor; if he is poor at English, he should spend more time practising his skills; if he reads a story, and does not understand what he has read, he should read it again; if his efforts are not fruitful, they will not remain unnoticed.

3.5. Self-determination theory

According to Deci and Ryan (as cited in Towndrow et al., 2008), learners are able to incorporate their extrinsic motivation for the work, which they regard as essential but boring and not enjoyable within themselves. Therefore, 'the potential for self-determination and autonomy increases' (Towndrow et al., 2008, p. 27). As pointed out by some studies, teacher dominant classrooms can reduce the learners' desire to be involved in the activity, his fulfilment and internal motives. In addition, it may lead to the growth of the child's discontent and tension (Towndrow et al., 2008). It may happen, because the teacher may restrict students' autonomy. Moreover, as determined by the self-determination theory, the environment, where the autonomy and competence are encouraged, may assist the students to enhance their intrinsic motivation (Borich & Tombari, 1997). Hence, the educators are advised not to comment on low ability, as well as being encouraged to employ competition based strategies, to avoid indicating exact dates for assignment submission and severe warnings, and give the learners the freedom to present their viewpoints and to express disagreements. It is also recommended to give the most desirable tasks for students to complete, and to comment on how to improve academic progress (Towndrow et al., 2008).

Furthermore, Borich and Tombari (1997) assume that in order to develop students' intrinsic motivation, the self-determination theory suggests creating a learning environment that takes the evolvement of the abilities as a priority and makes them believe this evolvement is under their control, and also promotes relationships which help to establish autonomy as well as competence. Borich and Tombari (1997) propose that project-based learning is an ideal learning structure for the development of intrinsic motivation. The project-based approach provides students with the opportunity to select the method of research, ways of presentation, and answers to the questions. These provided alternatives allow the learners to develop their autonomy. In addition, they demand working in a group, which makes it possible to satisfy the students' social needs, to be more accurate in the sense of "relatedness". "Performance-based assessment" provides students with objective feedback, which depends on how it was presented, and this enables them to understand why they deserve this or that mark. In comparison with the "paper-and-pencil based" assessment, this type of evaluation is more suitable to develop the autonomy of the students, as it makes them believe that they can maintain their marks (Borich & Tombari, 1997).

However, most importantly, the mentor should care about his mentee and educate him in a loving atmosphere, at the same time applying the above mentioned recommendations.

4. Conclusion

This article endeavours to interpret what the recommended methods and practices contribute to our understanding of the way students learn and their implications for teaching and learning. Although the author tried not to connect the theories with each other, and made an effort to write separate implications for each of them, it is worth mentioning that the recommendations given can be applied not only to the theory it is written for but to others as well. For example, project based learning can be used in the classroom, in which the teacher wants to enhance the self-worth theory.

Another thing is that the teacher has a major role in the classroom; therefore she or he needs to be motivated to motivate her or his students, too. As some studies show that not all teachers are equally motivated to teach (Towndrow et al., 2008). The reasons may differ for this, for instance, some of them become teachers, owing to the 'perceived benefit and/or convenience of teaching; including work schedules, work hours, vacations, career security and salary'(Towndrow et al., 2008, p. 39).

In conclusion, all of the motivation theories, including the theories presented in this article, stem from the drive theories. They were explored, supported and criticized; therefore none of them, in isolation, perfectly describes motivation. However, they appeared because they can describe some aspects of motivation. The theories discussed in this article can explain how students choose tasks, why they do not put enough effort into their work and how to enhance intrinsic motivation. Owing to what was suggested by Atkinson in the late 50s, teachers know why some students do not have a desire to perform better than they already do. Thanks to Covington's work, educators have knowledge of why their learners do not always try hard. In the view of Deci and Ryan, the harmful effects of rewards on intrinsic motivation, as well as what is required to improve motivation, is well-known. Moreover, both the achievement motivation theories and intrinsic motivation emphasize the familial influence. Taking into consideration this knowledge and working collaboratively with parents, teachers can assist students not to fear failure, to believe in themselves and feel self-valued, to evaluate not only their ability but also their effort, and teach them in the classroom where such human needs can be satisfied and, above all, can provide them with love and care.

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EDM METHODS FOR PREDICTING THE ACADEMIC PERFORMANCE OF UNIVERSITY STUDENTS BASED ON REGRESSION ANALYSIS

Suleimenova Laura
Candidate of Technical Sciences, U. Zhanibekov South Kazakhstan Pedagogical University, Shymkent, Kazakhstan
Ismailov Bakhtiyar
Doctor of Technical Sciences, M. Auezov South Kazakhstan State University, Shymkent, Kazakhstan
Zhakypbekova Gulnar
Candidate of Pedagogical Sciences, U. Zhanibekov South Kazakhstan Pedagogical University, Shymkent, Kazakhstan
Zhaidakbayeva Lyazzat
Candidate of Pedagogical Sciences, M. Auezov South Kazakhstan State University, Shymkent, Kazakhstan
Nakhipova Venera
doctoral student, U. Zhanibekov South Kazakhstan Pedagogical University, Shymkent, Kazakhstan
Seisenbek Markhabat
doctoral student, U. Zhanibekov South Kazakhstan Pedagogical University, Shymkent, Kazakhstan

Abstract

The article substantiates the relevance of the application of Educational Data Mining methods arising within the educational process for the study of the implementation of the educational program. Educational Data Mining is closely related to Learning analytics. Educational Data Mining and Learning Analytics are relatively new directions and require the creation of a methodology and appropriate tools . Data mining is used to extract useful information and discover patterns from often large datasets closely related to knowledge discovery in databases and data science. In this paper, linear regression is used from machine learning algorithms to determine the loan relationship between student performance and learning outcomes of disciplines from the cycle of general education subjects of the educational program. The purpose of this study is to use the Knowledge Data Discovery process to extract useful information about the implementation of the educational program.

Keywords: Educational Data Mining, Learning Analytics , machine learning, Knowledge Data Discovery, Linear regression Preprocessing, Data mining algorithms

Introduction

Always, and especially in the modern world, education is considered as the most important component of economic growth and development of the country. Its role for humans and society is constantly increasing. Modern humans live and act in conditions that require high professionalism and considerable intellectual effort to make the right decisions in various life and professional situations. The increase in information flows, their universality, the obvious lack of time to comprehend them and increase competitiveness require modern computer methods of decision-making to predict student performance in the implementation of educational programs.

Decision–making in the field of education is a complex, multidimensional process involving a large range of stakeholders. An important criterion for making an effective decision is the analysis of information received from participants in the educational process at its various stages.

For a long period, information about students and their academic performance, about teachers and their scientific and educational work has been accumulated in the information systems of educational institutions. Distance learning courses, computer learning tools, educational forums, student testing and questionnaire systems, and much more were created. In recent years a large amount of data has been accumulated, presented in various formats, to varying degrees, relevant to various aspects of the educational process. The development of technology has opened the door for mass data collection in the digital environment, thereby expanding access to big data for educational purposes. Higher education institutions study the use of these technologies through the data they collect.

Many universities have large repositories of unused collected data, which can provide both informational and effective feedback. With growing concerns about career readiness and academic success, much of higher education has recognized the powerful potential of learning analytics to predict student performance and identify at-risk students at an early stage.

The collection, analysis, interpretation and use of data accumulated in the course of educational activities is a rather complex and time-consuming process. Currently existing research areas related to the analysis of educational data, such as intellectual analysis of educational data that is known as Educational Data Mining (EDM) and educational analytics that is known as Learning Analytics (LA) are relatively new areas and require the development of methodology and appropriate tools.

Educational Data Mining (EDM) is the process of using data mining methods to analyze educational data [1]. EDM is a field of research that focuses on the development of algorithms and techniques for analyzing large data sets generated by educational systems [2]. The purpose of EDM is to improve teaching and learning by identifying patterns and trends in educational data [3]. EDM includes the use of statistical and machine learning algorithms to analyze educational data, such as student performance, learning styles, and engagement patterns. Data can be collected from various sources, such as learning management systems, online learning platforms and educational games. Then the data is pre-processed, transformed and analyzed to extract meaningful information [4].

The ability to collect data in LMS and university's information systems opens up new horizons for data mining researchers in the field of education who can extract deeper information. EDM tries to extract patterns from the data generated in the learning process. This data can be very extensive and contain a large number of details. Recently, EDM has been used within higher education EDM involves the use of statistics, visualization, and machine learning techniques to research and analyze educational data.

EDM is closely related to Learning analytics. The goals and objectives of research in these disciplines largely coincide. Learning Analytics (LA) is a new field of research aimed at improving the quality of education [1], [2]. LA is an analytical approach aimed at analyzing, measuring and extracting comprehensive information about a student on various characteristics, including cognitive, social and psychological aspects, in order to help teachers make decisions about the student's successes and failures[1],[2].

According to the 1st International Conference on Learning Analytics in 2011, LA was defined as "measuring, collecting, analyzing and reporting data about students and their contexts in order to understand and optimize learning and the environments in which it occurs." Learning analytics depend on these three-phase cycles, which are data collection, information processing and application of knowledge.

At the data collection stage, the data consists of raw facts that can provide relevant information. The information processing phase includes data aggregation, information report and analysis. The knowledge application phase refers to the use of the knowledge gained from the information processing phase to refine, improve and system sharing.

At the moment, the development of artificial intelligence technologies provides machine learning with significant interest from the education sector. Combining many complex approaches and mathematical algorithms, machine learning is becoming in demand in many areas of human life. Algorithms of classical machine learning are divided into two main groups: algorithms of learning with a trainer ("supervised algorithms") and algorithms of learning without a trainer ("unsupervised algorithms"). The principle of learning algorithms with a trainer is that the input receives information, as well as the required results. In this way, the machine can find out what the user expects it to output when a similar command is entered.

Concepts the prospect of using machine learning in the field of education and pedagogical technologies are as follows:

- forecasting student performance;
- optimization of the student assessment process;
- creation of an individual educational route;
- processing and adaptation of educational materials;
- support of teachers and staff of educational institutions.

ML is the study of computer algorithms that improve automatically due to the concretization and use of data (training) [5]. The value of machine learning algorithms depends on the quality of the data used for its training and deployment. Universities are responsible for creating or obtaining a sufficient amount of data, so that this data is useful for a particular algorithm and so that a group of analysts can sort them and extract useful things from them. [6].

The purpose of this article is to show the possibility of using the methods of EDM, ML and LA in the educational program of the university and answer the following research question (RQ): How to predict students' academic performance using the learning outcomes of subjects from the cycle of general education disciplines?

Methodology of the experiment

This section will describe one of the analytical methods for selecting attributes and extracting information parameters. To do this, it is necessary to properly prepare the data for processing, choose the appropriate method for extracting the desired patterns and, finally, determine how to evaluate the found patterns, these stages are organized into a scheme known as the Knowledge Data Discovery process (KDD – Knowledge Data Discovery), where EDM is used at one of the main stages, a brief explanation of the KDD process, describing each of the stages.

The KDD process is a non—trivial process of identifying valid, new and potentially useful patterns in a data set, that is, the goal is to find useful, valid, relevant and new knowledge about a particular activity. The term "nontrivial" is understood as some kind of search or inference, that is, it involves the search for models, structures, patterns or parameters [7], [8].

This process consists of several phases and includes database methods, machine learning (ML), statistics, artificial intelligence and decision-making systems.

The figure shows the KDD methodology, which consists of the following five ordered steps (Fig.1):

1. Data Selection,
2. Pre-processing,
3. Transformation,
4. Data mining algorithms/ML,
5. Interpretation/evaluation [9].

In the study, the KDD approach is applied to a data set when determining the impact of learning outcomes of disciplines from the general education cycle on student academic performance.

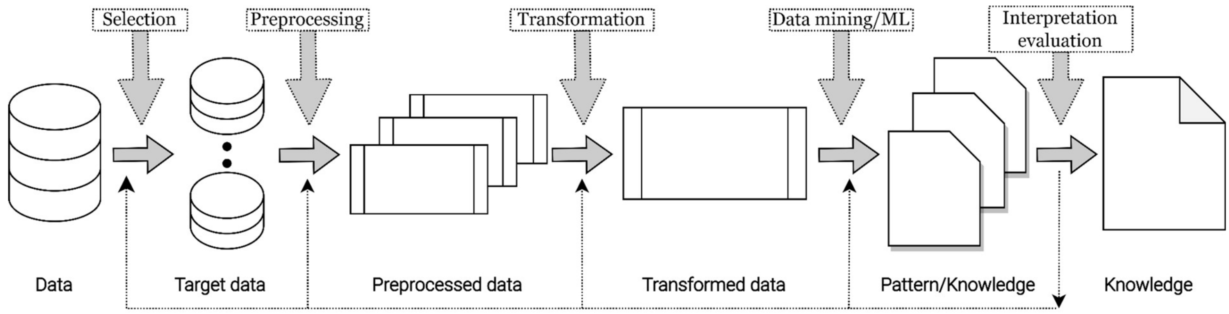

Fig.1. Diagram of the KDD methodology.

In research, properly implemented learning analytics can use data mining technologies and statistical modeling to analyze educational data, such as undergraduate grade point (GPA) or current grades, to make informed predictions. Teachers can use learning analytics to solve problems and optimize the learning process. Hence, the central proposal of this new field is to simplify the ways of collecting, synthesizing and reporting educational data, as well as to support the academic success of students.

The first stage of solving the problem is related to data collection. At this stage, it is necessary to identify data sources, which in itself is already a difficult task, and then carry out data selection.

In this paper, the second stage of this preliminary data processing was carried out. Data preprocessing is performed in order to organize the selected data set into a manageable form, which is necessary for the subsequent stages of the KDD methodology. Machine learning needs only those variables that actually affect the final result.

Feature selection or selection is a procedure for discarding insignificant variables from a purified sample before launching machine learning and educational data mining. Reducing the number of predictors is necessary for several reasons:

- significance of features — as a rule, the initial sample always contains a lot of "garbage data": noise, outliers, and only a few predictors affect the real result [10];
- accuracy of the solution — some Machine Learning models are sensitive to the magnitude of the input vector. For example, neural networks with a large number of input data can lead to retraining [11]
- calculation speed — the fewer variables, the faster the calculations will go.

Feature selection methods are usually divided into 3 categories: filters (filter methods), embedded methods (embedded methods) and wrappers (wrapper methods).

Filtering methods are applied before training the model and, as a rule, have a low cost of calculations. These include visual analysis (for example, removing a feature that has only one value, or most of the values are missing), evaluating features using some statistical criterion (variance, correlation, X^2, etc.) and expert evaluation (removing features that do not fit the meaning, or features with incorrect values).

Built-in methods perform feature selection during model training, optimizing their set to achieve better accuracy. These methods include regularization in linear models.

Wrapper methods are search algorithms that treat predictors as inputs and model efficiency as outputs that need to be optimized [10].

The transformation stage includes preliminary data processing and generation of new variables from existing ones. At this stage, the focus is on normalizing the various features and data selected for the study in order to standardize all data at similar scales, thus avoiding bias problems due to a wide range of values for certain variables.

At the fourth stage, algorithmic methods of EDM or ML, respectively, controlled techniques are used to implement learning analytics: classification and regression, decision trees (DT), ensemble models (EM), k-nearest neighbors (KNN), logistic regression (LR), naive Bayes (NB), random forest (RF) and auxiliary vector machines (SVM); or an uncontrolled method: artificial neural networks (ANN), clustering (CLU) and correlation analysis [12],[13]. In the case of ANN, they are also very popular controlled methods in EDM and ML.

One of the simplest and most useful ML models , linear regression , was used for the study . Linear regression is a machine learning algorithm that is mainly used for regression analysis. This is a model of the dependence of variable x on one or more other variables (factors, regressors, independent variables) with a linear dependence function.

Linear regression is a linear model that assumes a linear relationship between input variables (Xi) and a single output variable (Y). More specifically, that y can be calculated through a linear combination of input variables (X) (or Y= B1*X1+ B2*X2+ ..Bn*Xn). In the presence of a single input variable (x), the method is called simple linear regression. When there are several input variables, the multiple regression method is applied.

Despite the fact that regression analysis can also be considered from the point of view of statistics, it, like other MO models, is aimed at minimizing errors. Linear regression uses only a linear function, helping in modeling the relationship between dependent and independent variables.

It is worth noting that linear regression models have long been actively used in data analysis, in particular in one of its leading sections — time series analysis [14].

In this paper, the linear regression method, as an example, is used to process data on the educational program «6B01503-Computer science teacher training»

Results and discussions

Currently, information technologies are used in each university to store and process data on the results of students' educational activities. The university's information system can be used as the most accessible source of educational data for analysis.

The study was conducted on the basis of the Department of "Informatics" of the South Kazakhstan State University. The data extracted from the Univer database information system was used as data. The data set consists of 600 full-time students enrolled in the OP in the period from 2019 to 2023 academic year.

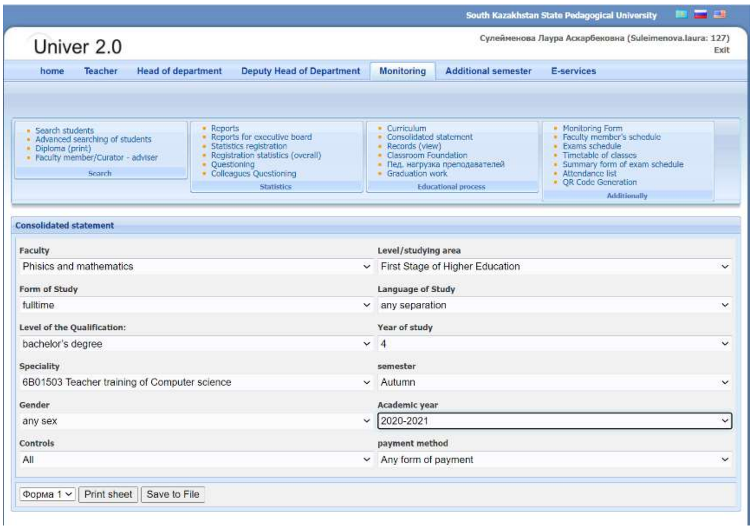

Fig.2. Uinver 2.0 system

This data contains information about the semester performance of students, is stored for the entire period of study of students and can be uploaded in Excel format. The view of the received data in the form of a fragment of the table is shown in Fig. 2. As can be seen from the fragment shown in Figure 2, the data table contains information about the progress of students according to the results of the session.

Consolidated statement

Faculty: Phisics and mathematics; Form of Study: fulltime; Academic year: 2020-2021; Level of the Qualification: bachelor's degree; Speciality: 6B01503 - Teacher training of Computer science; Educ. Lev.: First Stage of Higher Education; Language of Study: All; Year of study: 4; semester: 7; payment method: All; Gender: All

№	Full name	No. grade card	1	2	3	4	5	6	7	8	9	10	11	12	13	disc.num.	crdts.num.	GPA per semester		Grade Point Average (GPA): year of study		Overall GPA	
1	Абдуа******* *******толибовна	20200722	96(A)	97(A)		75(B-)	96(A)		88(B+)			96(A)	96(A)	88(B+)	78(B-)	9	30	3.53	B+	3.4	B+	3.18	B
2	Айтк******* *******ы	20200723	97(A)	99(A)		90(A-)	98(A)		91(A-)			98(A)	96(A)	90(A-)	87(B+)	9	30	3.79	A-	3.64	B+	3.51	B+
3	Бала******* *******қызы	20200724	96(A)	96(A)		85(B+)	95(A)		88(B+)			97(A)	96(A)	87(B+)	79(B-)	9	30	3.58	B+	3.33	B+	3.05	B
4	Бал******* *******имханкызы	20200725	86(B+)	97(A)		85(B+)	95(A)		88(B+)			96(A)	87(B+)	81(B)	82(B)	9	30	3.42	B+	3.17	B	3.17	B
5	Балп******* *******нұлы	20200743	92(A-)	93(A-)		70(C+)	94(A-)		84(B)			96(A)	88(B+)	72(C+)	68(C)	9	30	3.03	B	2.81	B-	2.82	B-
6	Бекм******* *******қызы	20200726	95(A)	96(A)		90(A-)	96(A)		85(B+)			94(A-)	92(A-)	82(B)	76(B-)	9	30	3.44	B+	3.35	B+	3.12	B
7	Беля******* *******евич	20200746	82(B)	79(B-)		80(B)	76(B-)		64(C-)			70(C+)	85(B+)	66(C)		8	25	2.57	C+	2.75	B-	2.96	B-
8	Бимұ******* *******аткақызы	20200727	96(A)	98(A)		90(A-)	97(A)		87(B+)			96(A)	97(A)	83(B)	78(B-)	9	30	3.55	B+	3.53	B+	3.37	B+
9	Дост******* *******бовна	20200744	94(A-)	97(A)		85(B+)	88(B+)		91(A-)			97(A)	96(A)	63(C-)	64(C-)	9	30	3.09	B	3.03	B	3.13	B
10	Елем******* *******жанұлы	20200728	92(A-)	95(A)		85(B+)	92(A-)		84(B)			92(A-)	95(A)	72(C+)	71(C+)	9	30	3.23	B	3.11	B	2.9	B-
11	Жак******* *******дыбекқызы	20200729	96(A)	97(A)		85(B+)	96(A)		93(A-)			98(A)	94(A-)	75(B-)	81(B)	9	30	3.49	B+	3.32	B	3.07	B
12	Жанб******* *******атқызы	20200730	96(A)	97(A)		90(A-)	96(A)		96(A)			98(A)	99(A)	82(B)	79(B-)	9	30	3.59	B+	3.57	B+	3.13	B
13	Жо******* *******алдиярқызы	20200731	95(A)	97(A)		80(B)	93(A-)		84(B)			98(A)	84(B)	77(B-)	73(C+)	9	30	3.18	B	3.07	B	3.11	B
14	Жум******* *******қызы	20200732	95(A)	98(A)		90(A-)	94(A-)		92(A-)			97(A)	97(A)	83(B)	76(B-)	9	30	3.55	B+	3.55	B+	3.28	B
15	Жұр******* *******мқызы		87(B+)	88(B+)		83(B)	85(B+)		80(B)			100(A)	89(B+)	87(B+)	93(A-)	9	30	3.45	B+	3.32	B	3.05	B
16	Каз******* *******ы	20200733	94(A-)	96(A)		90(A-)	92(A-)		85(B+)			92(A-)	91(A-)	75(B-)	73(C+)	9	30	3.28	B	3.12	B	2.73	B-
17	Ке******* *******ы		91(A-)	84(B)		89(B+)	85(B+)		84(B)			94(A-)	81(B)	71(C+)	80(B)	9	30	3.09	B	3.24	B	3.08	B
18	Кур******* *******ектесұлы	20200734	90(A-)	94(A-)		75(B-)	63(C-)		87(B+)			95(A)	95(A)	86(B+)	50(D)	9	30	3.06	B	3.11	B	2.86	B-
19	Мамр******* *******қызы	20200735	94(A-)	98(A)		90(A-)	93(A-)		89(B+)			93(A-)	95(A)	79(B-)	76(B-)	9	30	3.39	B+	3.3	B	3.01	B
20	Наме******* *******тқызы	20200736	92(A-)	98(A)		85(B+)	92(A-)		83(B)			92(A-)	97(A)	60(C-)	75(B-)	9	30	3.18	B	3.01	B	3	B
21	Пе******* *******тұлы	20200737	95(A)	98(A)		80(B)	95(A)		90(A-)			95(A)	95(A)	74(C+)	71(C+)	9	30	3.35	B+	3.18	B	2.94	B-
22	Полат******* *******рұлы	20200738	92(A-)	95(A)		85(B+)	90(A-)		85(B+)			89(B+)	90(A-)	70(C+)	72(C+)	9	30	3.14	B	2.94	B-	2.84	B-
23	Се******* *******ы	20200739	91(A-)	96(A)		85(B+)	93(A-)		86(B+)			94(A-)	94(A-)	73(C+)	70(C+)	9	30	3.2	B	2.98	B-	2.84	B-
24	Тұрл******* *******рбайқызы	20200740	94(A-)	97(A)		90(A-)	95(A)		89(B+)			97(A)	96(A)	74(C+)	72(C+)	9	30	3.35	B+	3.37	B+	3.44	B+
25	Усен******* *******ызы	20200742	93(A-)	98(A)		90(A-)	97(A)		87(B+)			92(A-)	97(A)	81(B)	85(B+)	9	30	3.58	B+	3.42	B+	3.14	B
	Excellent		22	22	0	9	20	0	6	0	0	23	19	1	1								
	Good		3	3	0	16	4	0	18	0	0	2	6	21	20								
	Successfully		0	0	0	0	1	0	1	0	0	0	0	3	3								
	Failure		0	0	0	0	0	0	0	0	0	0	0	0	0								
	progress		100	100	0	100	100	0	100	0	0	100	100	100	96								
	quality statistics		100	100	0	100	96	0	96	0	0	100	100	88	84								

disc.num. - The number of disciplines
crdts.num. - Number of Credits

Number of students 25
Of these grades have:
Excellent: 1
good: 24
Mediocre: 0
Unsatisfactory: 0

- [1, 16] - Political science
- [2, 30] - culturology
- [3, 83] - Philosophy
- [4, 1064] - Physical education
- [5, 25] - Sociology
- [6, 501] - Object-oriented programming: C#
- [7, 986] - Psychology
- [8, 3776] - Physiological- psychological development of school children
- [9, 6923] - Basics of computer graphics and design
- [10, 144] - Modern history of Kazakhstan
- [11, 7205] - Foreign language
- [12, 1676] - Kazakh (Russian) language
- [13, 548] - Mathematics 1

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Office receptionist Abdikadirova A.
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Fig. 3. Raw data on student performance

At the stage of data selection, the results of students' training under the educational program «6B01503-Computer science teacher training» were selected.

At the transformation stage, data was converted from XLS format to CSV format and Python libraries such as NumPy, Pandas were used for data processing.

A one-dimensional linear regression model was chosen as a model for the relationship of values between the array of predictors and the performance evaluation vector, the parameters of which were calculated based on data on the academic performance of students.

The objective function of linear regression consists of one feature X, where the feature is the academic performance points for the discipline of the cycle of general education subjects of the educational program, and the target variable Y is the average bachelor's degree score (GPA) Fig. 3.

Ввод [2]:

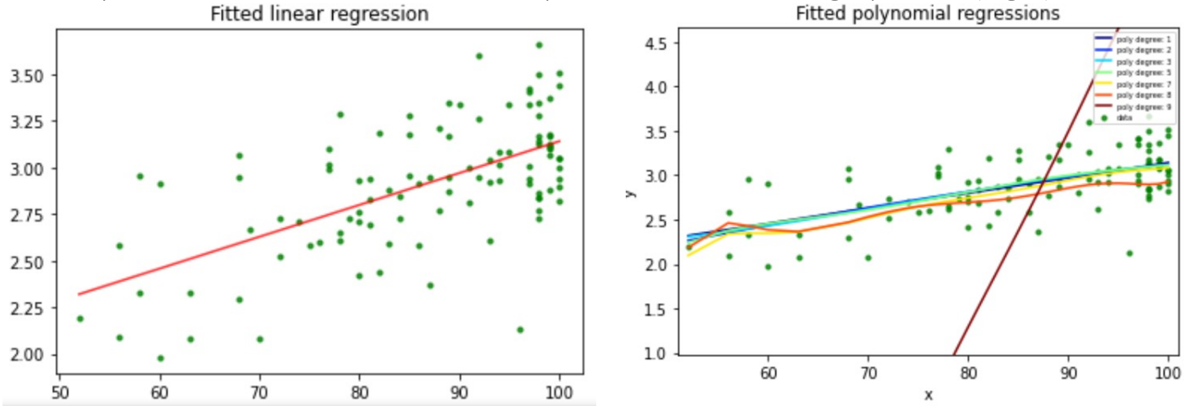
```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
data = pd.read_csv('RegressionL8.csv', sep=';')
data.head()
```

Out[2]:

	X1	Y
0	52	2,19
1	56	2,58
2	56	2,09
3	58	2,96
4	58	2,33

Fig. 3. Features and target variable of the linear regression objective function

Python was used to demonstrate experiments and obtain graphs[15] (Fig.5)



a) b)

Fig.4. a) Linear regression, b) Polynomial regression

On the graph, we can observe two phenomena at once. As the degree of the polynomial increases, the average error continues to decrease.

Table 1. Average error

P	Error
1	0.0756
2	0.0754
3	0.0753
5	0.0752
7	0.0782
8	0.0972
9	7.787

The graph of the function passes exactly through the points from the training dataset, and the higher the degree of the polynomial, the more points it passes through. The degree of the polynomial reflects the complexity of the model. Thus, complex models with a lot of degrees of freedom can simply memorize the entire training set, completely losing the generalization ability. This is a manifestation of the negative side of the principle of minimizing empirical risk. To the 9th degree polynomial, there is clearly something wrong with it. In theory, we expect that the 9th degree polynomial will describe the training data set even better, but the result shows that this is not the case (Table 1).

To eliminate overfitting, additional constraints were added to the conditions of the problem in order to build an algorithm that minimizes the error and the number of variables used. L1 regularization (lasso regression) was used in the study [15] (Fig.5)

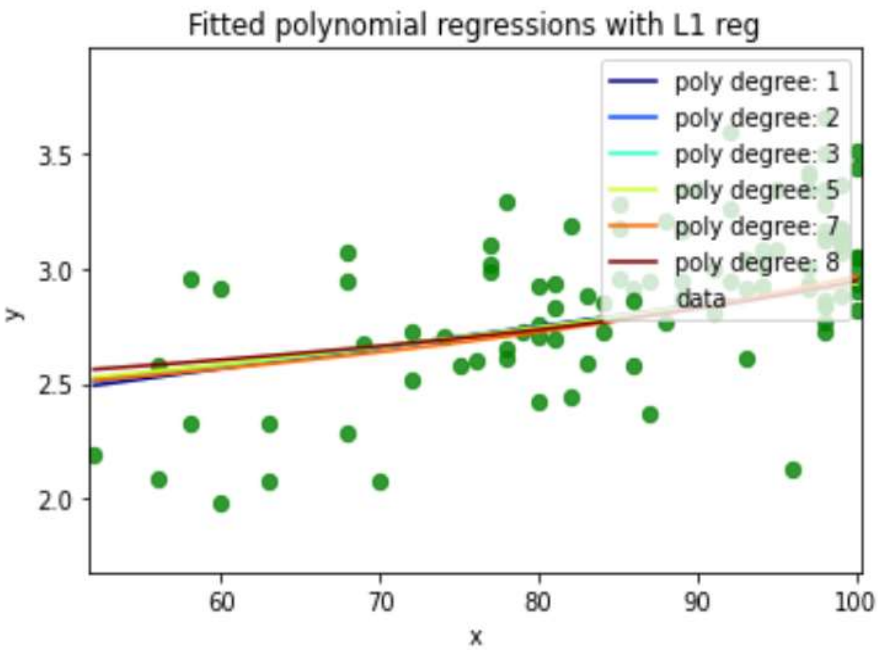
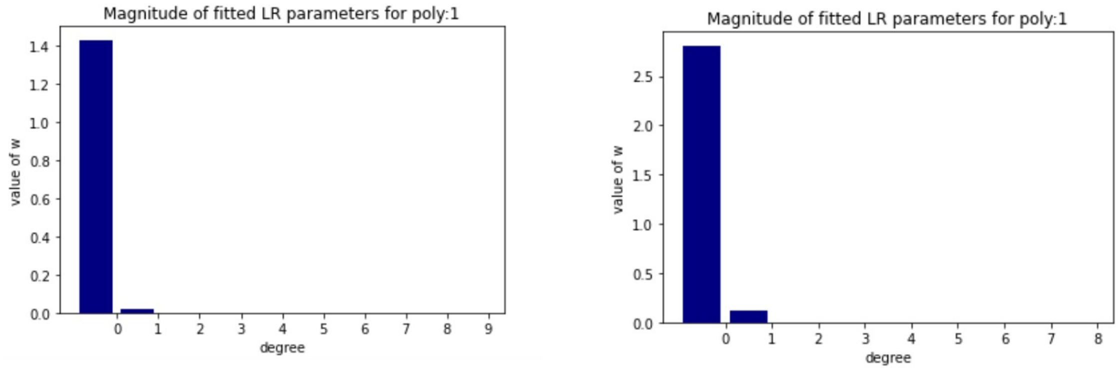


Fig. 5. Polynomial regression with L1 regularization (lasso regression)

The free coefficients of the implementation of the empirical model of linear regression and linear regression with L1 regularization (lasso regression) are presented as a graph.



a) b)

Fig. 6. a) Free coefficients of the objective function of the empirical linear regression model w0=1.43, w1=0.017, b) Free coefficients of the objective function of linear regression with regularization L1 (in lasso regression) w0=2.8, w1=0.12.

The linear regression model helps predict the value of the dependent variable, and can also help explain how accurate the forecast is. This is determined by the values of the parameters of the free coefficients. The value of w1 indicates which part of the variation of the dependent variable can be explained by the independent variable. The values of w1 vary between 0 and 1. A value of 0.12 means that the independent variable can explain 12 percent of the variation in the observed values of the dependent variable. A value of 1 means that it is possible to make an ideal forecast, which is rare in practice. A value of 0 means that the independent variable does not help at all in predicting the dependent variable.

Conclusion

From this study, we learned that data mining is the detection of patterns from data. We have learned that this is a process consisting of a number of stages that cover data preparation, running algorithms and presenting results.

We have learned that machine learning is the tool used in data mining, and that data mining is really a step in the process of discovering knowledge in databases or KDD, and that it has become synonymous with the term because it is easier to say.

We've learned that when we're working on a machine learning project, we're probably doing some form of KDD process with the specific goal of solving a problem, not discovering.

Understanding linear regression is the key to understanding more complex models, up to deep neural networks.

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БОЛАШАҚ МУЗЫКА МҰҒАЛІМІНІҢ ҰЙЫМДАСТЫРУШЫЛЫҚ ҚАБІЛЕТІНІҢ МӘНІ МЕН МАҢЫЗЫ

Сайманов Иманали
аға оқытушы, Қожа Ахмет Ясауи атындағы Халықаралық қазақ-түрік университеті, Түркістан қаласы Қазақстан Республикасы
Азберген Әділет
6В01406- Музыкалық білім мамандығының 2 курс студенті

Әлемде, елімізде, қоғамда болып жатқан өзгерістер, Қазақстан Республикасында Білім беруді дамытудың 2020-2025 жылдарға арналған Мемлекеттік бағдарламасың, 2020-2025 жылдар арасындағы кешенді тәрбие бағдарламасын іске асыру қазіргі заманғы болашақ музыка мұғалімге жаңа талаптар қояды. Қазіргі заманғы болашақ музыка мұғалім қандай болуы керек?

Әлбетте, бұл сұраққа бірден жауап беру қиын. Әйтсе де, талаптанып көрейік. Біздегенше, ұйымдастырушылық - коммуникативтік дағдыларды дамыту үшін жағдайлар жасап, окушылардың бойында білімді шығармашылыкпен қабылдауға ұмтылысты дамыта алатын, оларды дербес ойлауға, материалды зерделеу барысында өзіне қоятын сұрақтарды, дербес тұжырымдауға үйрететін, олардың қажеттіліктерін толығырақ іске асыратын, пәндерді зерделеуге ынтасын арттыратын, олардың жеке бейімдіктері мен дарын нышандарын ұштай алатын, ынталандыра алатын адам.

Бүгінгі болашақ ұстаз үнемі ізденіс үстінде, сондай-ақ ол "мектеп оқушыларын не нәрсеге оқыту керек?" деген көкейкесті проблемалық сұраққа жауап іздейді. Өз ісіне деген сүйіспеншілікті шәкірттерге деген сүйіспеншілікпен ұштастырады, балаларды оқытып қана қоймайды, сонымен бірге өз шәкірттерінен де оқып-үйрене алады. Әрбір баланың жан түкпірінде жатқан ең тәуір сапаларды анықтауға, балаларды көтермелеуге тиіс. Сонда ғана олар мектепті бітіргеннен кейін өздерінің қоғамдағы орнын анық сезініп, оның игілігі үшін жұмыс істей алады, қоғамымыздың ағымдағы және келешектегі міндеттерін шешуге қатысуға тастүйін дайын болады.

Қазіргі заманғы болашақ музыка мұғалімі — бұл кәсіби маман. Педагогтың кәсібилігі оның кәсіби жарамдылығымен, кәсіби жол табуымен, дербес дамуымен, яғни өз бойында кәсіби қызметті орындау үшін қажетті қасиеттерді мақсатты түрде қалыптастыруымен анықталады.

Қазіргі заманғы педагогтың, шебер педагогтың айрықша белгілері ұдайы өзін-өзі жетілдіру, өзіне-өзі сын тұрғысынан қарау, білімдарлық және жоғары еңбек мәдениеті болып табылады. Мұғалімнің кәсіби өсуі өздігінен білім алу қажеттілігінсіз мүмкін емес. Қазіргі заманғы мұғалім үшін ешқашанда қол жеткен межеде қалып қоймай, қайткенде алға қарай жүру өте маңызды. Өйткені мұғалім еңбегі - шексіз шығармашылық үшін сарқылмас қайнар.

Қазіргі болашақ музыка мұғалімі үшін оның мамандығы — өзін-өзі іске асыру мүмкіндігі, қанағаттану мен жұртшылықтың тану көзі. Қазіргі заманғы мұғалімі — жадырап күле алатын және төңірегіндегінің бәріне қызыға қарайтын адам. Өйткені әзірше бала мұғалімге қызыға қарайды, сондықтан да мектеп өз тұғырынан түскен жоқ, әлі де өз орнында, әлі де жасай береді.

Педагогиканы демократияландыру болашақ мұғалімге ұйымдастырушылық - коммуникативтік үшін барынша көп мүмкіндіктер береді. Алайда, өкінішке қарай, көптеген педагогтар ұйымдастырушылықты жаңа сабақтарды, тәрбиелеу мен оқытудың жаңа әдістерін әзірлеу деп қана ойлайды.

XXI ғасырдың болашақ музыка мұғалімі — педагогикалық қызметтің әр алуан салаларындағы өз жұмысының қорытындыларын шығаруға, өз тәжірибесін жинақтауға міндетті түрде ұмтылатын тәжірибелі технолог, ұйымдастырушы.

Болашақ мұғалімін даярлау – күрделі де көп деңгейлі үрдіс, ондағы ұйымдастырушылық ептілігі кәсіби-педагогикалық-біліктіліктің компоненті. Әрине өз бетінше жұмыс істеу арқасында олар уақыт өте дамиды. Сол себепті, осы жұмыс алдында мұғалімінің ұйымдастырушылық – коммуникативтік қабілетін оқу-тәрбие мәселелерін шешу кезінде қалыптастыруы дұрыс.

Болашақ музыка мұғалімінің ұйымдастырушылық - коммуникативтік қабілеттерінің деңгейі мен даму дәрежесі оның психологиялық мәдениетіне байланысты, тұлға мәдениеттің бір бөлігі етінде. Психологиялық мәдениет құрылымы: адамның психикалық іс-әрекет заңдылықтары туралы психикалық білім; оларды балалармен эстетикалық жұмысты ұйымдастыру үрдісінде қолдану ептілігі.

Мектептік аудиторияның психологиялық өзгешеліктерін білу деген, қызығушылық, құндылықтар бағыты, танымдық мүмкіндіктері, тұлғалық қарым-қатынас және т.б. (Ф.Н.Гоноболин, И.А.Зязюн, С.Н.Козлов, Н.В.Кузьмина, В.А.Сластенин, А.И.Щербаков және т.б.). Мұғалім іс-әрекетін зерттей келе Ф.Н.Гоноболин мынадай тұжырым айтады: «Тұлға қасиеттерін, педагогикалыққа да қажетті қасиеттерді екі топқа бөлуге болады: жалпы тұлға қасиеттері (жігер, мінез – құлық) және педагогикалық қабілеттер (бағыттылық, мұғалімінің сөйлеу мәдениеті, ұйымдастырушылық қабілеті, коммуникативтік қабілеті)». Автор ұйымдастырушылық қабілетті педагогикалыққа жатқызады Олардың негізінде, автордың ойынша, жалпы ұйымдастыру, тәртіп сақтау, нақтылық, қажетті әрекеттердің дер кезінде орындалуы. Ұйымдастыру қабілетін Л.И.Ушанский жалпы тұлға қасиеттеріне теңейді, олар:

- белсенділік (практикалық тапсырмаларды ынта-жігермен орындау ептілігі);
- тың ұсыныстар (идеялар мен ұсыныстардың белсенді айқындалуы);
- ой алғырлығы (құбылыс мәнін түсіну қабілеті мен негізгіні, маңыздысын, қарама-қайшылықтарды анықтау);
- табандылық (қиыншылыққа төтеу);
- еңбекқорлық (шыдамдық, жұмысты тиянақты орнытдау, төзімділік);
- тіл табысу (адамдармен қарым-қатынас орнату, тартымдылық):
- байқаушылық (мәндісін, маңыздысын анықтау, оны есте сақтау);
- өзін-өзі қадағалау (түрлі жағдайда өз жүріс-тұрысын, көңіл-күйін қадағалау);
- өз бетінше әрекеттену (мәселелерді өз бетінше шешу және өз шешімін қабылдау;
- құзреттілік (өзі ұйымдастыратын пәнді білу):
- ұйымдастырушылық (өз жұмысын жоспарлау, ондағы бірізділік, жинақтылық).

Әрине, ұйымдастырушылық жұмысы болашақ музыка мұғаліміне ерекше талап қояды. Өйткені, болашақ музыка мұғалімі – тәрбиелік іс-шараларды өткізу үшін қажетті шығармашылық белсенділік, ой-ұшқырлық, байқаушылық қабілеттерді ескеруі тиіс, олар жоғары деңгейлі интеллект белгісі.

В.С.Сухомлинскийдің пікірінше ең маңызды тұлға қасиеті өзін-өзі меңгеру. Мұнда ұйымдастырушы болу үшін өз оқушының ойын, көңіл-күйін, өмір-тіршілігін білу керек. Және де ұйымдастырушылық ептілігін көрсетуде қуат-қайсарлық та өте маңызды. Қайсарлық белгісі тәртіптілік, өз бетінше әрекеттену ұстамдылық, ал ол үшін сенімсіздік, қорқу сезімін тежеп, өзін-өзі байқау ептілігін қолдану қажет. Басқаша айтсақ, оқушылармен өткізетін жұмыстарды ұйымдастыруда нақты жағдайды бақылап, мақсатқа жету үшін ынта жігермен жұмыс істеу керек.

Әлеуметті-психологиялық құбылыстар структурасы ұйымдастырушылық қабілеттерді көрсетуде шешуші роль атқарады: жиналыстар (мотивтер мен түсініктер); әлеуметтік-психологиялық жағдай (көңіл-күй, пікір); әлеуметтік-психологиялық үрдіс (сендіру, түсіндіру); ептіліктер жинағы, ол деген белсенді де жігерлі әрекеттер ептілігі. Ұйымдастырушылық қабілеті болашақ мұғалімнің маңызды сапа-қасиеті оқу-тәрбие жұмыстарында жоғары нәтижелерге жету ынтасы.

Қазіргі күнгі психологтар (К.А.Абдульханова-Славская, Ж.И.Намазбаева және т.б.) ынта жігерді белсенділік формасы деп танытады, өзінше «шығармашылық бастамасы». Ғалымдардың осы пікірімен келісе отырып, біздің ойымызша, осы ынта-жігер өзін-өзі түсіну қабілетін дамытады, кәсіби көтерілу ниетін кеңейтеді де, білімді, ептілік пен дағдыларды молайтуға көмектеседі.

Ұйымдастырушылық - коммуникативтік дағдылар тұлғаның функциональды-динамикалық сапа-қасиеті деп қарастыру, болашақ мұғалімнің кәсіби тапсырмаларды орындауға бағытталған әрекеттерінің тірегі деген түсінікті бекітеді. Ұйымдастырушылық қабілеттің негізінде кәсіби эрудиция, тіл табысу, мейірімділік, талап қою, назар аудару. Эмпатия, педагогикалық шеберлігінің бір құрамдас бөлігі ретінде ұйымдастырушылық қабілеті оның даралығын, педагогикалық техникасын айқындайды (эмоциональды сезімталдылық, педагогикалық интуиция, көркем ой, импровизация жасау қабілеті, сөйлеу мәдениеті, мимика, қимыл-әрекеттері, педагогикалық ықпалы).

Ұйымдастырушылық қабілетін қызметі:

- интегративті қызметі, мұғалім топ ішіндегі әрекеттерді өзара байланыстыру, үйлестіру, бағыт-бағдар беру;
- болжамдық қызметі, әрекеттерді болжау;
- коммуникативтік қызметі, ол алғашқыларымен байланысты.
- Ең маңыздысы, ұйымдастырушылық қабілеттің іс-әрекетті бағыттау қызметі. Сол себепті А.И.Ушанскийдің пікірінше: «ұйымдастырушы – қашанда жетекші, бірақ та жетекші ұйымдастырушы бола алмауы да кездеседі». Сондықтан, педагогикалық жұмысты жоғары дәрежеде дамыған ұйымдастырушылық қабілетінсіз орындау мүмкін емес.

Практикалық зерттеу нәтижесінде болашақ музыка мұғалімінің жеті ұйымдастырушылық қабілетін анықтадық. Оларды нақты мәселені шешу барысымен байланыстырдық. Мысалыға, «оқыту барысында танылуын, тәрбие беру мәселелерін шешу». Жұмыс мақсатын анықтауға бағытталған. Ал «оқушылар іс-әрекетін жоспарлау» қабілеті деген жұмыс кезеңдерін, ретін, орындау мерзімін, орындау жауапкерлігі, жоспарды құрау: «тәрбиелік іс-шаралар мен сабақта шығармашылық орта, ахуал орнату ептілігі», бұлардың бәрі танымды іздену жұмыстарын эмоциональды нығайту, ал «оқушылардың әртүрлі жұмыстарын ұйымдастыру» деген музыкалық лекторий, хор класын, оркестр және т.б. жұмыс түрлерін ұйымдастыру жұмыстары.

«Аудиториямен дискуссия ұйымдастыру» ептілігі болашақ мұғалімнің оқушыларды жалпы педагогика саласындағы мәселелерді талдау жұмысына ендіру әрекетінен байқалады. «Өзінің психологиялық жағдайын басқару» ептілігі дегеніміз педагогикалық такт, ұстамдық, көңіл-күйді реттеу және т.б., ал «оқушылар мүмкіндіктерін, қабілеттерін, қызығушылығын, ескеріп тапсырмалар дайындау» тапсырмаларды дайындау ептілігі деген сөз.

Болашақ мұғалім білім беру мен тәрбие жұмыстарының барлық түрлерін ұйымдастыра отырып, белсенді педагогикалық ұстаным да жүзеге асыруы керек. Ол үшін, В.А.Сластениннің ойынша ғылыми әдебиетте берілген жүздеген қабілет, ептілік қажет емес, тек жалпы алғанда бірнешесі де жеткілікті. Ғалымның ойынша, олар мынадай болса да болады:

- ұжым немесе тұлғаның қалыптасу деңгейін анықтау қабілеті;
- дамыту мақсатында міндеттерді айқындау;
- мақсатқа жету үшін тиімді құралдарды қолдану мен таңдау;
- нәтижелерді бағалау, оларды өзара салыстыру, сараптау және олардың себебін анықтау.

Болашақ мұғалімінің қызметіндегі ұйымдастыру жұмысы оқу-тәрбие үрдісін ұйымдастырумен байланысты. Бұл деген оқыту материалын сараптау, оқу-тәрбие жұмыстарының әртүрлі формаларын ұйымдастыру, сабақтарда мен сыныптан тыс жұмыстарындағы өз әрекеттерін жоспарлау. Ол үшін мынаны білу керек:

Мектептегі оқушылардың іс-әрекеттерін ұйымдастыру негіздерін;

«Оқу» бағдарламасының мазмұнын, оның теориялық негіздері мен дидактикалық қағидаларын және әдістемені;

Сабақта, сыныптан тыс іс-шараларда қолдану үшін әдебиет шығарманың көркем бейнелік мәні мен құндылығын анықтау:

- оқушылардың жас ерекшелігін ескеру.

Ұйымдастырушылық қабілетті айқындайтынептіліктер:

- оқу-тәрбие жұмыстарының тиімді формалары мен әдістемені таңдай алу;
- музыка сабағын құрастыру: жоспар-конспекті жазу, қажетті музыкалық шығармаларды таңдау, музыканы оқытудың тиімді әдісін қолдану;
- педагогикалық мәселелерді шешу мен негіздеу;
- Оқу бағдарламасын меңгеру мақсатындағы ретроспективті және перспективтік мәселелерді шешуде проблемалы педагогикалық жағдайларды қолдану немесе құрастыру;
- оқушылар музыкалық қабілетін барынша толық көрсете алатын музыкалық іс-әрекеттер түрлерін мақсатқа сай және жас ерекшеліктерін, музыкалық, орындаушылық жағын ескере отырып таңдау;
- мұғалім оқушылар орындаушылықептілігі мен дағдыларын қалыптастыруды негізгі білімдерді меңгерту ісімен байланыстыру, өзінің педагогикалық әрекеттерін жобалау;
- оқушыларды өз бетінше тұжырым айтуға жетелеу; оқушыларды орындаушылық әрекеттердің барлық түрлерін белсенді меңгеруге бағыттау; оқытуда техникалық құралдарды қолдану.

Жаңа білім беру тұжырымдамасы мен қазіргі күнгі қоғамда болашақ мұғаліміне қандай шығармашылық іс-әрекеттер арқасында өзін таныта алады? Біздің ойымызша олар мынадай болуы мүмкін дейміз:

- танымды шығармашылық, ол деген мұғалімнің оқыту мен тәрбиелеу мазмұнындағы бағыттарды білу; оқушының ішкі көңіл-күйін айқындау; өзінің психикалық жағдайын ішкі көңіл-күйін айқындау; өзінің техникалық жағдайын бақылау және өз іс-әрекеті мен оның нәтижелерін бағалау, жетістіктері мен кемістіктерін талдау;
- жобалау-құрастыру шығармашылығы, ол деген педагогикалық мазмұндағы ақпараттардың мақсаты мен міндеттерін тұжырымдай алу; ақпаратты меңгерту мақсатында оқушылар іс-әрекетін жобасын құрау; оқушылармен өзара әрекеттесу кезінде өзінің іс-әрекеттері қандай болатынын болжау;
- ұйымдастыру шығармашылығы, өз бетінше және бірлесе әрекеттесу істерін ұйымдастыру жоспарын және перспективасын құрауептілігі; технологиялар қарастыру; оларды тиімді жүзеге асыру құралдары мен әдістемені таңдау; объектпен өзара әрекеттесу мен кері байланыс орнату мақсатында тиімді тексеру жүйесін ұйымдастыру;
- коммуникативтік шығармашылық – қатынас орнатуептілігі, ақпаратпен алмасу және соның негізінде педагогикалық үрдіске қатысушылармен қатынас орнату. Қатынас

орнатудағы мақсат – оқытушы мен оқушы арасында рухани бірлікке жету, соның қатарында жұмыстағы әріптестерімен, ол өзінің басқа адамдармен саналы қатынас орнатуға көмектеседі.

- Болашақ мектеп мұғалімі жас ұрпаққа білім беріп қана қоймайды, сонымен бірге оларды тәрбиелейді. Әр оқушының ғылыми-материалистік дүниетанымын және моральдық бейнесін қалыптастырады. Тәрбие жұмысын бір бағытқа салып, оқушыларға қойылатын талаптардың бірлігін қамтамасыз ету сынып жетекшісінің негізгі міндеті болып табылады. Бұл одан өте үлкен жауапкершілікті талап етеді.
- Қазіргі кезде қоғамдағы әлеуметтік-экономикалық өзгерістерге, мектептегі тәрбие жұмысының қайта құрылуына байланысты болашақ мұғалімінің міндеттері де күрделеніп, жаңа сипат, жаңа мазмұнға ие болып отыр. Оның бүкіл іс-әрекеттерін айқындайтын негізгі міндеттер мыналар:
- 1. Өз сыныбындағы оқушылардың талап-тілектері мен мүдделерін және олардың жеке басының ерекшеліктерін жан-жақты зерттеу;
- 2. Сыныптағы оқушылардың не нәрсеге бейімділігін анықтап, оларды ынтымағы жарасқан, жұмысқа икемді ұжым етіп, ұйымдастыру;
- 3. Оқушыларға арналған ережелердің талаптарын түсіндіру арқылы жауапкершілікке тәрбиелеу;
- 4. Оқушылардың ата-аналарымен үнемі байланыс жасау;
- 5. Оқушылардың оқуын тастап кетпеуі үшін алдын-ала тиісті шаралар қолдану;
- 6. Оқушылар арасында сыныптан тыс жұмыстарды ұйымдастыру.
- Болашақ мұғалімі жұмысының мазмұнын анықтауда мектептің және сыныптың нақтылы жұмыс жағдайын, оқушылардың жас және даралық ерекшеліктерін, сыныптың тәртібі мен оқу үлгерімі дәрежесін, мұғалімдер құрамын ескеру қажет және тәрбие жұмысын белгілі бір жүйемен жүргізу міндет. Мысалы, мұғалім өз сыныбындағы оқушылардың ерекшеліктерін, қабілеттері мен зейінін, интеллектуалдық даму деңгейін ескеріп, оларды "Дарын", "Іскерлер", "Шеберлер", "Ептілер" атты төрт топқа бөліп, жұмыс жүргізсе болады.
- "Дарын" тобына, әсіресе, табиғи дарыны мол, жаратылысынан музыкаға, поэзияға бейім оқушыларды топтастыруға болады. Ал, "Іскерлер" тобына іскер, белсенді, қоғамдық жұмыстарға аса жауапкершілікпен қарайтын оқушыларды іріктеп алу керек. Сондай-ақ, "Шеберлер" тобына бес саусақтарынан өнер тамған қылқалам шеберлерін жатқызып, "Ептілер" тобына епті де күшті, спортқа қабілеті бар, шымыр оқушыларды жинаса болар еді.
- Болашақ мұғалімі жұмысының қай саласын алсақ та, соның бәрінде де табысқа жетудің негізгі кепілі — оқушыларды жақсы білу. К.Д.Ушинский "Адамға тәрбие беру әдістері" атты белгілі еңбегінде: "Тәрбие беру өнері жұрттың бәріне дерлік таныс және түсінікті іс, ал кейбіреулерге, тіпті, оңай іс болып көрінетін ерекшелігі бар - бұл, адамның онымен теориялық немесе практикалық таныстығы неғұрлым азырақ болған сайын, соғұрлым түсініктірек және оңайырақ болып көрінеді. Жұрттың барлығы дерлік тәрбие беру төзімділікті талап ететінін мойындайды, кейбіреулер бұл үшін туа біткен қабілеттілік пен дағдыдан басқа арнайы білім қажет екеніне... көз жеткізеді" деген екен. Олай болса, оқушыларға жақсы тәрбие беру міндеттері оларды мақсатқа сай, жүйелі түрде зерттеп - білуді талап етеді [20].
- Оқушылардың жеке басының ерекшеліктерін танып-білуге ықпал жасайтын негізгі қозғаушы күш - оқушының басты іс-әрекеттері - оқу және қоғамдық жұмыстары. Сондықтан да олардың даралық ерекшеліктерін оқыту және тәрбиелеу үрдісінде зерттеп білу керек.

- Болашақ мұғалімнің тәрбие жұмысының бір түрі — оның сыныппен өткізетін тәрбие, сынып сағаты. Сынып сағаты аптаның бір күнінде сабақ кестесінен орын алып, өткізілуі тиіс. Сынып сағатында кластағы барлық тәрбие жұмысын топтастырып жүргізуге болмайды. "Сағат — уақыт өлшемі". Бұл уақыт балалар арасында тәрбие жұмыстарын жүргізу үшін бөлінген, сондықтан оның өз ерекшелігі бар. Туристік жорықтар, экскурсиялар, спорттық жарыстар сияқты тәрбиелік шараларды сынып сағаттарымен ауыстыруға, сондай-ақ сынып жиналыстарын өткізуге байланысты сынып сағаттарының уақытын пайдалануға болмайды. Сынып жиналысы оқушылардың қоғамдық ұйымдарының белгілі бір шараларды іске асырудағы өзін-өзі басқару формасы болып табылады. Мұндай жиналыстарды сынып жетекшісі басқармайды, оны арнайы жиналыс сайлаған оқушы немесе активінің басшысы, сондай-ақ мектеп кеңесінің мүшесі басқарады. Әдетте сынып сағаты этикалық, эстетикалық, танымдық, имандылық әңгімелер өткізуге арналуы тиіс. Яғни, "шыдамы шексіз, көңілі кексіз, еңбегі ерен, білімі терең ұстаз болу — мақсатымыз!!!".
- Тәрбие — халықтың ғасырлар бойы жинақталған ізгі қасиеттерін жас ұрпақтың бойына сіңіру, баланың қоршаған ортадағы қарым-қатынасын, өмірге деген көзқарасын қалыптастыру. Ал тәрбиенің негізгі мақсаты — дені сау, ұлттық сана-сезімі, рухани ойлау дәрежесі биік, мәдениетті, ар-ожданы мол, іскер, бойында игі қасиеттер қалыптасқан адам тәрбиелеу. Жалпы оқушылардың өмірінде мектептегі тәрбиенің рөлі зор. Мектептегі басты тұлға ұстаздың міндеті тек білім беру ғана емес, сонымен қатар әрбір оқушының жүрегіне жол тауып, оларды тәлім-тәрбиемен сусындату болып табылады. Бұл тұрғыда тәрбиенің мынадай құралдарын қолданғанымыз жөн: сөз, өнер, ойын, әлеуметтік орта, еңбек құралдары, спорт. Әсіресе сөз бен әлеуметтік ортаның маңызы айрықша. Себебі сез әрдайым көңіл құлпын ашатын кілт боп есептеледі, яғни оқушыға кейде сын көзбен қарап, қоғамдық пікір айта білсек, талап қойып, болашаққа ұмтылуға сендірсек, келешекте абзал азамат шығары сөзсіз.

Technological capabilities that increase motivation in teaching English

Məmmədova Rübabə
Nakhchivan State University, senior teacher

Summary

Being a social being, man cannot live alone by nature. People always want to share their feelings and thoughts with someone because they have to live together to meet their material and spiritual needs. Humans communicating with others have developed languages and societies through a system of secret agreements and coexistence. The peoples who formed a high culture and reached a certain level of well-being developed over time and managed to communicate with different societies. People have started using foreign languages to benefit from or influence different cultures, which has arisen out of endless necessity since the beginning of societies. The article deals with technological capabilities as important factors that increases motivation in teaching English.

Keywords: English, linguistic, communication, teaching foreign languages, motivation

Recently, all countries in the world have entered into close political, economic and cultural relations by opening up abroad. At the same speed, foreigners also planned to go to different countries for similar reasons. The main focus of these relations is undoubtedly the English language. This language was formed in the conditions of interbreeding and settlement of various ethnic groups in the British Isles and has gone through a long and complicated path in the process of its development (6, p.6). Not knowing English, which is a common means of communication, is the biggest problem of people opening up to the world. This situation also affects people psychologically. Along with the elimination of borders between countries and cultures by means of technological communication, people's exposure to the world and their interest in learning a foreign language have partially increased. Learning styles based on personality, age, gender, motivation, life experience and other methods are distinguished as the most important factors in the learning process for foreign language learners. Deeply synthesizing these factors and solving problems through new ways, teaching a foreign language can be possible on a solid foundation (1).

It is a fact that in spite of all these efforts, the results in English language learning are far below the desired success. With various applications, students are given the opportunity to simply take a foreign language course and take notes. The most important factor behind this is the problem of motivation and the introduction of methods that have been discussed for years, but there are serious problems in solving them. The problems that lead to not achieving the desired results in education are analyzed from two important aspects;

1. Methodological problems in teaching foreign languages
2. Problems of lack of motivation in teaching foreign languages

In language teaching, increasing the student's desire to learn, eliminating the fear of making mistakes, reflecting the relationship between culture and thought, providing a learning environment where they can feel at peace are some examples of important and relevant psycholinguistic research. Today, subjects related to motivation in teaching foreign languages have gained a scientific identity and it has been determined that without motivation research, which is considered one of the main elements in teaching, it is not possible to achieve any goal (2). Motivation and self-confidence are mentioned as two important factors that directly affect an individual during language learning. It is believed that the teacher's activities that create conditions for students to learn a foreign language should occupy a large place in education. Compared to young people, the older generation refuses to learn a foreign language because they are worried about making various types of mistakes and do not undertake it. However, philosophically speaking, the path to almost all truth and beauty is possible by making mistakes. Individuals learning a foreign language should pursue it without losing enthusiasm, without fear, without hesitation, even if they are ridiculed. Over time, when these problems are resolved, individuals will enjoy speaking the foreign language they have learned. The idea that there are difficulties in learning English is a negative motivation for those who want to learn it. People believe that they cannot learn a foreign language after a certain age. However, it is ingrained in the minds of adults that they can learn a foreign language by studying mathematics and preparing themselves grammatically and by doing lots of exercises. They show that adults can learn a foreign language as the only way. The fear of making mistakes keeps people away from learning a foreign language and naturally discourages adults from learning a foreign language. In class, as always, the teacher must face the mistakes he made when faced with this situation. Students should not be impatient in this matter and should not focus on their mistakes. In his speech, the student should pay attention to the content of the speech, not the sentence structure. Students should do everything they can to minimize the defeat they feel because of their mistakes.

We can assume that the Americans and the British will support their own language (3, p. 74). It has been observed that the level of speaking a foreign language is high in a country, and the effort to learn a foreign language is correspondingly high. People usually enter into competition in this direction and fight to the end to achieve the goal. Individuals do not force themselves to learn a foreign language, they often shy away from the idea of purposeful work. Because setting a goal is a situation that binds people and puts them under stress and tension. On the other hand, if people do not achieve their goals, they feel that they will not be able to keep their promises and will be disappointed. Of course, people who want to learn English have the same attitude. Individuals are afraid of putting themselves in difficult situations and rarely take certain risks. The most important reason why people live together and find it difficult to communicate with the dominant community abroad is that they do not learn the language of that country. Some people prefer to stay within themselves, rather than learn the local language and enter public life. In fact, to get rid of this situation, sometimes you can go to language courses several times. But in most cases, they do not show patience and do not continue these courses. Unsuccessful attempts are followed by others.

Researchers believe that foreign language teaching should start from childhood. Because linguists and educators believe that teaching foreign languages at a young age will greatly contribute to the child's cognitive development. In addition to developing language skills, the learned foreign language accelerates the process of acquiring the mother tongue. However, children say goodbye to learning a new language at an early age, and the main reason for this is that the approaches that will attract children's attention have not yet been fully discovered. It is common for children to learn a foreign language faster and easier than adults and to have intuitive language ability. According to a study conducted on children immigrating to America, it was determined that 65% of children between the ages of 1 and 6 speak this language without an accent. In addition, 8% of children aged 10-13 speak without an accent, and children aged 3-7 pay more attention to the phonetic features of the acquired language. It has also been observed that preschool children learn a second language with more accurate pronunciation. For this reason, it is recommended that foreign language education should be started from a young age.

One of the most important reasons why individuals fail to learn a foreign language is that they use the wrong methods and lose motivation. Emphasizing grammar rules in a foreign language has led to the formation of certain hereditary prejudices in those who study it. Because these prejudices are passed down from generation to generation, individuals give up on learning a foreign language before they even start (4). It is not right for people to try to learn a foreign language in this way, because they still struggle to learn the grammar of their mother tongue. Learning English in this way has brought out some doubts. Teaching a foreign language should be done by imitating how a child learns his mother tongue. It is recommended to learn by seeing, hearing and repeating as one learns the mother tongue.

Among the factors that cause students to lose motivation, it is seen that teachers who have the most important function in teaching a foreign language do not use the language they teach in the classroom, in the corridor, in the garden. In private educational institutions, students' English and pronunciation are really good. Because students in these places use every opportunity to communicate in English. An important finding is that they communicate with others in English during recess. Foreign language teachers cannot speak the language they teach in practice as much as they know the grammar well. unequivocally, rote language teaching methods should be abandoned. Some old methods still valid in secondary education and universities should be abandoned and modern new methods should be promoted

Linguistic movements and pedagogical approaches that deal with different aspects of language have had profound effects on foreign language teaching (7, p. 2). There are no schools or universities with special programs for foreign language teaching. Therefore, it is a matter of discussion whether foreign language teaching in secondary educational institutions with a different program is in line with the expectations of higher education. In this case, because there is a communication gap between secondary and higher education, foreign language education policy is not defined at the national level. Although defining such a policy and putting it into practice is necessary for the effectiveness of education, it is still being neglected. Private universities and some independent institutions have relatively solved the problem of foreign language teaching. These institutions, which have sufficient economic opportunities, carry out teaching by bringing teachers from abroad. Students are highly motivated to communicate with a native English speaker. Communicating with a stranger and spending time with him is something that students are very interested in. The success of private institutions' summer vacation language teaching is also due to the fact that these institutions organize practical trips to other countries for students, which is an important factor in language teaching. Another effective and common way of learning a foreign language is to go and live in the country of the language being studied. Language becomes permanent because it is taught in a real environment. Language is acquired on the street, in public transport, in the market, that is, in the natural environment. Such foreign language learning activities can be done by staying with a predetermined family or by exchanging students between schools. People who go to study or work abroad learn a foreign language, especially academically, in this way. In addition, private consulting companies periodically send students abroad for foreign language courses and provide assistance to those who wish to learn a foreign language. Foreign language was learned not as a tool to open up to contemporary information sources, but because it was thought that everyone should know it (5, p. 30).

The fact that individuals do not know the structure of their native language and do not learn it well is considered another important factor that causes English language teaching activities to be ineffective. Because learning other languages is not easy for those people who do not know their mother tongue well. First of all, partial knowledge of the grammar of the mother tongue helps people to learn a foreign language. The ability to understand what is read, to communicate feelings and thoughts to others, and to think correctly depends on the ability to use language. Looking at this situation from another perspective, those who do not know a foreign language do not fully know their own language. Instead of teaching a foreign language to individuals with a single teaching method, taking into account that their preferences and motivations for different teaching methods may be different, adapting the foreign language teaching method accordingly will make foreign language teaching more efficient.

Today's rapidly developing technology has enabled people to build close relationships on a personal and social level. However, the need to learn a foreign language has increased significantly compared to the past. For a long time, systematic research on English language teaching and excellent teaching has been carried out everywhere. Different teaching methods have been tried in this direction. However, it is also true that, unfortunately, even a student who has passed the foreign language teaching qualification, which continues from secondary education to the end of higher education, has not mastered that language at the required level. Methodological errors in teaching a foreign language often bring new searches and solutions to the agenda.

The phrase "One language, one person, two languages, two people" has been important since the past, and it has further generalized the importance of knowing a foreign language. Therefore, he paid attention to foreign language teaching institutions and teaching methods and educational technologies. Teaching with technology has already been commercialized and significant investments have been made in this area. In our time, it is believed that English language teaching in the world should be done with new methods and methods that support technology. When the technology-based foreign language teaching and learning activities applied as a widespread method in the world are examined, the Bosnia and Herzegovina model is considered to be quite effective. Foreign films and TV series are broadcasted in their original languages and subtitled in Bosnian. There are no dubbed movies on these TVs. While Bosnians listen to movies (usually in English) with their original audio, they read them with Bosnian subtitles. Perhaps as a result, everyone can speak English on the streets of Bosnia. From this point of view, we are a society that has been in the television press for a long time. This situation can be translated if the time is far from laziness and very useful. Thus, the time and costs spent on dubbing will be eliminated, and the opportunities provided by the technology, which is often complained about due to its disadvantages, will be used in a positive way. If this becomes a necessary policy, people will naturally learn the English words and sentences they hear on TV. As the simple sentences learned in this way are processed, people become more motivated and believe that they can learn a foreign language.

From this point of view, we believe that in the context of formal education in universities or courses, television programs can be in the original language, English. The history of the English is believed to begin in the 5th century AD (8). We can then further enhance individuals' foreign language experiences by subtitling in their native language. In any case, learning and mastering a foreign language will be easier and faster with this method. Because individuals learn their mother tongue by imitating the sounds they hear from the environment. People who are in front of the TV for a long time will become a habit of the foreign words and sentences they hear on the TV. Second language learners should focus on the target language in the television programs they will watch, the newspapers, magazines or books they will read, the radio channels they will listen to at home or in the car, and the films they will watch in relation to formal education.

In today's technologically changing world, language teaching is also affected by these changes. People want to learn a foreign language even without attending classes or courses. Foreign language teaching programs prepared with technological means attract the attention of young people in particular. Some programs have been developed for teaching foreign languages in a computer environment. However, such language teaching programs are not useful in a natural speaking environment. Language is learned in natural environments, it is like a living being. and assimilated. Technological tools alone are not enough to learn a foreign language, but they can be useful. Foreign auxiliary course materials and language teaching programs based on technology are not at the desired level in our country. Foreign language teaching is not carried out taking into account the needs of individuals, the methods used in foreign language teaching are not planned according to the needs of the individual. It is argued that foreign language programs should be designed according to the subjective conditions and needs of individuals, focusing on different skills. We believe that the interest of students should be taken into account in teaching English, and they should be told why they are learning a foreign language. English language teaching should be purposeful, for example, if a person is going to be a doctor or a teacher, he should learn enough English to reach topics related to his field. Students should then be given the opportunity to apply what they have learned. Course materials should be purchased based on their value to meet students' needs, not on price or whether they are imported. After all, the student will understand that English is not really an end, but a means to an end. Foreign language teaching is an interdisciplinary practice (7, p. 5).

Adults are more determined and patient in learning a foreign language. The indispensable political, cultural and economic power holders of their societies clearly need foreign languages to follow the scientific, technological and cultural developments related to their fields, to be informed of the processes taking place in the world in a timely manner, at least to learn them unambiguously. preserve his dignity by following the conditions. Even going to the best language school in the world and taking lessons from highly talented private teachers will not guarantee the learning of any foreign language without the patience, persistence and effort required to learn it. Therefore, those who show will and patience succeed in learning a foreign language. Considering the currently applied programs in English language teaching, the methods used by foreign language teachers, the tools used and economic measures, the desired results in foreign language education have not yet been achieved. However, new and successful foreign language teaching programs have also been implemented. Individuals should be encouraged to learn foreign languages through technology-based language teaching methods. Because technological education tools have also made it easier to learn a foreign language. Television, the most important means of communication in technology, has become an integral part of everyday life. Access to foreign language television and radio programs is as close as a click to people. Just watching these publications can directly motivate people to learn the language.

Undoubtedly, it was unthinkable that the computer and the Internet, which serve every field and expand the horizons of mankind, were far away from education. In this context, as in the whole world, we observe that educational institutions in our country are gradually gaining access to the Internet. However, for the methods developed with this technology to be successful, every student must have access to the Internet, learning methods and learning content must be determined by expert teachers, students must be informed, and the developed program must be fully implemented. Suggestions that will make it easier, lasting and faster for the teacher by creating an atmosphere of discussion about the content and examples of the course from time to time should be considered. He can define the learning that takes place after all these stages as the structuring and perfection of knowledge. In foreign language lessons, the Internet is not a substitute for various methods and teaching tools that have been preserved until today, but is a tool that we can put them next to. The inclusion of the computer among other course tools increases the quality of the educational environment. Using the Internet in English classes: enhancing individualized learning. It personalizes the educational process, increases motivation, facilitates cognitive learning, supports intercultural learning and project work

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STAGES OF ORGANIZING A STEM LABORATORY IN THE SYSTEM OF MODERN BIOLOGICAL EDUCATION AT THE LEVEL OF A GENERAL EDUCATION SCHOOL LEVEL

Avchukir Amankhan

Master's student of S.Toraighyrov Pavlodar University

Baimurzina Bayan

Lecturer-expert of Pavlodar Pedagogical University named after Alkey Margulan

Organizing a STEM laboratory in the system of modern biological education at the level of a general education school involves several key stages.

The STEM laboratory needs a comprehensive needs assessment, outlining clear goals and objectives. This includes evaluating space and equipment availability while considering budget constraints for efficient operation and development. A strategic approach to resource allocation is crucial for fostering a conducive environment for STEM education and research.

Curriculum alignment in the STEM laboratory is essential for ensuring that activities harmonize with the school's educational standards. This process involves identifying key concepts and skills integral to the curriculum, ensuring they are addressed in laboratory exercises. By aligning the laboratory with educational goals, educators can enhance students' understanding of STEM subjects, fostering a cohesive learning experience. This approach promotes consistency, enabling seamless integration of practical applications with theoretical knowledge. In doing so, students gain a comprehensive understanding of the curriculum, reinforcing their skills and knowledge across both academic and hands-on dimensions.

Learning objectives for each laboratory activity should be explicitly outlined, aligning with the broader goals of the biology curriculum and STEM education. This ensures a focused and purposeful learning experience, guiding students toward specific knowledge and skills acquisition relevant to the overall educational objectives.

When procuring laboratory equipment and resources, prioritize age-appropriate, safe, and curriculum-aligned items. Conduct thorough research to identify suitable vendors, considering factors like quality and pricing. Establish clear communication with suppliers and verify product specifications. Regularly update and refresh resources to enhance the learning experience for students.

Establish comprehensive safety protocols for the STEM laboratory, ensuring adherence to industry standards. Conduct regular safety drills and provide hands-on training for both teachers and students, emphasizing proper procedures and the correct utilization of safety equipment. Foster a culture of safety awareness to create a secure learning environment for all participants.

In the STEM laboratory, arrange workstations systematically to facilitate collaboration and movement. Position storage areas for easy access to materials, promoting efficiency. Place safety stations, such as eyewash stations and fire extinguishers, strategically for quick response. Prioritize open spaces for experimentation and group activities, fostering an optimal learning environment.

Conduct comprehensive training sessions for biology teachers to ensure proficiency in utilizing the STEM laboratory. Cover equipment operation, safety protocols, and hands-on teaching strategies. Emphasize effective communication and student engagement methods, enhancing their ability to facilitate impactful and secure laboratory activities, promoting a dynamic and enriching learning experience for students.

Leverage technology in biological education by integrating digital platforms, simulations, and data analysis tools. Utilize interactive resources to enhance learning experiences, fostering a dynamic and engaging environment. Empower students with hands-on exploration through technology, ensuring a comprehensive understanding of biological concepts and fostering a tech-savvy approach to scientific inquiry.

Lab Protocol: DNA Extraction

Materials:

- Cell samples
- Buffer solution
- Enzymes
- Ethanol
- Centrifuge tubes

Procedure:

1. Mix cells with buffer.
2. Add enzymes; incubate.
3. Centrifuge to separate DNA.
4. Precipitate DNA with ethanol.
5. Wash and dry DNA pellet.

Safety Guidelines:

- Wear lab coat and gloves.
- Use fume hood for ethanol.

Expected Outcome:

Isolated DNA suitable for analysis.

Note: Adapt procedures based on specific DNA source.

Lab Protocol: Titration of Acid/Base

Materials:

- Acid/base solution
- Indicator
- Burette
- Pipette
- Conical flask

Procedure:

1. Add indicator to flask.
2. Titrate acid/base.
3. Record volume at endpoint.

Safety Guidelines:

- Wear safety goggles.
- Handle acids/bases with care.

Expected Outcome:

Determination of acid/base concentration.

Lab Protocol: Microbial Culture

Materials:

- Agar plates
- Inoculation loop
- Incubator

Procedure:

1. Sterilize loop.

2. Inoculate agar.
3. Incubate plates.

Safety Guidelines:

- Sterilize equipment.
- Follow aseptic techniques.

Expected Outcome:

Growth of microbial colonies.

Note:Adjust temperature and incubation time based on microorganism type.

Student Orientation:

Conduct engaging orientation sessions to introduce students to the STEM laboratory. Emphasize strict adherence to safety protocols, demonstrate proper equipment usage, and underscore the importance of following established procedures. Ensure students feel confident and informed in navigating the laboratory environment for a successful and secure learning experience.

To assess student understanding and skills in STEM laboratories, implement diverse assessment methods such as practical exams, project evaluations, and reflective journals. Regularly collect feedback from both teachers and students through surveys or focus groups to identify strengths and areas for improvement, ensuring a continuous enhancement of the laboratory learning experience.

Continuous improvement in the STEM laboratory is crucial for enhancing biological education. Regular assessments and feedback from teachers, students, and stakeholders help identify areas for enhancement. By consistently refining and adjusting based on input, a well-organized STEM laboratory is established, elevating the overall quality of biological education in general education schools.

This report delves into the step-by-step process of establishing a cutting-edge STEM laboratory for modern biological education in medium-sized schools. From initial planning to resource acquisition, curriculum integration, and teacher training, the comprehensive guide offers insights into successfully implementing biology laboratories at the general education school level.

UNDERSTANDING, ASSIMILATION OF MORPHOLOGICAL CONCEPTS, ITS CONSCIOUS APPLICATION IN SPEECH PRACTICE

Arzu Karimova
teacher of Azerbaijan State Pedagogical University, doctoral student

The acquisition of morphological concepts depends on two main factors. One of them is the comprehensive disclosure of the main features of the presented concept, the given studies allow to accurately characterize the concept. Another factor is the teacher's correct way of teaching that concept. Because, when separate morphological concepts are clearly explained, not only their signs, but their main possible signs are conveyed to students, the task of mastering becomes easier, students get more conscious and accurate information about that concept.

Understanding and assimilation of morphological concepts ensures its conscious application in speech practice. One aspect of success in mastering morphological concepts is the selection of the content of the educational material according to the unique level of the students, and the other aspect is the correct orientation of the methodical competence of the activity in this process. The teaching of morphological rules activates the cognitive sphere of students, and in the process of mastering knowledge and skills, logical thinking principles such as analysis, synthesis, comparison, grouping, systematization, explanation, proof, fact are used, and morphological rules are of great educational importance at this time.

Active intellectual work of students is ensured both in the explanation of new materials and in the execution of independent work, and individual differences are taken into account. The more actively and independently the student acquires knowledge, the more thoughtful and solid this acquired knowledge is. The concept of individual interactive lesson referring to the new pedagogical thinking of curriculum training reflects the stages of orientation, thinking and understanding according to cognitive phases.

Prof. M. Hamzayev rightly applies the law of interference to teaching the mother tongue. It pays special attention to the training process.

Prof. B. Ahmadov criticizes the psychologists and methodologists who treat interference phenomena in the learning process only as a negative case in the thesis of the report "About the concept of interference of habits" and notes the positive role of interference in teaching theoretical issues of language. Prof. Although B. Ahmadov's ideas are positively evaluated on scientific grounds, they are not fully justified in practice. Individual differences in student perception are always prominent.

D.N. Budayovsky writes that thinking is an active process of operating on knowledge. The main drawback of language teaching is that the acquired knowledge was not used in any practical way and they (knowledge) remained in the student's memory as a dead load. One of the main tasks facing the teaching of morphological rules is the development of students. The teaching of morphological rules is necessary for the development of their thinking by ensuring that students have a conscious attitude to language, speech, and knowledge related to morphology, because the acquisition of grammatical concepts and concepts is possible thanks to the activity of cognition. Thinking processes reveal the specific essence of the learned morphological concept by determining the similarities and differences of the learned morphological rules.

Experience shows that more success is achieved when morphological rules are learned in conjunction. In addition, the teaching of morphological rules strengthens cognitive activity and fosters a sensitive attitude to language in students. On this basis, students' logical, critical and creative thinking types develop with individual differences. Some of the students have a one-sided approach to words, concepts, and concepts. Sometimes they pay more attention to the meaning of the word, sometimes to the formal aspect, and prefer either side.

They mix words (synonyms) that are identical in form but different in meaning, and sometimes equate morphological rules and concepts with little similarity (for example, adjective and manner-adverb of action, noun and pronoun, etc.). As soon as the student finds a certain aspect of what he had previously learned in the information he has just heard (even if this aspect is not the main aspect), he equates them and as a result, instead of accurately learning new things at the expense of old knowledge, he creates confusion, aside from learning new things, he also doubts his previously acquired knowledge. This phenomenon has a psychological basis.

D.N. Bogoyavlensky, L.I.Bojovich, A.A.Lyublinskaya, A.M.Orlova, A.V.Polyakova, G.G.Saburova and others state that this conflict arises from the exaggeration and singularization of the secondary as the main feature. The maximum elimination of such a situation requires strict adherence to internal integration.

In the theoretical, psychological and methodical literature, the issue of taking into account the integration of morphological rules in the study of parts of speech has been little touched upon. Gaps in this area can be solved by justifying the effectiveness of studying parts of speech in sentences and texts. The student's perceptive abilities are accompanied by individual differences. Researches show that any word or phrase from ancient times meant a sentence. That is, in the first periods, words (parts of speech) were used without any changes in the sentence.

The words in the sentence are not grammatically related to each other, but over the years, human speech has also been refined. Therefore, understanding morphological rules is easier and more natural within a sentence.

In the language, the main parts of speech and auxiliary parts of speech and suffixes from the main parts of speech were formed as a result of a certain regular development. As this process related to human activity became more complex, so did human arrogance. Rather, grammar specifies grammatically when an action or state occurs through certain signs. Searches related to this problem led to the following conclusions. Observations have shown that the mastering of morphological rules ensures the development of cognitive activity, and the development of cognitive activity facilitates the understanding of morphological concepts.

Perception and understanding of morphological concepts by elementary school students leads to their acquisition of analysis-composition, comparison, grouping, systematization, and classification skills. Teaching morphological rules requires the formation of high generalization skills. Therefore, a student who has mastered the ability to analyze parts of speech can operate on language facts and evaluate the role of morphological rules in speech practice.

The perception and understanding of morphological concepts leads to the ability of students to master language norms and use language materials more consciously. They acquire knowledge about the lexical and grammatical nature of the words that make up our speech. Also, students' speech is enriched due to the words that make up the mastered parts of speech, and the ability to operate with those words is formed.

Observations show that the comprehension of morphological rules by elementary school students is accompanied by different levels of difficulties. While some students can quickly master the concepts of root morpheme, suffix morpheme, parts of speech, some have serious difficulties. At this time, by using active-interactive training methods aimed at the development of speech skills, the formation of the ability to jointly study and analyze the lexical and grammatical meaning of each word-speech unit is taken as a basis.

This is done by presenting the words of each part of speech in a sentence, using them in the text and preparing presentations. Summarizing what has been said, we can say that the teaching of morphological rules can be carried out with reference to the development of cognitive processes, based on the students' real speech skills.

This means that if the students previously used the lexical meanings of the words present in their speech, now they begin to understand the high generalization function of the word, the grammatical meaning. This is a complex and difficult process. Each lesson organized by active learning opens up new opportunities for mastering morphological rules by organizing and managing students' cognitive activities. In the teaching of morphological rules, it is useful to take into account the characteristics of the psychological development of students.

The understanding of morphological rules depends on the level of development of logical, critical and creative thinking and the organization of an effective learning environment. The teaching of morphological rules is not a schematic, formal way, but by being integrated into speech skills, it becomes a vital skill of students.

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IS IT USEFUL TO ENGAGE IN SPORTS IN MIDDLE AND OLDER AGE?

Irada Badalova
Pedagogue of Azerbaijan State, Pedagogical University

The ancient Greek philosopher Aristotle said: "Movement is life, and life is life."

It is known that people who lead a sedentary lifestyle get sick more often and live less on average than those who actively move and do sports. The ability to do intensive sports decreases over the years, but it is important to maintain motor activity in old age, because the lack of physical activity accelerates the aging process of the body and aggravates the course of many diseases characteristic of old age.

Doctors note that physically active elderly people have better cardiovascular and respiratory systems, higher physical and mental performance, better memory and coordination of movements, and accordingly, they are more independent and confident in their abilities.

In old age, physical exercises and regular activity are necessary to slow down aging processes, prevent age-related diseases, and strengthen the body. Even the presence of chronic diseases is not a contraindication to moderate physical exertion. Of course, there are examples of successful age athletes and even long-term athletes, but in old age, it is still not recommended to do sports, but rehabilitative physical activity and exercises, selected taking into account the capabilities and health status of an elderly person.

Is it useful to play sports in middle and old age? If a middle-aged and older person does sports, it is useful for the heart, for the brain, for lowering blood sugar, for recovery, for rejuvenation, etc.

Especially everyone believes that sport prolongs a person's life. Numerous scientific studies show and prove that exercise and sports in old age prolong life and reduce the risk of death from heart and vascular diseases. Despite this, new statistical data recently appeared, which show that active sports in middle and old age increase the risk of death from various injuries and cardiovascular diseases. Some data show that playing sports reduces the risk of death, while others show that playing sports increases the risk of death.

The key word here is active sports, that is, people over the age of 50, 60 and 70 should do sports very sensibly.

If people of this age are engaged in sports too actively, too energetically, then this increases the risk of serious pathologies such as heart attack, stroke or injuries treated during training. Sometimes they lead to various malignant tumors.

With age, the body stops responding to loads as before. Rapid fatigue, pain in muscles and joints, increased trauma — natural consequences of aging. And some of the "standard" fitness rules are no longer applicable. Therefore, it is worth changing the training routine a bit in order to maintain tone and not to injure yourself.

And even if you do sports at 50 years old, the risk of developing diseases of the spinal joint, kneecaps, etc. increases. At the age of 50, it is necessary to do sports very wisely and carefully. For example, professional athletes leave professional sports at the age of 35-40 years. In 40-45-50 years, the elasticity of ligaments decreases, the joints become weak, the restoration of ligaments and joints after trauma is very slow.

Back in the distant Soviet years, surgeon, philosopher, physician-writer Nikolay Mikhailovich Amosov urged people to run and play sports to avoid heart attacks. N.M. Amosov himself escaped from a heart attack. And the joints of N.M. Amosov, according to his personal confessions, were destroyed during active sports.

What types of exercises are harmful at the age of 50 years. For example: many suitable squats, push-ups, plank exercises. All this often leads to big problems with the joints. Squats and push-ups can only be done following the rules. Then the damage does not occur so often.

And if a person works from 10 to 20 years and then quits classes and starts playing sports at 50-60 years, he thinks that it is time for him to play sports and keep his physical activity. Such athletes often have injuries. Because the body is used to the load and here the body is loaded, then the ligaments and joints do not withstand the load.

It is also important to note that at the age of 50-60 years, playing football, basketball and volleyball often causes injuries to the knees, hands and elbow joints, etc.

Practicing yoga in the elderly ends with multiple injuries of the hip joints.

Now there are many teachers on the Internet who offer to engage in remedial gymnastics with various gymnastic exercises.

Many people are engaged in such recreational gymnastics, as a result of which they end up in the hospital with various joint injuries, pinching of intervertebral discs at the age of 50 and older. For example, active, sharp, aerobic and anaerobic exercises at the age of 50-60-70 years can be harmful.

A question arises: What kinds of sports can be practiced at the age of 50-60 years?

Firstly, at this age it is better to swim. Swimming is useful and necessary at any age.

Secondly, you can run, but slowly and over the years you need to reduce the load.

In third, it is useful to practice Scandinavian walking. It is very useful to engage in such types of gymnastics, different Chinese methods such as gypsy, umu (remedial) and pilates.

In conclusion, I would like to note that if people, who were engaged in sports in their youth and quit it, at the age of 50-60 years should not repeat the loads that they performed in their youth.

If you find that the soreness does not go away and affects your next workout, it may indicate early signs of injury or insufficient recovery time. However, if you have severe discomfort, you should consult a doctor.

At an older age, you don't need to try to set records. Because over the years, our abilities decrease and all attempts to set new sports records can lead to various injuries.

THE DESİGN AND EVALUATİON OF CURRİCULUM

Safura Abdurahmanova
Senior Lecturer, Azerbaijan State Pedagogical University, Sheki branch, Azerbaijan, Sheki,
Orcid id: 0000-0002-9487-2146

KURRIKULUMUN TƏRTİBATI VƏ QİYMƏTLƏNDİRİLMƏSİ

Səfurə Abdurahmanova
Baş müəllim,
Azərbaycan Dövlət Pedaqoji Universiteti, Şəki filialı
Şəki, Azərbaycan
Orcid id: 0000-0002-9487-2146

Abstract: The way we think about and analyze curricula in the modern day has evolved tremendously over time. The subjects that make up a course of study at schools, universities, or colleges are now the most basic definition of the word "curriculum." Course planning and course development are synonymous with curriculum development. It's critical to acknowledge the variations in course design that exist: while a math course at one university may cover the same content, the instructor may present it in a different manner. The essential principles of curriculum development, however, never change. Curriculum development include the processes of developing, implementing, and evaluating the curriculum, whereas curriculum design refers to the structure or organization of the curriculum.The main concerns of curriculum design are things like what should be covered in the curriculum and how to convey it so that it may be successfully and understandably applied. Consequently, curriculum design describes how the curriculum's elements are organized to support learning. Selecting the organizational foundation or structural framework for a program is the focus of curriculum design. A value viewpoint is frequently implied by the design decision.

Xülasə: Müasir dövrdə kurikulumlar haqqında düşünmə və təhlil etmə tərzimiz zamanla çox inkişaf etmişdir. Məktəblərdə, universitetlərdə və ya kolleclərdə təhsil kursunu təşkil edən fənlər indi "kurikulum" sözünün ən əsas tərifidir. Dərsin planlaşdırılması və dərsin hazırlanması kurrikulumun inkişafı ilə sinonimdir. Kursun dizaynında mövcud olan dəyişiklikləri etiraf etmək çox vacibdir: bir universitetdə riyaziyyat kursu eyni məzmunu əhatə edə bilsə də, təlimatçı onu fərqli şəkildə təqdim edə bilər. Bununla belə, kurrikulumun hazırlanmasının əsas prinsipləri heç vaxt dəyişmir. Kurrikulumun hazırlanması prosesi onun hazırlanması, həyata keçirilməsi və qiymətləndirilməsi proseslərini əhatə edir, kurrikulumun dizaynı isə kurrikulumun strukturuna və ya təşkilinə aiddir. Kurrikulumun dizaynının əsas problemi kurrikulumda nələrin əhatə edilməli olduğu və onun uğurla və başa düşülən şəkildə tətbiq edilməsi üçün onun necə çatdırılması kimi məsələlərdir. Nəticə etibarilə, kurrikulumun dizaynı tədrisi dəstəkləmək üçün kurrikulumun elementlərinin necə təşkil edildiyini təsvir edir. Proqram üçün təşkilati təməlin və ya struktur çərçivənin seçilməsi kurrikulumun dizaynının diqqət mərkəzindədir. Dizayn qərarında çox vaxt dəyər perspektivi nəzərdə tutulur.

Keywords: curriculum, levels, typology, factors, learner, assessment
Açar sözlər: kurikulum, səviyyə, tipologiya, amillər, öyrənən, qiymətləndirmə

Kurrikulumun işlənib hazırlanması prosesi çox çətindir. Kurikulum cəmiyyətin, təhsil sisteminin və fərdlərin ehtiyaclarını nəzərə almalıdır. Dünyadakı dəyişikliklər də nəzərə alınmalı olan cəhətlərdən biridir. Tələbələri daim inkişaf edən dünyada səmərəli rəqabət aparmaq üçün alətlərlə təchiz etmək üçün kurrikulumun cari tendensiyalara uyğun olması lazımdır. Kurrikulumun dəyişdirilməsi də çətin bir işdir. Bu o demək deyil ki, kurrikulumun təkmilləşdirilməsi lazım deyil.

Kurikulum məktəb daxilində və ya kənarda, fərdi və ya qruplar şəklində həyata keçirilən planlı və rəhbər təlim kimi müəyyən edilə bilər. Kurikulum fəaliyyətlərinə bunlar daxildir: dizayn, strategiyaların yaradılması və inkişafı; qiymətləndirilməsi və həyata keçirilməsi.

Kurikulumun səviyyələri

- Makro səviyyə: bu səviyyə cəmiyyəti, ölkəni, dünyanı və digər geniş maraqlı tərəfləri nəzərə alır.
- Mezo səviyyə: məktəb və ya müəssisə əsasən maraq doğurur.
- Mikro səviyyə: sinif otağına və onun təşkilinə diqqət yetirilir.
- Nano səviyyə: fərdi tələbəyə daha çox diqqət yetirilir.

Qeyd etmək lazımdır ki, bu səviyyələr bəzən bir-birinə qarışa bilər. Kurrikulumun təsnif olunduğu səviyyələr mövcud kurrikulumun işlənib hazırlanmasına və qiymətləndirilməsinə kömək edir.

Kurrikulumun bilik seçimini hazırlayarkən yaranan çətinliklər:

Bu, nəyi öyrətmək və nəyi kurrikulumdan çıxarmaq lazım olduğunu seçmək üçün istifadə olunan meyarlara aiddir. Tədris məzmununun seçilməsində hansı üsullardan istifadə edilib, bu konkret məzmun niyə seçilib və nəyin öyrədilməsinə ehtiyac yoxdur və niyə kimi müxtəlif suallar yaranır.

Xarici amillər

Kurrikulumun hazırlanması zamanı siyasət, din, texnologiyada dəyişiklik, cəmiyyət və təhsildə maraqlı tərəflər kimi məsələlər nəzərə alınmalıdır. Bu amillər kurrikulumu əsaslandırma, dəyərlər, məhdudiyyətlər və təlimatlarla təmin edir.

Texniki amillər

Kurrikulumun işlənib hazırlanması işi çox cəlbedicidir. Kurrikulumun seçilməsi zamanı təlimin məzmunu, funksiyası və təşkili nəzərə alınmalıdır. Tənqidilik kurrikuluma aid olan bütün məsələləri həll etmək üçün həyati əhəmiyyət kəsb edir.

Kurrikulumun dizaynı və planlaşdırılmasındakı problemləri təhlil etmək üçün müxtəlif tipologiyalar hazırlanmışdır. Əlavə edilmiş kurrikulumun qiymətləndirilməsi üçün istifadə olunacaq tipologiya Eash (1991) və Klein (1991) tərəfindən hazırlanmış on komponentli tipologiyadır.

Tipologiyaya görə kurikulum komponentləri

Əsaslandırma: Şagirdlərə verilən məzmun və təhsil üçün verilən səbəblərə aiddir; niyə öyrənirlər? Bu, mərkəzi komponentdir və digər doqquz komponent onunla bağlıdır. Əsaslandırmaya cəmiyyətdəki problemlər, gələcək inkişaflar və fərdi öyrənənin ehtiyacları təsir edir.

Məqsədlər: Tədris fəaliyyətinin məqsədləri əvvəlcədən dəqiqləşdirilməli və inkişaf etdirilməlidir.

Məzmun: Şagirdlərin əhatə etdiyi mövzulara istinad edir. Ortaya çıxan sual, öyrənənlərin nə öyrəndikləridir.

Öyrənmə fəaliyyəti: Bu, öyrənənlərin öyrənmə prosesində iştirak etdiyi fəaliyyətlərlə əlaqəlidir.

Müəllimin rolu: Tədris və öyrənmədə müəllimin əsas rolu təlim prosesini asanlaşdırmaqdır.

Tədris resursları: Tədris materialları ideya və konsepsiyaların təqdimatında müəllimə kömək edir. Şagirdlər anlayışları mühitlərindəki real şeylərlə əlaqələndirə bildikdə daha yaxşı öyrənirlər.

Qruplaşdırma: Tələbələr fərdi öyrənə bilər və ya təhsil məqsədləri üçün kiçik qruplara bölünə bilərlər. Qruplaşmanın tələbələrdə fikir mübadiləsi, inamın, əməkdaşlıq və şifahi ifadənin inkişafı kimi üstünlükləri var.

Məkan: Tədris fəaliyyətinin keçirildiyi yer şagirdlərin dərk etməsinə təsir göstərir. Buraya ətraf mühitin sosial və fiziki xüsusiyyətləri daxildir. Kitabxanalar, tədqiqat mərkəzləri və iş otaqları kimi öyrənənlər üçün mövcud olan digər imkanlar da nəzərə alınmalıdır.

Vaxt: Tədris və öyrənmə üçün mövcud vaxt nəzərə alınmalıdır.

Qiymətləndirmə: Şagirdlərin nə başa düşdüklərini və ya mənimsədiklərini müəyyən etmək üçün bəzən qiymətləndirmə lazımdır. Bununla belə, qiymətləndirmə tədrisi əvəz etməməlidir, o, tədrisin öyrənmə fəaliyyətinin mərkəzinə çevrilməməlidir.

İstənilən kurrikulumun uğuru üçün yuxarıda göstərilən bütün komponentlər arasında harmoniya qurulmalıdır. Beləliklə, ardıcıllıq və balans vacibdir.

Bəzən müəllim tələbələr üçün kurikulum tələbələrin fərdi ehtiyaclarını təmin edə bilmir. Bütün öyrənənlər eyni kursa uyğun gəlsələr də, onlar bir-birlərindən fərqlidirlər. Məsələn, bəziləri yavaş öyrənirlər. Digər tərəfdən, anlayışları asanlıqla başa düşən istedadlı öyrənənlər var. Hər iki kateqoriya üçün tədris yanaşması fərqli olacaq, əksər hallarda əksəriyyəti təşkil edən orta tələbələri unutmaq olmaz. Bu, tələbələrdə maraq və motivasiyanın olmaması ilə nəticələnə bilər. Bütün tələbələrin təhsildən faydalanmasını təmin etmək üçün diferensiallaşdırılmış yanaşma lazımdır. Təhsil şagirdlərin intellektual imkanlarına baxmayaraq, onları intellektual cəhətdən çətinləşdirməlidir.

Kurikulum təlim prosesini istiqamətləndirmək üçün nəzərdə tutulmuş şərtlər toplusudur. Bununla belə, sinifdə baş verənlərin reallığını göstərə bilmir. Kurikulum tələbələri öyrənməyə həvəsləndirən şəraiti və ya mühiti əks etdirməlidir. Bu işdə əsas mühit sinif otağı və ya mühazirə zalıdır. Bununla belə, təhsil təkcə auditoriya daxilində deyil, həm də auditoriyadan kənar aparılmalıdır. Öyrənməni mühazirələrdən kənarda genişləndirmək tələbələrə riyaziyyatın praktikliyini göstərir. Kurikulum fənlərin öyrənilməsinin sinifdən kənarda necə davam edə biləcəyini tövsiyə edə bilmir. [2, 191]

Əlverişli tədris mühitinin vacibliyi kurrikulumda açıqlanmır. Ətraf mühit tələb olunan imkanlara malik olmalı və hər hansı təhlükə və ya həyəcan siqnalından azad olmalıdır. Öyrənmə təcrübəsi maraqlı və həyəcanlı olmalıdır.

Şagirdlər həvəsləndirilməlidir ki, onlar öyrənmək istəyini inkişaf etdirə bilsinlər. Motivasiya daxili və ya xarici ola bilər. Xarici motivasiya əsasən mühazirəçi və digər şagird tərəfindən yaradılır. Mühazirəçilər yaxşı performansı tərifləməklə, tələbələr arasında sağlam rəqabəti təşviq etməklə, onların tədris üsullarını dəyişdirməklə və öyrənənləri təlim prosesinə cəlb etməklə öz tələbələrini həvəsləndirə bilərlər. Bu, tələbəyə öyrənməyə və ya məqsədlərinə çatmağa həvəs verir. Xarici motivasiya buna baxmayaraq qısa ömürlüdür və mühazirəçilər ona həddən artıq əhəmiyyət verməməlidirlər [5, 67].

Daxili motivasiya - bu, şagirdin uğur qazanmaq üçün daxili istəyidir. Xarici mühitdən asılı deyil. Pedaqoqlar bu tip motivasiyaya diqqət yetirməlidirlər. Onlar şagirdinə uğur və zəhmətə yönəlmiş dəyərlər, maraq və məqsədləri inkişaf etdirməyə kömək etməlidirlər. Bu motivasiya forması riyaziyyatın müxtəlif mövzularına qarşı hər hansı mənfi münasibətin dəyişdirilməsində təsirli ola bilər. Kurikulum təlim prosesində motivasiyanın əhəmiyyətindən keçmir [3, 99].

Təhsil öz perspektivini genişləndirməli və ənənəvi dərslik yanaşmasından uzaqlaşmalıdır. Tələbələr öyrənmə təcrübəsinə cəlb edilməlidir. Tələbənin təhsil və ya akademik müzakirələr üçün qruplara bölünməsi fikir mübadiləsini, özünü ifadə etmənin inkişafını təmin edir və tələbələrin özünə inamını artırır. Kurikulumlarda mühazirəçinin müxtəlif mövzularda müzakirələrə rəhbərlik etməsi nəzərdə tutulur. Bu müzakirələr kiçik qruplarda aparılsa, daha səmərəli olar. Kiçik qruplar bütün tələbələrin iştirakını təmin edəcək. Bundan əlavə, qrup işi mühazirə sessiyalarının monotonluğunu pozur və tələbələr fəal iştirak etdikcə onları həvəsləndirir.

Kurikulumda nəzərdə tutulan qiymətləndirmə prosedurları əvvəlcədən müəyyən edilir. Şagirdlər fərqlidir və kurikulum tələbələrə uyğun tərtib edilməlidir. Mühazirəçilərin işi müəllim tələbələrinin tam potensialına çatmasına kömək etmək üçün olmalıdır. Şagirdlər standart deyil və buna görə də aldıqları təhsil də standart olmamalıdır. Standart qiymətləndirmə sistemi əvvəlcədən müəyyən edilmiş qiymətləndirmədən və ya qiymətləndirmədən ibarətdir. İnsan faktorları bilik və ya mövzuların əhatə dairəsindən fərqli olaraq öyrənmə prosesində mərkəzi yer tutmalıdır [1,207].

Əsas problem fərdlərin fərqliliklərinə cavab verəcək, eləcə də qurumun, cəmiyyətin və millətin ehtiyaclarına cavab verəcək kurrikulumun hazırlanmasıdır. Müəllim hazırlığı kurikulumu çox vacibdir, çünki o, orta məktəblərdə təlimin asanlaşdırılmasına cavabdehlik daşıyacaq şəxsləri hazırlayır və təchiz edir. Kurrikulumun dizaynı müəllim tələbələrin ehtiyaclarını, maraqlarını və məqsədlərini nəzərə almalıdır.

Kurrikulumun məqsədi real həyatda faydalı olacaq məhsuldar müəllimlər yetişdirməkdir. Kurikulum müəllimi praktik təcrübə ilə, eləcə də gələcək tələbələrinə öyrədəcəkləri müvafiq biliklərlə təchiz etməlidir.

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FEATURES OF THE SPIRITUAL VALUES OF STUDENT YOUTH

Сейтенова Салима Сагиновна
к.п.н., доцент кафедры дошкольного и начального образования Западно-Казахстанского университета имени М.Утемисова, Уральск, РК. ORCID: 0000-0001-9186-9227
Книсарина Малика Максатовна
доктор философии (PhD), доцент кафедры психологии Западно-Казахстанского медицинского университета имени Марата Оспанова, Актобе, РК. ORCID: 0000-0002-7350-1768
Хабиева Дина Гариффулиевна
докторант PhD, Руководитель кафедры дошкольного и начального образования Западно-Казахстанского университета имени М.Утемисова, Уральск, РК. ORCID: 0000-0002-1161-2956
Мухиева Гульмира Сейтмуханбетовна
магистр педагогических наук, преподаватель кафедры дошкольного и начального образования Западно-Казахстанского университета имени М.Утемисова. Уральск. РК. ORCID:0000-0001-8740-2309

The socio-psychological basis of relationships in a team is formed by the values accepted by the student, that is, the student’s life and activities include qualities that are considered very important and significant for his personality and behavior. There fore, the concepts of specialist teachers say that the majority of people in this team highly value the student’s personality and behavior.

In the group, charity, honesty, kindness, courage are highly valued, and even personal qualities can be seen as models for others to follow. They can be divided into three groups as follows:

- Collectivism – active joint actions, cooperation and an organized environment (unanimity, peace, respect);
- Collectivism – loyalty to the interests of the group, collective (do not lie, do not steal, keep promises);
- Collectivism – cooperation, mutual understanding, caring for others (help, advice, etc.).

Therefore, it should be noted that morality is a complex phenomenon.

As for the meaning and content of the moral values of today's students: the student is focused on identifying the values characteristic of humanity as a whole, and the values characteristic of the individual. Kazakh people, in order to be able to learn from them, use the scientific achievements achieved by scientists in the derby of self-education, be innovative, friendly to their home country, who love their land, their family their. Motherland and understand their duty to them, complementing existing values. must take care of nature, plants and animals; Today's student is able-bodied, organized, careful, enterprising, chooses a future profession in accordance with his needs, understands his responsibility, is accustomed to self-service, uses time effectively, understands the role of work in society - human life, ambassadors irresponsibility, laziness, natural resources, not loving soul, must, in the process of learning, master the basics of education and science, be able to demonstrate future entrepreneurship at a creative level, the student must be healthy, hardy, energetic, strong, strong, elegant, elegant, brave, smart, healthy, strong nerves. He must be a socially active young man, ready to defend his homeland, maintain personal hygiene, maintain cleanliness in his workplace, avoid bad habits, strive to form a healthy lifestyle, and acquire human qualities.

Attention was also paid to this problem, since the meaning and content of the above-mentioned moral values of students are realized through systemic pedagogical conditions and its model. At the same time, students are given a meaningful character as a dynamic personality, developer, future citizen, educator of generations, mature personality, specialist of tomorrow, pillar of society.

The mechanism for acquiring values is realized through the value of human self-determination. At the initial stage of self-determination, the student acquires a moral and value orientation, while simultaneously revealing the essence of the acquired values. Based on this, the student compares the moral values of his self-determination with the moral values of others and the organization of actions and relationships based on the directions of moral values; in the process of analyzing actions and behavior, he determines moral values and realizes his self-determination. Moral action is human activity that regulates the actions of the common good, goodness and human will, aimed at achieving moral goals and based on morally proven methods, one might say, a special type and form of its interaction. with the outside world.

Attention is paid to several field structures to determine the goal of educating the values of moral actions of an individual:

1) cognitive field – «values», «morality», «self-determination in the formation of moral values» in the process of upbringing and education of students in their lives is considered an integral part of it. The attitude of a person is the value of value, it is produced in the course of his development, his development is expressed and his meaning is expressed;

2) intellectual field - a large-scale structure characterized by the necessary volume, size, thoroughness, depth, and effectiveness of knowledge about moral values.

3) motivational field - the main driving force is the three-dimensional structure of the individual’s request, the search for an answer to it, the acceptance of the found reasonable answers to it. It is difficult to understand the overall value of, say, the values of the highest value in the world, they are the support of our entire life, feeding us all, bread is the basis of a good person, knowledge, science and practices collected in the life of another person are sacred, inexhaustible, and the source of wonderful things , which will never lose their meaning is the book. The third is mothers who continue civil development, not allowing it to stop, giving light to the world;

4) emotional field - anger, gratitude, mood, honor, interest appear and develop gradually over time in accordance with the moral forms and moral positions of students. A process that requires training and diligence. If we look at our own lives, we can draw several conclusions:

- the individual chooses ways to satisfy social needs in accordance with his life values;
- a person manages his needs and feelings;
- if a person can correctly analyze his knowledge and life education, he will be able to identify the right paths.

5) the sphere of will - to achieve their goals, students need to develop qualities such as perseverance, discipline and knowledge, and make thorough and deep efforts. Self-regulation, organization, perseverance, additional qualifications of a person based on knowledge and experience can be the basis for developing willpower;

6) the area of self-regulation - self-esteem, self-respect, self-criticism, comparison with others, self-awareness, self-responsibility of the individual; leads to regulation. Self-discipline

means trying to do good, not just to act, but to shape. In the process of self-regulation, the subject's activity depends on the goal, abilities, and organizational abilities.

7) the practical sphere of the matter - it will be associated with rational thinking and the implementation of such issues as acting on the basis of the moral values of the individual, finding solutions, and not running away from difficulties. Psychologists express the opinion that they cannot develop any activity ability; they can develop individual maturity. Therefore, a person chooses a way to acquire values and realize them fruitfully, using his abilities, which depends on the existential field;

8) existential field - a qualitative attitude to actions, the desire for self-improvement from a moral point of view, a humane and friendly attitude towards every person, good deeds develop values. The best wish is that whether you do good or evil, do not forget the thought that there will be a response, so have good intentions and good thoughts. Attitudes and value orientations that help a person interact with the environment determine the meaning of the existential field, which serves as a choice of ideas, attitudes and values in the formation of moral values.As shown in the concept of «I», «I» tries to form positive values that are valuable to oneself in the formation of self-esteem, correct attitude towards people, social interaction, friendship, moral values.

These fields are interconnected and also require the implementation of sequential interconnected target actions:

1. Organization of moral actions and relationships in order to unite the psychological processes of students' personalities;
2. Analysis of ethical situations, choice of moral models of behavior and actions of each person in his relations with the environment;
3. Organization and motivation of collective work.

If we talk about the real problem, we improve the values of educational activities aimed at assimilating the moral values of students, take examples from individuals who are directly related to real life, analyze and differentiate activities aimed at education. personality, improving and refining values.

It is necessary to reflect on the process and results of cognition in order to develop the quality of knowledge in establishing connections through the development of moral values, analysis and summation, generalization and prediction. Reflection is divided into relational, cooperative, individual, and intellectual.

«Value orientation is a skill that motivates a student from a general evaluative point of view of moral understanding, ensures its action, regulates behavior in a purposeful direction» and gives direction to a deeper study of moral values.

Orientation to moral values as a new complex mental structure consists of two components. The first component is the motivational-need component, the main meaning of which is the main goal of a person's life and self-education in accordance with one's capabilities.

The second component of value orientation, that is, the component - evaluative assessments of the main semantic and meaningful form of personality, is formed by achieving success in study, work, and creativity. Organizing the project, plan, making adjustments, thinking, analyzing the scene, etc. abilities can be developed with the help of signs.

Humanity, goodness, heroism, courage, modesty, humility, justice, honesty, honesty, modesty, decency, faith, kindness - all this is closely related to each other, life experience has shown. Therefore, the dynamics of personal thinking about moral values - the main tool for analyzing achievements in study and work - occupies a fundamental place in the minds of students and creates conditions for comprehensive formation.

The main task of today's school is to prepare a conscious, educated, harmonious mature personality suitable for the new society that the course of life requires. In this regard, one of the most pressing issues of our time is the requirement to comprehensively supplement the educational work of higher educational institutions to train future specialists, to revise it in accordance with advanced models of domestic education and citizen education. who developed a feeling of love for his country and land.

The homeland is an object of patriotic feelings and a measure of the fulfillment of civic duty. Speaking in a broad sense, this is the Motherland, its natural resources, national language, traditions, cultural monuments, sacred places in the region where history was made. Their instillation in a person's consciousness of feelings of warmth, closeness and kinship, becoming the beginning of good and heroic deeds, forms the basis for the education of patriotism. A. Kalmyrzaev writes: «This feeling awakens in every person at every stage, and then becomes constant upon reaching adulthood and is shaped by experience, age, time, upbringing, environmental influences, and the influence of state and public social institutions».

Every cultured and educated person should be able to combine his professional and ideological level with national culture. To be cultured, you need to be educated. If he is educated, but has not mastered the national culture, such a person will appear before the nation as uncivilized and uncultured, and will become the subject of popular displeasure. The cultural fruits of developed talent can be seen where professional and hereditary manners are preserved.

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Technical Sciences

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ПОВЫШЕНИЕ ЭФФЕКТИВНОСТИ СЖИГАНИЯ ГАЗОВОГО ТОПЛИВА В ТОПКАХ КОТЛОВ ПУТЕМ ПОВЫШЕНИЯ СТЕПЕНИ ЧЕРНОТЫ

Ерғалиева Ағлен Мирасқызы
Магистрант ГОП М098 (7М07117) – Теплоэнергетика, Евразийский национальный университет им. Л.Н. Гумилева, г. Астана, Казахстан

Основную роль в физическом механизме процесса теплообмена в топках паровых и энергетических котлов играет теплообмен излучением. Именно условиями переноса энергии излучения определяются тепловосприятие экранных поверхностей нагрева и температура газов на выходе из топки. Конвективная составляющая теплообмена в топочном пространстве сравнительно невелика, и в технических расчетах ею обычно пренебрегают в связи с невысокой скоростью движения газов и небольшими температурными напорами на границе между факелом и загрязненной стенкой экранных труб. Принимается, что условия теплообмена в топке в основном определяются условиями переноса энергии излучения [1].

Из закона излучения Кирхгофа следует – чем тело больше поглощает при температуре T на длине волны λ, тем оно больше излучает при данных температуре и длине волны. Таким образом, поверхности с высокой степенью черноты (коэффициентом излучения ε) хорошо поглощают падающее излучение и сами являются хорошими излучателями. Блестящие зеркальные поверхности с низким коэффициентом излучения мало излучают и плохо поглощают падающее на них излучение. Основной поток энергии отражается от таких поверхностей.

Реальные тела имеют поглощательную способность меньше единицы, а значит, и меньше чем у абсолютно чёрного тела излучательную способность, которая равна 1. В общем же случае поглощательная способность тел зависит от длины волны, температуры и поверхности. И их спектр может существенно отличаться от спектра абсолютно чёрного тела [2].

При горении природного газа образующийся факел продуктов сгорания и сама зона горения имеют весьма низкую радиационную способность, что существенно ухудшает лучистый перенос теплоты от факела.

В пламени топлива в состав продуктов сгорания входят трехатомные газы (CO_2, H_2O, а иногда SO_2), которые и вызывают тепловое излучение. Излучение трехатомных газов происходит в основном в инфракрасной области спектра и носит селективный характер, в результате чего излучение пламени, содержащего лишь газообразные продукты сгорания, не воспринимается человеческим глазом.

Вместе с тем в ряде случаев газообразный объем пламени может содержать взвешенные в нем различные сажистые образования, возникшие в результате разложения углеводородного топлива. Эти сажистые образования имеют сплошной спектр излучения (не только серый), включающий в себя и видимую человеком область от 0,4 до 0,76 мкм. Применительно к таким пламенам применяют термин «светимость пламени», а сами пламена называют светящимися. В светящихся пламенах излучение газообразных продуктов сгорания в соответствующих частях спектра накладывается на излучение сажистых частиц, взвешенных в газовом объеме пламени. Очевидно, что светящееся пламя может возникать лишь при сжигании таких топлив, которые содержат в своем составе достаточное количество углеводородов.

Разложение углеводородов топлива с выделением новой дисперсной фазы (сажи) может происходить при их нагреве как в присутствии окислителя так и без него. В первом случае говорят об окислительном, во втором – о термическом пиролизе углеводородов.

При сжигании распыленного жидкого топлива в пламени создаются очень благоприятные условия для разложения жидких углеводородов топлива с выделением сажистых образований, обеспечивающих высокую излучательную способность факела. Этому же способствует возникновение углеродистого остатка при интенсивном испарении и горении капли. В силу этих причин при сжигании мазута создается светящийся факел, характеризуемый высокой излучательной способностью. Поэтому мазут в ряде случаев используют в качестве искусственного карбюризатора, добавляя его к газообразному топливу с целью повышения (или создания) излучательной способности пламени. Природный газ состоит почти полностью из метана, в коксовом газе содержание метана составляет 25-30% [3].

Однако совместное сжигание природного газа с мазутом не совсем целесообразно в силу высокой стоимости жидких видов топлива и наличия токсичных выбросов оксидов ванадия (V_2O_5).

Соответственно рассмотрим метод сжигания, при котором нет необходимости использования дополнительных видов топлива, то есть специальный метод сжигания природного газа, при котором он вначале разлагается (реформируется) [4].

Для осуществления подобного процесса сжигания природного газа необходимы следующие условия:

- коэффициент избытка воздуха меньше 1 ($\alpha = 0{,}4 \div 0{,}6$);
- температура процесса не ниже 900°.

Получающиеся при этом продукты сгорания содержат компоненты неполного горения топлива и должны далее дожигаться, чтобы избежать потерь теплоты от химической неполноты сгорания (недожог).

Таким образом, изучение механизмов образования сажи имеет большое значение для комплексной утилизации соответствующих ей продуктов.

При температуре выше 800° все высокомолекулярные углеводороды разлагаются полностью. В то же время метан, разлагающийся по реакции

$$CH_4 \Leftrightarrow C_T + 2 \cdot H_2,$$

полностью не разлагается и может содержаться в продуктах сгорания.

Характер разложения метана зависит от температурно-временных условий процесса, что достаточно четко характеризуется данными, приведенными на рисунке 1.

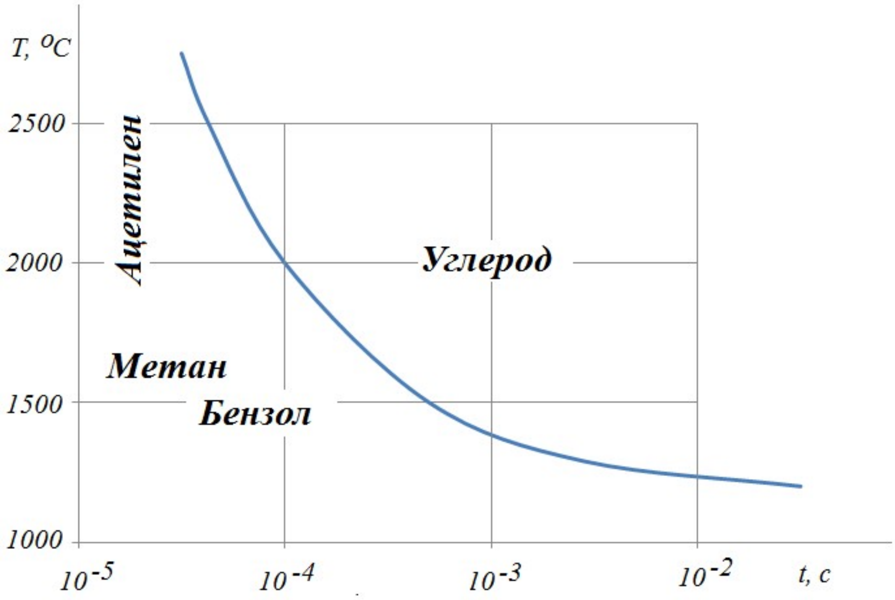

Рисунок 1. Зависимость выхода продуктов реакции термического разложения метана от температуры и времени

Для практического использования природного газа необходимо знать, при каких условиях следует выполнять его разложение, чтобы получить наивысший радиационный эффект пламени. С этой целью были проведены специальные исследования, при которых газ предварительно реформированный при определенных температурах и продолжительности процесса, подавался в пламя, излучение которого измерялось. Оказалось, что пламя имеет максимальное излучение при реформировании в пределах температур 1050 – 1100 ^{o} и продолжительности процесса ~0,3 – 0,5 с.

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КОМП’ЮТЕРНА СИСТЕМА РОЗПІЗНАВАННЯ ГРАФІЧНИХ ОБРАЗІВ НА ОСНОВІ НЕЙРОННИХ МЕРЕЖ

Руднєва Марія Станіславівна
Кандидат технічних наук за спеціальністю «Комп’ютерні системи та компоненти», викладач вищої категорії, Викладач спеціальних дисциплін Київського фахового коледжу зв’язку

З розвитком інформаційний систем та технологій інтерес до штучних нейронних мереж зростає з огляду на можливості їх застосування в задачах розпізнавання образів, управлінні, прогнозуванні.

Алгоритми навчання, які існують на теперішній час побудовані на основі принципів організації і функціонуванні біологічних нейронних мереж.

Мозок людини складається з дуже великого числа нейронів, з'єднаних численними зв'язками. Кожен нейрон має велику кількість властивостей схожих з іншими органами тіла.

Однак, йому притаманні, абсолютно унікальні здібності: приймати, обробляти і передавати електрохімічні сигнали по нервовим шляхам, які утворюють комунікаційну систему мозку.

Штучні нейронні мережі, індуковані біологією, так як складаються з елементів, функціональні можливості, які є аналогічними більшості елементарним функціям біологічного нейрона.

Розпізнавання образів — це науковий напрямок, пов'язаний з розробкою принципів і побудовою систем, призначених для визначення приналежності об'єкта до одного з класів об'єктів.

Під об'єктами, в розпізнаванні образів розуміють: різні предмети і явища, процеси і ситуації, а також сигнали.

Системи розпізнавання мають наступну типову функціональну схему: вхідні дані, які підлягають розпізнаванню, подаються на вхід системи і піддаються обробці з метою їх перетворення в необхідний для наступного етапу або для виділення з них необхідних характерних ознак.

Далі, на етапі прийняття рішення над опрацьованим масивом даних, проводиться ряд обчислень. На основі їх результатів формується відповідь, що містить очікувані від системи відомості про вхідні дані. Зміст вхідних і вихідних даних визначається призначенням системи.

Завдання дослідження є проектування комп’ютерної системи розпізнавання графічних образів на основі нейронних мереж.

В процесі виконання дослідження використовувалось інтегроване середовище розробки PyCharm.

Вибір мови програмування зазвичай залежить від вирішуваних завдань, особливостей мов і наявності бібліотек, необхідних для вирішення задачі.

Однакове завдання, написане на різних мовах може сильно відрізнятися по ефективності виконання, в тому числі відмінності можуть бути і при виконанні в різних операційних системах або при використанні різних компіляторів. У загальному випадку мови можна поділити на інтерпретовані, компільовані в проміжне представлення і компільовані, що впливає на продуктивність і споживання пам'яті.

Комп'ютерна система розпізнавання графічних образів на основі нейронних мереж була розроблена на мові програмування Python — високорівнева мова програмування загального призначення з динамічно строгою типізацією і автоматичним управлінням пам'яттю, орієнтована на підвищення продуктивності розробника, читання коду і його якості, а також на забезпечення переносимості написаних на ньому програм. Мова є повністю об'єктно-орієнтованою — все є об'єктами. Незвичайною особливістю мови є виділення блоків коду відступами. Синтаксис ядра мови мінімалістичний, за рахунок чого, на практиці рідко виникає необхідність звертатися до документації. Мова інтерпретується і використовується в тому числі для написання скриптів. Недоліками цієї мови є часто більш низька швидкість роботи і більш високе споживання пам'яті написаних на ньому програм, в порівнянні з аналогічним кодом, написаним на компільованих мовах, таких як C або C ++.

Python підтримує динамічну типізацію, тобто тип змінної визначається лише під час виконання. Тому замість «присвоювання значення змінної» краще говорити про «зв'язуванні значення з деяким ім'ям». До примітивних типів в Python відносяться булевий, ціле число довільної точності, число з плаваючою комою і комплексне число. З контейнерних типів в Python вбудовані: рядок, список, кортеж, словник і безліч інших. Всі значення є об'єктами, в тому числі функції, методи, модулі, класи.

Додати новий тип можна або написавши клас (class), або визначивши новий тип в модулі розширення. Система класів підтримує спадкування (одиночне і множинне) і мета-програмування. Можливо успадкування від більшості вбудованих типів і типів розширень.

Можливості та особливості, специфічні для Python:

- спеціальні методи, що керують життєвим циклом об'єкта: конструктори, деструктори;
- перевантаження операторів (всіх, окрім is, '.', '=' І символьних логічних);
- властивості (імітація поля за допомогою функцій);
- управління доступом до полів (емуляція полів і методів, частковий доступ);
- методи для управління найбільш поширеними операціями (справжнє значення, len (), глибоке копіювання, серіалізація, ітерація по об'єкту);
- повна інтроспекція;
- класові і статичні методи, класові поля;
- класи, вкладені в функції і класи;
- можливість модифікувати об'єкти під час виконання програми.

Python став одним з найпопулярніших мов, він використовується в аналізі даних, машинному навчанні, DevOps і веб-розробки, а також в інших сферах, включаючи розробку ігор. За рахунок читабельності, простого синтаксису і відсутності необхідності в компіляції мову добре підходить для навчання програмуванню, дозволяючи концентруватися на вивченні алгоритмів, концептів і парадигм. Налагодження ж і експериментування в значній мірі полегшуються тим фактом, що мова є інтерпретується. Застосовується мову багатьма великими компаніями, такими як Google або Facebook.

Існує кілька спеціалізованих IDE для розробки на Python.

Eric — повнофункціональний редактор Python і IDE, написаний на Python. Він базується на крос-платформенном фреймворку Qt, як компонент редагування використовується QScintilla. Eric надає можливості ведення проектів, налагодження, профілювання, рефакторінга коду, взаємодії з популярними системами управління версіями, такими як Subversion і Git. Розширюється через механізм плагінів. Репозиторій плагінів доступний прямо з середовища розробки. Розповсюджується безкоштовно, ліцензія GNU GPL v3.

PyCharm — повнофункціональна IDE для Python від JetBrains, доступна на платформах Windows, macOS і Linux, існує в безкоштовному (Community) і платному (Professional) варіантах.

Wing IDE — лінійка Python-IDE від американської фірми Wingware, включає три варіанти: «Wing 101», «Wing Personal», «Wing Pro», з яких перші два безкоштовні, останній-платний. Версія Pro володіє всіма необхідними засобами для професійної розробки, включаючи підтримку проектів, роботу з системами управління версіями, розширені можливості навігації за кодом і аналізу коду, рефакторинг, підтримка використання Django. Безкоштовні версії надають менше функцій і не виходять за межі можливостей, доступних в інших безкоштовних IDE для Python.

Spyder — open-source IDE для Python під ліцензією MIT, безкоштовна, доступна на платформах Windows, Mac OS X і Linux. Особливістю є те, що IDE орієнтована на data science, в ній зручно працювати з бібліотеками типу SciPy, NumPy, Matplotlib. Spyder поставляється в комплекті з менеджером пакетів Anaconda. В цілому має якості стандартної IDE, має редактор з підсвічуванням синтаксису, автоматичне доповнення коду, огляд документації.

Thonny — багатоплатформенна безкоштовна IDE, доступна за ліцензією MIT, підтримується інститутом інформатики Тартуського університету в Естонії. Позиціонується як «Python IDE для новачків», повністю, включаючи інтерпретатор Python, ставиться користувачем без адміністративних прав, відразу після установки може використовуватися без додаткових налаштувань. Призначена для навчання, має поліпшену візуалізацію порядку обчислення виразів і виконання функцій, динамічну підсвічування синтаксичних помилок, простий менеджер пакетів. Для професійного застосування, можливостей недостатньо, наприклад, немає підтримки проектів і інтеграції з системами управління версіями.

Середовищем для розробки було обрано PyCharm – інтегроване середовище розробки для мови програмування Python. Це середовище надає засоби для аналізу коду, інструмент для запуску юніт-тестів і підтримує веб-розробку на Django. Також перевагами цього середовища є:

- статичний аналіз коду, підсвічування синтаксису і помилок;
- навігація серед проектів і сирцевого коду: відображення файлової структури проекту, швидкий перехід між файлами, класами і методами;
- рефакторинг: перейменування, витяг методу, введення змінної, введення константи, підняття і опускання методу тощо;
- інструменти для веб-розробки з використанням фреймворку Django;
- вбудований зневаджувач для Python;
- вбудовані інструменти для юніт-тестування;
- розробка з використанням Google App Engine;
- підтримка систем контролю версій: загальний користувацький інтерфейс для Mercurial, Git, Subversion, Perforce і CVS з підтримкою списків змін та злиття.

Для вирішення поставленного завдання були використоні такі бібліотеки: NumPy, face_recognition, cv2, os, sys, PySimpleGUI, shutil, tkinter.filedialog, pathlib.

NumPy – це open-source модуль для Python, який надає загальні математичні і числові операції у вигляді пре-скомпільовані, швидких функцій. Вони об’єднуються в високорівневі пакети та забезпечують функціонал, який можна порівняти з функціоналом MatLab. NumPy (Numeric Python) надає базові методи для маніпуляції з великими масивами і матрицями. SciPy (Scientific Python) розширює функціонал numpy величезною колекцією корисних алгоритмів, таких як мінімізація, перетворення Фур’є, регресія, і інші прикладні математичні техніки.

OpenCV – opensource-бібліотека для комп’ютерного зору, обробки зображень та чисельних алгоритмів з досить широким функціоналом. В цілому, OpenCV – невід’ємна частина стека в частині розробки штучного інтелекту і систем комп’ютерного зору. Реалізована бібліотека на C / C ++, є підтримка Python, Java, Ruby, Matlab, Lua та інших мов. Основними можливостями цієї бібліотеки є:

- кадрування – одна з базових можливостей, яку часто використовують. OpenCV – досить простий і зрозумілий API: якщо треба вирізати частину вихідної картинки – вказуємо координати, кадруємо і продовжуємо роботу;
- зміна розміру – зменшення картинки до оптимального розміру. Це потрібно для тих же згортальних нейронних мереж, щоб зменшити навантаження на систему, і в цілому для зручності в роботі;
- поворот зображення – можливість повертати вихідне зображення в будь-якому положенні, відображати тощо;
- переклад кольорового зображення в чорно-біле або градації сірого – є кілька поширених алгоритмів, коли потрібно виділити якісь важливі деталі зображення, тонко налаштовуючи поріг спрацьовування;
- розмиття або згладжування – ця опція потрібна, щоб заблюрити спочатку чітке зображення. Але з розмитою картинки зробити чітку дана функція не може;
- малювання прямокутників і ліній – прямокутниками позначаємо кордон об’єктів при розмітці дата-сета для систем розпізнавання, підписуємо лейбли, щоб наочно показати, які об’єкти знаходяться на зображенні, де саме і в якій кількості;
- написи –цю функцію використовуть при роботі з відео, коли потрібно динамічно показати певні параметри, або що у нас в даний момент відбувається на екрані: частота кадрів відеопотоку, кількість яких відслідковують в реальному часі в системах підрахунку, додаткова налагоджувальна інформація;
- розпізнавання обличчя – OpenCV має досить потужний функціонал по визначенню об’єктів на зображенні. Реалізовано це завдяки попередньо навченим моделям, заснованим на нейромережах. OpenCV дозволяє дуже швидко знаходити дані. При цьому ми не ідентифікуємо особистість людини, але з певною часткою впевненості можна припустити, що особа перебуває саме в цій частині кадру.

У OpenCV є досить потужний функціонал. Він реалізован завдяки попередньо навченим моделям, заснованим на нейромережах. При цьому ми не ідентифікуємо особистість людини, але з певною часткою впевненості можна припустити, що особа перебуває саме в цій частині кадру.

Основні модулі:

- opencv_core – основна функціональність. Включає в себе базові структури, обчислення (математичні функції, генератори випадкових чисел) і лінійну алгебру, DFT, DCT, введення / виведення для XML і YAML;
- opencv_imgproc – обробка зображень (фільтрація, геометричні перетворення, перетворення колірних просторів);
- opencv_highgui – простий UI, введення / виведення зображень і відео;
- opencv_ml – моделі машинного навчання (SVM, дерева рішень, навчання зі стимулюванням);
- opencv_features2d – розпізнавання і опис плоских примітивів (SURF, FAST і інші, включаючи спеціалізований фреймворк);
- opencv_video – аналіз руху і відстеження об’єктів (оптичний потік, шаблони руху, усунення фону);
- opencv_objdetect – виявлення об’єктів на зображенні (перебування осіб за допомогою алгоритму Віоли-Джонса, розпізнавання людей HOG);
- opencv_calib3d – калібрування камери, пошук стерео-відповідності та елементи обробки тривимірних даних;

- opencv_flann – бібліотека швидкого пошуку найближчих сусідів (FLANN 1.5) і обгортки OpenCV;
- opencv_contrib – супутній код, ще не готовий для застосування;
- opencv_legacy – застарілий код, збережений заради зворотної сумісності;
- opencv_gpu – прискорення деяких функцій OpenCV за рахунок CUDA, створений за підтримки Nvidia.

Саме розпізнавання особи в OpenCV працює дуже швидко. Ця модель досить складна і довга в навчанні, але з досвіду скажемо, що працює вона набагато швидше, ніж нейронні мережі з використанням TensorFlow. І тут для якісної роботи навіть не потрібен графічний процесор.

Face Recognition Library – опенсорсна бібліотека, побудована на C ++. Відрізняється високою точністю, дуже зручна у використанні, її легко розгорнути на сервері навіть без дорогого GPU і у неї досить прості вимоги. Основними можливостями цієї бібліотеки є:

- пошук осіб на фото – на вхід ми подаємо зображення і визначаємо обличчя плюс-мінус як і в OpenCV, єдине, що в цій бібліотеці вище поріг – допускається поворот голови більше, ніж на 30 градусів;
- пошук рис обличчя на фотографіях – розпізнавання фото з отриманням контурів і важливих для ідентифікації рис обличчя (очі, ніс, рот, підборіддя);
- карти координат специфічних особових точок – контур очі складається з 6 точок, всього карта особи містить 68 точок, які дозволяють з великою точністю порівнювати і ідентифікувати особи;
- ідентифікація осіб на фотографіях – отримання даних про те, хто зображений на кожному фото, можемо створити базу «своїх» осіб (співробітників, клієнтів), дізнаватися їх і визначати «чужих» за співвідношенням координат лицьових точок;
- застосування в realtime-рішеннях – це розпізнавання застосовувати в роботі з потоковим відео, використовувати з іншими бібліотеками Python.

Os – це бібліотека функцій для роботи з операційною системою. Методи, включені в неї дозволяють визначати тип операційної системи, отримувати доступ до змінних оточення, управляти директоріями і файлами.

Sys – забезпечує високорівневу взаємодію з операційною системою. Але не для всіх ОС придатні деякі функції.

Shutil містить набір функцій високого рівня для обробки файлів, груп файлів, і папок. Зокрема, доступні тут функції дозволяють копіювати, переміщати і видаляти файли і папки. Часто використовується разом з модулем os.

Для зручного використання системи розпізнавання образів, був написаний простий інтерфейс, як показано рис. 1, за допомогою бібліотеки PySimpleGUI.

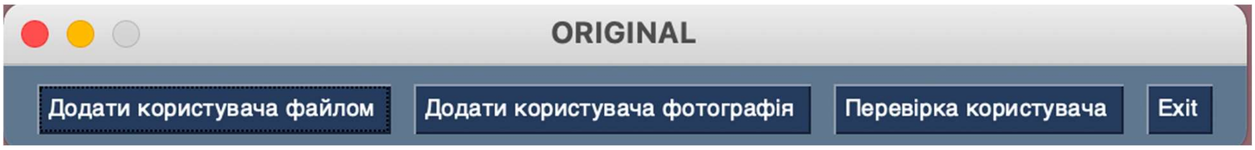

Рисунок 1 – Інтерфейс програми

В інтерфейсі знаходиться 3 кнопки: Додати користувача файлом, Додати користувача фотографією, Перевірка користувача, Exit.

Змінна layout відповідає за елементи вікна. Змінна window відповідає за виклик вікна інтерфейсу. Цикл while True відповідає за функціонування вікна.

Код інтерфейсу наведений нижче:

```
import PySimpleGUI as sg
import shutil
from tkinter.filedialog import askopenfilename
from pathlib import Path
import sys

def func(message):

    print(message)

layout = [[sg.Button('Додати користувача'), sg.Button('Перевірка користувача'), sg.Exit()]
]

window = sg.Window('ORIGINAL').Layout(layout)

while True:
    event, values = window.Read()
    if event in (None, 'Exit'):
        break
    if event == 'Додати користувача':

        func('Pressed button 1')
        import menu

    elif event == 'Перевірка користувача':

        func('Pressed button 2')
        import diplom
window.Close()
```

Для додавання нового обличчя в систему потрібно натиснути на кнопку "Додати користувача файлом", як показано на рис. 2.

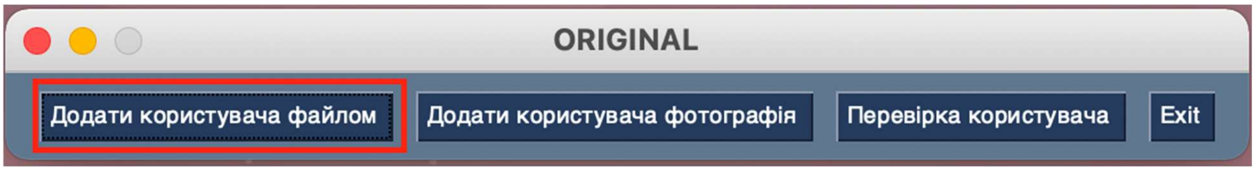

Рисунок 2 – Кнопка додавання нового обличчя

Ця кнопка визиває документ menu, який відповідає за додавання обличчя в програму. Після чого відкриється вікно вибору файлу, в якому потрібно вибрати фотографію користувача.

Для кращого розпізнавання, потрібно використати фотографію обличчя, за стандартами документу. Після вибору фотографії, воно скопіюється в потрібну дерективу. В тому числі використовувалась перевірка на формат файлу, який буде обраний. Якщо це не фотографія, копіювання файлу не відбудеться.

Функція add_user відповідає за додання нового користувача. Змінна filename відповідає за відкриття вікна вибору файла. В змінну fileFormat зберігається формат файлу. Код наведений нижче:

```
import shutil
from tkinter.filedialog import askopenfilename
from pathlib import Path
from PyQt5 import QtWidgets
from PyQt5.QtWidgets import QApplication, QMainWindow
import sys

def add_user():

  folder = 'faces'
  filename = askopenfilename()
  fileFormat = Path(filename).suffix

  if fileFormat == ".jpg" and ".HEIC":

    path = shutil.copy(filename, folder)
    print("complete")

  else:

    print("eror")

add_user()
```

Також, якщо на комп'ютері немає фотографії можна натиснути на кнопку "Додати користувача фотографією", як на рис. 3.

Після натискання на дану кнопку веб камера робить знімок та додає фотографію в потрібну дерективу з ім'ям "New face".

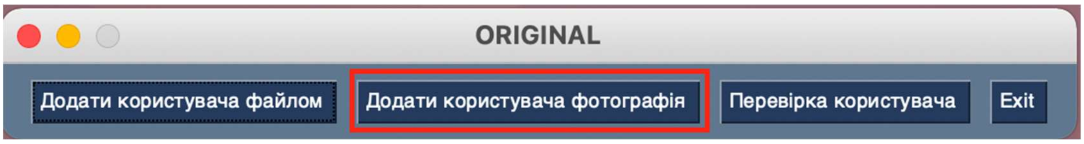

Рисунок 3 – Кнопка додавання користувача фотографією

Код програми наведений нижче:

Спочатку підключають бібліотеки, які будемо використовувати:

```
import shutil
from tkinter.filedialog import askopenfilename
from pathlib import Path
from PyQt5 import QtWidgets
```

```
from PyQt5.QtWidgets import QApplication, QMainWindow
import sys
import cv2
```

Функція, що відповідає add_user відповідає за ввімкнення веб камери, фотографування та збереження фотографії. Змінна cap вмикає веб камеру, після чого завдяки циклу for i in range(30) робиться фотографія. Завдяки функціоналу бібліотеки OpenCV зберігається фотографію в потрібному файлу з ім'ям new face:

```
def add_user():
    cap = cv2.VideoCapture(0)

    for i in range(30):
        cap.read()

    ret, frame = cap.read()

    cv2.imwrite('new face.jpg', frame)
    shutil.move("new face.jpg", faces)

    cap.release()

add_user()
```

Для розпізнавання обличчя, використовують бібліотеки: Opencv та face_recognition. Для ввімкнення розпізнавання обличчя в інтерфейсі, потрібно натиснути на кнопку "Перевірка користувача", як показано на рис. 4.

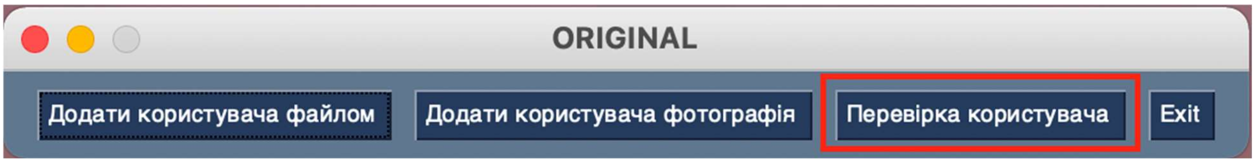

Рисунок 4 – Кнопка розпізнавання обличчя

Ця кнопка визиває документ diplom.py. Після чого, вмикається веб-камера. Якщо користувач не доданий в дерективу, то на його обличчі буде написано "Unknown face.

Якщо фотографія обличчя користувача додана в дерективу, то під обличчям на камері буде написане ім'я людини.

Код програми наведений нижче.

Спочатку підключаємо потрібні бібліотеки:

```
import numpy as np
import face_recognition
import cv2
import os
```

Додаємо змінні, які будуть використовуватись для програмування:

```
folder = 'faces' #папка з фотографіями
photos = [] #масив з фотографіями
fname = [] #масив з іменами файлів
lost = os.listdir(folder) #перелік імен
```

Цикл for cls in lost відповідає за додання фотографій в масив:

```
for cls in lost:
    curPht = cv2.imread(f'{folder}/{cls}')
    photos.append(curPht) #додаємо в масив фотографію
    fname.append(os.path.splitext(cls)[0]) #додаємо в масив ім'я
```

Функція findEncodings(photos) відповідає за декодування фотографій:

```
def findEncodings(photos):
    encList = [] #масив з декодованими фотографіями
    for pht in photos:
        pht = cv2.cvtColor(pht, cv2.COLOR_BGR2RGB) #задаємо формат фотографіям
        encode = face_recognition.face_encodings(pht)[0] #декодування фотографій
        encList.append(encode) #додаємо в масив декодовану фотографію
    return encList
encListKnown = findEncodings(photos) #змінна відповідає за декодовані фотографії
print('Декодування закінчене')
```

Змінна cap використовується для запуску вебкамери:

```
cap = cv2.VideoCapture(0)
```

Наведений нижче цикл відповідає за роботу камери:

```
while True:
    success, pht = cap.read() #змінні відповідають за один кадр відео
    phtS = cv2.resize(pht, (0, 0), None, 0.25, 0.25) #приймає підготовлений кадр з відео
    phtS = cv2.cvtColor(phtS, cv2.COLOR_BGR2RGB)
    facesFrame = face_recognition.face_locations(phtS) #змінна відповідає за пошук схожих облич на відео
    encodeFrame = face_recognition.face_encodings(phtS, facesFrame) #змінна відповідає за кодування фото на відео
```

Цикл for encodeFace, faceLoc in zip(encodeFrame, facesFrame) відповідає за розпізнавання облич:

```
    for encodeFace, faceLoc in zip(encodeFrame, facesFrame):
        matches = face_recognition.compare_faces(encListKnown, encodeFace) #змінна відповідає за відомі програмі обличчя
        faceDis = face_recognition.face_distance(encListKnown, encodeFace) #змінна відповідає за ймовірність збігів
        matchIndex = np.argmin(faceDis) #змінна приймає індекси всіх імен
```

Перевірка if matches[matchIndex]: відповідає за збіг облич, якщо є збіги то змінна name приймає значення імені:

```
if matches[matchIndex]: # перевірка на збіг облич
    name = fname[matchIndex] #змінна приймає ім'я людини обличчя якого збігається з відомим обличчям
        y1, x2, y2, x1 = faceLoc
        y1, x2, y2, x1 = y1*4, x2*4, y2*4, x1*4
        cv2.rectangle(pht, (x1, y1), (x2, y2), (255, 35, 18), 2)
        cv2.rectangle(pht, (x1, y2-35), (x2, y2), (255, 35, 18), cv2.FILLED) # рамка обличчя
        cv2.putText(pht, name, (x1+6, y2-6), cv2.FONT_HERSHEY_COMPLEX, 1, (255, 255,255), 2) #додаю текст
```

Якщо збігів немає, то змінна name приймає значення "Unknown face":

```
else:
    name = "Unknown face"  # змінна приймає ім'я людини обличчя якого збігається з відомим обличчям
```

Наступним елементом кода, у вікні веб-камери малюється квадрат навколо обличчя:

```
        y1, x2, y2, x1 = faceLoc
        y1, x2, y2, x1 = y1 * 4, x2 * 4, y2 * 4, x1 * 4
        cv2.rectangle(pht, (x1, y1), (x2, y2), (255, 35, 18), 2)
        cv2.rectangle(pht, (x1, y2- 35), (x2, y2), (255, 35, 18), cv2.FILLED)  # рамка обличчя
        cv2.putText(pht, name, (x1 + 6, y2- 6), cv2.FONT_HERSHEY_COMPLEX, 1, (255, 255, 255), 2)  # додаю текст

    cv2.imshow("Webka", pht) #створюємо вікно куди буде виводитися відео
    cv2.waitKey(1) # оновлення кадру

sys.exit(app.exec_())
```

Таким чином була розроблена комп’ютерна система розпізнавання образів на основі нейронних мереж з простим інтерфейсом та можливістю додавання нового обличчя в систему розпізнавання.

Philological Sciences

Explanation of idioms used in everyday life in English

Guliyeva Nigar Elchin
Professor, Azerbaijan State Pedagogical University, Sheki branch

English idioms, proverbs , and expression are an important part of everyday English.They come up all the time in both written and spoken English. Because idioms don't always make sense litterally, you'll need to familiarize yourself with the meaning and usage of each idiom.That may seem like a lot of work ,but learning idioms is fun ,especially when you compore English idioms to the idioms your own language .
An idiom is a phrase that, when taken as a whole, has a meaning you wouldn't be able to deduce from the meanings of the individual words. It's essentially the verbal equivalent of using the wrong math formula but still getting the correct answer.
The phrase "kill two birds with one stone" is an example of an idiom. Fluent and native English speakers understand that this doesn't refer to harming birds or using stones, but that someone is completing two tasks at once.

Keywords: İdioms, types of idioms, cliche, proverb, euphemism, syntax

What is an idiom?

An idiom is a type of phrase or expression that has a meaning that can't be deciphered by defining the individual words. Appropriately, the word "idiom" is derived from the ancient Greek word "idioma," which means "peculiar phraseology."
And that's exactly what it is—a phrase that's normal to fluent speakers (every language has its idioms) but strange to others.

People who struggle with idioms often can't see the forest for the trees, which is itself an idiom used to describe someone who's too involved with the details of a situation and can't see the bigger picture at hand. It doesn't involve any forests or trees. (1)
To understand idioms is to see the forest for the trees, or to look at the phrase as a whole rather than focusing on the individual words.

4 types of idioms- Generally speaking, there are four types of idioms: pure idioms, binomial idioms, partial idioms, and prepositional idioms. Some people may consider clichés, proverbs, and euphemisms to be types of idioms as well, but we'll explain why they are different from idioms.(2)
1 Pure idiomThis is your typical idiom, the meaning of which can't be deduced by its individual components. When someone says, "Spill the beans," they're asking someone to reveal a secret, not to pour out a can of beans. But you wouldn't know that by looking at each word of that phrase.
2 Binomial idiom
This idiom is a phrase that contains two words joined by a conjunction or a preposition. Some examples include "by and large" (everything considered), "dos and don'ts" (guidelines on what to do and/or avoid in a certain situation), and "heart-to-heart" (a candid conversation between two people).
3 Partial idiom

This idiom is one that's been shortened into one part, with the second part generally being understood by fluent speakers. People often use the partial idiom "when in Rome," with the understanding that the other person knows the second part: "do as the Romans do."

4 Prepositional idiom

This idiom is a phrase that combines a verb and a preposition to create a verb with a distinct meaning. The phrase "agree on" is a prepositional idiom that combines the verb "agree" with the preposition "on" and is used to express that you share an opinion with someone.

Idiom vs. cliché

A cliché can be an idiom, but an idiom is not always a cliché.

Clichés are expressions or phrases that are overused to the point where they lose their meaning and indicate a lack of original thought. For example, there are few people who feel better when they hear this after a breakup: "Don't worry, there are plenty of fish in the sea." That phrase has been used so often that it fails to have any impact.(2)

Idiom vs. proverb

A proverb is similar to an idiom in that its meaning can't be deciphered by looking at the individual words, but it's different because it's used to give advice to someone else.

If someone says, "Don't cry over spilled milk," they're telling the other person not to worry about something that has already happened. The phrase doesn't mean someone is crying and has nothing to do with dairy. (3)

So once again, a proverb can be an idiom, but an idiom is not always a proverb.

Idiom vs. euphemism

A euphemism is a type of idiom that's used to discuss a sensitive or taboo topic in a polite or understated way.(4) Even if you're not personally made uncomfortable by a subject, there is still a chance you're using euphemisms around it, simply because they're common to the point of cliché. Topics like death, sex, and money have an abundance of euphemisms. For example, "he kicked the bucket" is a euphemism for "he died" (as well as an idiom).

How are idioms structured?

It's difficult to define an idiom's structure because it changes from language to language, and it even varies in different regions that speak the same language. Idioms have more to do with syntax—the specific order of words or phrases—than grammar. (5)Remember that the ancient Greek word "idioma" means "peculiar phraseology," so the rules for how to properly structure an idiom are unique to a specific region.

Most New Yorkers understand the phrase "it's mad brick" to mean that it's cold, but people elsewhere in the US may not understand what the phrase means because the combination of those words is unique to New York City.

Learning the structure of a particular region's idioms takes time and is often achieved by speaking with people from that area.

When are idioms used?

A speaker or writer often uses idioms to convey a message to someone else in a more creative way. Think of them as a type of spice that prevents your conversation or writing from being too bland. So instead of saying "you're correct" several times, you might throw in "you hit the nail on the head" or even "bingo" for a little variety.

When are idioms used in writing?

As mentioned above, idioms can be used to prevent your writing from appearing too dry or formal, but they can also be used to help the writer connect with the reader.

If you were writing for a Texan audience, and you wanted to describe something as large, you wouldn't just say that. Instead, you would say it's "bigger'n Dallas," which means it's very big. This shows the reader that you have a familiarity with the topic you're writing about.

Other types of idiomatic usage

There is another type of idiomatic usage used by fluent English speakers, and it’s called collocations, or a combination of words that have a specific meaning.
In English, it’s common to describe a backup of cars on the highway as “heavy traffic.” It’s not common to describe it as “crowded traffic.” Although the phrases could reasonably be interpreted the same way, the collocation “heavy traffic” simply “sounds right” to English speakers.
Why are idioms challenging for language learners?

Idioms are challenging for language learners because their meanings can’t be deciphered from the meanings of the individual words. It’s like giving someone a jigsaw puzzle containing pieces that look like one thing, only for the finished product to be something else entirely.
But as we mentioned before, that’s also true of people from different parts of the same country who speak the same language.
Because there are no steadfast rules for idioms, the only way for language learners to become familiar with them is to speak with native speakers and have them explained.
Idiom examples
Here are some common idioms in the English language, along with their meaning.
Under the weather Meaning: Not feeling well (3)
Break a leg Meaning: To wish someone good luck
Once in a blue moon Meaning: Rarely
The ball is in your court Meaning: A decision is up to you
You can say that again Meaning: That is true (5)
Beat around the bush Meaning: To avoid saying something
Hit the sack Meaning: To go to bed
Kick the bucket Meaning: To die
By the skin of your teeth Meaning: Barely made it
All the rage- Very fashionable(4)
Ball park figure-a rough estimate
Threw in the towel-Give up
Hell for leather-Very fast
Chin music-Meaningless talk
On cloud nine-Extremely happy
Cutting edge – İnnovation (2)
Ballpark figure- A rough estimate
Sick as a dog- Extremely ill

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In "Kitabi-Dada Gorgud" the conjunction "and" as a means of closing the text

Narmin Mehdiyeva
Azerbaijan State Pedagogical University,Teacher of the modern Azerbaijani language department

SUMMARY
In "Kitabi-Dada Gorgud" the conjunction "and" acts as the most important means of closing the text. Although this conjunction, which serves to close words, phrases, sentences and parts of complex sentences, is of Arabic origin, its function is very important.
In oral speech, the wider function of "and" in written speech is mainly expressed by richer means (eg: yes, let me say that // this, and / and also, but, but, but, there and // there is also, and later...) Let's note that these tools have a lot of role in written speech as well.

Key words: epic, conjunction, lexical unit, suffix

"Kitabi-Dədə Qorqud"da **"və"** bağlayıcısı mətni bağlayan ən mühüm vasitə kimi çıxış edir . Sozü, söz birləşməsini, cümlə və mürəkkəb cümlənin hissələrini bağlamağa xidmət edən bu bağlayıcı ərəb mənşəli alımma olsa da, onun funksiyası çox mühümdür.

Şifahi nitqdə **"və"**nin daha çox yazılı nitqdəki geniş funksiyasını əsasən daha zəngin vasitələr ifadə edir (məs.: hə, onu // bunu da deyim, həm / həm də, amma, ancaq, lakin, orası da // burası da var, bir də ki, sonra...) Qeyd edək ki, bu vasitələrin yazılı nitqdə də rolu çoxdur.

"Kitabi-Dədə Qorqud"da, eləcə də başqa eposlarda dəxi, (genə), körəlim, görək, hə, di və s. ədatlar, modal sözlər danışıq dilinin təsiri kimi çıxış edərək "və"nin yazı ənənəsindəki funksiyasını yerinə yetirməyə xidmət göstərir.

"Kitabi-Dədə Qorqud"da cəmi bir yerdə "və" bağlayıcısı əvvəldə də gəlir. *Mənim çəkişdiyim, mənim qılınc çalıb baş kəsdiyim görgil, öyrəngil.*

Və həm bizə pusu olğıl, oğul,—dedi (5,73) .

Ümumiyyətlə götürdükdə isə, epos ənənəsində süni yolla mürəkkəb cümləni genişləndirməyə az rast gəlinir. Eposların nəşrində mətnin poetik-semantik, poetik-qrammatik struktur incəliyinin nəzərə alınması vacibdir. Bu məsələ aktual üzvlənmə ilə qırılmaz şəkildə bağlıdır.

Mətnin kəmiyyət xarakteristikası (parametri) da başqa baxımlar kimi çümlə ilə müqqyisədə aydınlaşır.

Azərbaycan eposlarında dilin qrammatik və üslubi-poetik qanunauyğunluğu aktual üzvlənmə baxımından da öz əksini mətnin təşkilində tapır.

"ya" bağlayıcısı.

«Kitabi-Dədə Qorqud»un dilində ınətnlər bəzən dialoqlar şəklində qurulduğundan dialoji nitq strukturu da mürəkkəb sintaktik bütövlərin komponentlərini əlaqələndirir.

Əzrayıl aydır "Mərə, dəli qavat, mana nə yalvararsan, allah-təalaya yalvar. Mənim də əlümdə nə var. Mən dəxi bir yumuş oğlanıyam" -dedi.

*Dəli Domrul aydır: **"Ya** pəs can verən, can alan allah təalamıdır?"*

Bəli oldur!-dedi.

*Döndi Əzrayilə: **"Ya** pəs sən nə eylоməkluqdasant Sən aradan çıqğıl, mən allah-təala bilə xəbərləşim", -dedi. (5, 80-81).*

Həm, həm də, və həm

...Basat aydır, "Yoğ, ağ saqallu əziz baba, vararam", didi. Əsləmədi, biləgindən bir tutam oq çıqardı, belinə soqdı. Qılıcın ***həm*** *quşandt. Yayın qarusına hımqdı. Ətəklərin qıvardı. Babasının-anasının əlini öpdi, həlallaşdı, "xoş qalun" -dedi.(5,87)*

*Dədə Qorqud döndi. Oğuza gəldi. Aydır: " Bönqlu qoca ilə Yapağlu qocayı Dəpəgözə verün, aşın pişürsün! " –dedi." **Və həm də** gündə iki adam ilə beş yüz qoyun istədi"-dedi. Bunlar dəxi razı oldı*

Ki,kim

Basat əlinə aldə. Adı görklü Məhəmmədə salavat gətürdi. Sügüligi Dəpəgözün gözünə eylə basdı ***kim****, Dəpəgözün güzi həlak oldı. Şöylə nərə urdu, hayqördı* ***kim****, tağ və taş yangulәndi.Basat sıçradı. Qoyun içinə mağaraya güşdi. Dəpəgöz bildi* ***kim,*** *Basat mağaradadır.*

Bu bağlayəc dastandaı yalnız mürəkkəb cümlənin komponentlərini bağlayır.

Əgər *bağlayıcısı.*

Altun dağı Alayğırı bilürüz bəkilindir

Bəkil qanı?

Qara polad uz qılıcun Bəkilindür

Bəkil qanı?

Əgnün dəği dəmir tonun Bəkilindür

Bəkil qanı?

Yanun dağı yigitlər Bəkilindür

Bəkil qanı?

Əgər *Bəkil bunda imiş isə,*
Gecəyədəkin cəng edəydik,
Ağca tozlu qatı yaylar tartışaydıq,
Ağ yeləkli ötkün oxlar atışaydıq.
Sən Bəkilin nəsisən, oğlan, degi mizə!-dedi. (5.s.108)

*Kafir aydır: "Oğlan, alın dunsa tənrinəmi yalvarursan?Sənin bir tənrin varsa, mənim yetmiş iki bütöanam var!"-dedi. Oğlan aydır:"**Ya** asi məlun, sən pütlərünə yalvarırsan, mən aləmləri yokdan var edən allahıma sığındım"-dedi.*

Həq təala Cəbrayilə buyurdı kim: ***"ya*** *Cəbrayil, var, şol quluma qırq ərcə qüvvət verdim"-dedi.(5.s.109)*

Qazan aydır: "Ölülərinizdə andan yorğa yoqdır, həp ana binərəm!"-dedi. Övrət aydır: "Vay, sənin əlündən ***nə*** *yer yüzində dirimiz* ***nə*** *yer altında ölümüz qurtulurmış!"-dedi. Gəldi, təkura atdır: "Kərəm eylə, ol tutarı quyudan çıqar. Qızcığazın belini üzər, yer altunda qızçuğazıma binərmiş. Qalan ölülərimizi cəm edərmiş. Həm ölülərimiz içün verdügimüz aşı əllərindən çəkübalub yeər imiş. Anun əlindən nə ölümiz, nə dirimiz qurtulurmış! Dinin eşqinə, ol əri quyıdan çıqar,-dedi.*

Vardılar, Qazanı quyudan çıqarub gətürdilər. Ayıtdılar:"And iç ***kim****, bizim elümizə yağılığa gəlməyəsən.* ***Həm*** *bizi ög, Oğuzi sındırğıl, səni qoyu verəlim, var get!"-dedilər. Qazan aydır: "Vallah, billah, toğrı yolı görər ikən əgri yoldan gəlmiyiyəyin!"-dedi. Ayıtdılar: "Vallah, qazan eyü and içdi",-dedilər. "Emdi Qazan bəg, di, bizi ög!"-dedilər. (5.s.117)*

Ümumilikdə götürsək belə nəticəyə gələ bilərik ki,

-leksik vahidlər, mənaca söz qrupları bədii mətnin (daha çox şer mətninin) struktur-formaca təşkilinə xidmət göstərir.

-qrammatik forma bədii mətnin struktur-forma detalına çevrilir.

-informasiya daşıyıcılarının eyni (ən azı yaxın) həcmdə olmaları struktur - forma amili rolunu oynaya bilir. Bu zaman tam sintaqmların hüdudları daxilində yarımçıq sintaqmların heca ölçüsü növbəti cümlədə də saxlanılır.

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MAHİRA HUSEYNOVA – A WOMAN OF POETRY AND VİCTORY

Ph.D. Svetlana Mammadova
Azerbaijan State Pedagogical University, Philology faculty, Foreign Languages Center department, Baku, Azerbaijan

A woman's name, a mother's name, which is a symbol of nobility, elegance and beauty, has always been held in high regard in our country. The Azerbaijani woman has rendered exceptional services in the preservation and survival of our national and moral values with her talent, intelligence, will and determination. Many glorious and bright pages of our history and culture are connected with the name of a woman. The Azerbaijani woman has given the world literary personalities, prominent scientists and artists, well-known political figures who created the pearls of the cultural treasure of humanity. In the thinking of our people, the concept of mother is the embodiment of the homeland, the Motherland. Today, the Azerbaijani woman is an active participant in the socio-political, economic and cultural life of our country. Her achievements in science, education, culture, healthcare and other fields have time and again confirmed that Azerbaijani women have great potential. The great leader Heydar Aliyev has bright examples of careful and caring attitude towards women both in his personal life, in his state activities, and in his speeches. Our national leader said in one of his speeches: "What do women want when they suffer? Just attention, care and respect for them! These concepts are very broad. Attention and care can be in different forms. However, men should always look up to women, and women should have special respect. let them treat women carefully". I saw that attention, love, care in the attitude towards Mahira Nagygizi, vice-rector for international relations of Azerbaijan State Pedagogical University, doctor of philology, professor, presidential scholarship holder, author of lyrical and sincere poems, and I was proud.

Mahira Nagygizi was born on November 4, 1960 in Sust village of Babek district of Nakhchivan Autonomous Republic. Due to the situation, the family moved to the village of Khalkhal, in 1968 he entered the first grade of the eight-year high school of the village of Khalkhal. In connection with changing her place of residence again, in 1978 he graduated from Novkhani settlement No. 1 secondary school named after Mehdi Huseynzade, Absheron region. In 1980, he was admitted to the Faculty of Philology of the Azerbaijan Pedagogical Institute named after V.I.Lenin, and in 1984 he graduated from the institute with an honors diploma.

Ms. Mahira, who started her teaching activities in secondary school No. 1, Mehdiabad settlement, Absheron district, by appointment in 1984, continues her honorable profession at the highest level today.

Mahira Nagygizi is a doctor of philology since 2017. In 2018-2021, he was the dean of the Faculty of Philology of ADPU. According to the relevant order of the Minister of Education, from April 2021, the Vice-Rector for International Relations of ADPU was appointed

When Mahira Nagygizi was still a student, studying at the philology faculty of the current ADPU (80-84 years), her poems were published both in the field newspaper of the institute and in periodicals, and her poems written in the folk style were welcomed from those times.

Her poetic creative achievements began to develop in parallel with her scientific creativity. The author of several textbooks, 15 monographs, and more than 200 scientific articles, Mahira Huseynova Nagygizi has a number of articles published in the scientific press of foreign countries - USA, Czech Republic, Russia, Turkey, Kazakhstan, Ukraine, Tatarstan and other foreign countries, her books Articles appreciating her creativity were published in the republican press - newspapers and magazines.

Mahira Nagygizi, who has a unique place and signature among modern women poets, is the author of more than 20 books of poems.

He is the author of public and sincere lyrical poems in our contemporary literature, which originate from folklore and lively folk colloquial language.

Appreciating the wisdom, power, and supremacy of the word, Mahira Nagygizi elevates the word to God. He not only writes poetry, but also lives her poems. As said in one of her lines, the poet "who is a slave to the truth" is uncompromising against injustice and injustice. A mother who is worried about every child of the Motherland wants peace and harmony. "Mahira, her pain is funny, why is there no one who laughs in her pain," says the poetess. The heart of the sincere, friendly poetess, emphasizing her art and profession, is like a rich memory book. The yeast of her poems is kneaded from sincerity, nobility, purity and holiness. In short, he is a man of spirit.

One of the notable merits of Mrs. Mahira's pedagogical activity is that she is the initiator of the teaching of a number of elective subjects in the teaching process. At the same time, he printed the programs of those subjects and prepared methodical materials. For example, "Abdulazal Demirchizadeh and the phonetics of the Azerbaijani language" (Baku, 2014); "Hasan Mirzayev and the verb in the Azerbaijani language" (Baku, 2014); "Mukhtar Huseynzade and the morphology of the Azerbaijani language" (Baku, 2014); "Modern Azerbaijani language" (Baku, 2018) are just a few of these programs for elective subjects. Baku, 2015) and the 420-page textbook "Linguistic analysis of Azerbaijani Ashiq and El poets of the 19th-20th centuries" (Baku, 2018) significantly helped the teaching of our language at a high level.

In the person of Professor M. Huseynova, this honorable mission, which is characterized as an organic unity of scientific-pedagogical work and social-spiritual activity, combines the duties of providing services for the deep assimilation of the ideas of independent statehood. The professor's monograph "Mission" dedicated to the outstanding role and services of the outstanding statesman Heydar Aliyev in the development of the independent state of Azerbaijan is a manifestation of the mission of a citizen, intelligent woman to fulfill her moral duty in front of the great and honorable name of the great leader. This valuable book is an important page of Azerbaijan Heydar Aliyev studies, which has already created a great living chronicle. The book "Mission" is a successful scientific result of expressing the life path, struggle and great ideals of the national leader Heydar Aliyev together with the endless respect of the enlightened intellectual of Azerbaijan and the tireless researcher's work. [1] Another book published by Mrs. Mahira called "Oratory skills of our national leader" was written as an expression of great love for the inexhaustible legacy of the great leader. The professor's monograph "Heydar Aliyev and the concept of the development of the Azerbaijani language", published recently, is a valuable contribution to Heydar Aliyev studies. These are the words of Mahira Huseynova about the genius and great leader Heydar Aliyev, from the heart of a scientifically based scientist.

The multifaceted scientific creativity of Mahira Nagygizi includes Azerbaijani linguistics, literary studies, Turkology, methodological issues of our language, journalism, and artistic creativity. As it is known, the linguistic studies based on the study of fiction in Azerbaijani science have been developed mainly in two areas: literary language history and stylistics. M. Huseynova, on the other hand, expanded the scope of literature-oriented linguistic research by giving preference to the study of onomastic units and toponyms based on the rich love literature and folk poetry materials of Darelayaz district. Her monograph "Onomastic units in the works of Ashiq and poets of Daraleyaz district of Western Azerbaijan" is one of the first successful studies in this direction. This kind of scientific approach to the issue created conditions for the theoretical clarification of the deep layers and social and cultural roots of the oral folk literature, as well as the revival of the real and natural picture of the grammatical structure. In this sense, M. Huseynova's research dedicated to the linguistic study of the folklore of the Daraleyaz district, which is one of the ancient lands of Azerbaijan, also fulfills the task of researching the history, ethnography and literature of that region. M. Huseynova's doctoral dissertation defended in 2017 on "Language and stylistic features of the work of Western Azerbaijan Ashiq and poets of the 19th-20th centuries" serves to further deepen the attitude of a citizen scientist to the national folklore heritage, which began during the period of her doctorate. In different years, M. Huseynova created an excellent series of linguistic studies on grammar with her consistent and well-rounded studies devoted to the study of separate areas and problems of the linguistics of the works of Azerbaijani Ashiq and poets.

As a continuation of this series, the professor wrote "Phonopoetics of Ashiq and Poets" (2015), "Lexicon of Ashiq and Poets" (2016), then "Stylish Phraseology of Ashiq and Poets", Style of Ashiq and Poets Morphology", "The Stylistic Syntax of Ashiq and Poets", which was published in the same year, also serves a deeper investigation of the problem.

Hasan Ibrahim oghlu Mirzayev, a prominent scientist and well-known public figure, played a special role in the formation of Professor Mahira Huseynova's outlook and destiny. Both in the family environment and in the scientific-literary environment, Professor Hasan Mirzayev was accepted as a real example of mastery and teaching for Mrs. Mahira. Her monograph "Issues of philology in the work of Hasan Mirzayev" (2014) is an instructive account of the moral duty to her master and teacher, along with competently researching and summarizing the current problems of the modern Azerbaijani language based on the scientific services of an outstanding scientist who has made important contributions in the field of linguistics. As we know, Mahira Nağı gizi defended her dissertation in 2011 to get the title of Doctor of Philosophy. A few years later, the scientist expanded the dissertation and published it in the form of a 231-page book. Here, the scientific activity of Hasan Mirzayev, an outstanding scientist and pedagogue, public figure, as well as his services in the development of Azerbaijani philology, are examined. In the introductory part of the book, detailed information about the life and scientific-pedagogical activity of a prominent public figure is provided. It is known that Professor H.Mirzayev was born in Darelayaz district, a prosperous corner of Western Azerbaijan, and after graduating from high school, he worked as a teacher and school director in the region where he lived for some time.

During this period, he encountered the chauvinistic and dishonest attitudes of the Armenians who settled here from abroad towards our people, who are the owners of this land, and could not come to terms with these unfair and unjust behaviors, so the fight against injustice became her life credo. In I chapter of the book, the issues of the research of the verb category in H. Mirzayev's work are reflected. The scientist investigated the morphological structure of the verb and the specific features of the active-inactive category in verbs for the first time in Azerbaijani linguistics on scientific grounds. II Chapter of the book examines issues related to the modern Azerbaijani language and the grammatical system of the Azerbaijani language in Hasan Mirzayev's research. It should also be noted that Professor H. Mirzayev was the first to scientifically investigate the verb-adjective category in the modern Azerbaijani language. The place of verbal adjectives between verbs and adjectives, the different characteristics of verbal adjectives and adjectives formed from verbs was studied for the first time by this scientist, and all these issues were analyzed and studied in detail in the book of Professor Mahira Nagygizi. In chapter III, the researches of H. Mirzayev in the fields of onomastics and dialectology were reviewed. Finally, in chapter IV of the book, H. Mirzayev's folklore creation and artistic heritage are involved in the research. This book is a valuable contribution to the enrichment of the history of Azerbaijani linguistics.

It should be noted that the problems of spelling have become one of the actual philological and cultural issues that concern our intellectuals today. This problem is relevant as an issue within the scope of research of Professor Mahira Nagy. Her 249-page book "Punctuation Issues in Modern Azerbaijani Language" (2017) is of special importance in this regard. Here, issues related to the teaching process of the punctuation system are interpreted in terms of the achievements of modern linguistics, both theoretical and practical aspects of this system are analyzed on the basis of rich language material. After that, in chapter I of the book, the history of punctuation marks, in chapter II, the points of processing of punctuation marks in the written language, and in chapter III, conditional marks and their processing features were comprehensively discussed for the first time in our linguistics.

In a 319-page book entitled "Scientific and aesthetic problems of language" (2019), Mahira Nagygizi researched the most pressing problems of our language in the era of globalization. It is known that the decrees and orders signed by our national leader H. Aliyev and the State Program approved by President Ilham Aliyev, a worthy follower of his political course, set important tasks for our linguists and philologists in the direction of protecting the purity of the Azerbaijani language and preventing foreign influences. In the work, official documents signed by the country's president in the field of language construction are used as a basis, and flaws and defects in the language of billboards, internet resources, press, television and radio are revealed, and the researches of our classical writers, poets, literary scholars are analyzed in one or another direction.

The scientist's 353-page book "Historical-etymological dictionary of food and drink names of the Azerbaijani language" (2018) is also of great importance in terms of studying the history, culture and ethnography of our language. More than 450 names of food and drinks are reflected in this dictionary, compiled in historical-etymological aspect. In the compilation of the dictionary, special attention was paid to the extent to which the names of food and drinks, which are an important component of the culinary lexicon, are used not only in Azerbaijani, but also in Turkish languages and dialects. At the same time, along with the names of food and drinks that are functional in our modern times, archaic words that are in the lower layers of our language or become passive have not been overlooked in the dictionary.

M. Huseynova's scientific works are important from the point of view of literary studies, as well as from the point of view of grammar, as they cover both folklore and linguistics. Professor M. Nagygizy also has unique merits in researching issues of literary studies in Azerbaijani philology. In this regard, the book "Mountain image in Azerbaijani poetry" (2013) is noteworthy. The book first looks at the genesis of the image of the mountain, and then explores the idea-content characteristics of the poetic examples written on the mountain image, which has a mythological essence in our classic and modern poetry, in old tales, epics, proverbs and proverbs. The books "Sharpness of the Scholar's Thought" (2013) and "Dardi terin Hasan Mirza" (2013) are directly dedicated to the study of the literary heritage of the outstanding philologist Hasan Mirzayev. dedicated to the study of the life and creativity of professor Kamran Aliyev, corresponding member of The book "The Great Azerbaijani Thinker Nizami" (2022) published in Turkey is also of great importance in terms of promoting the legacy of the great Azerbaijani poet Nizami Ganjavi in the Turkish world.

In recent years, Professor M. Huseynova has further expanded the scope of her research in the field of researching the peculiarities of the linguistic layers of national folklore, taking practical steps towards bringing Turkish languages to the scale and forming scientifically generalized theoretical conclusions and propositions in this direction. In this regard, M. Huseynova's monograph "Issues of comparative research of dialects and dialects of Turkish languages in Azerbaijani linguistics" (2019) is one of the important indicators of the development of Azerbaijani linguistics towards Turkology in the period of independence. In the book, the issues of studying the theoretical and practical issues of all Turkic languages in the work of some outstanding Azerbaijani linguists in a comparative aspect are studiedThe study of the same problem continues in the 600-page book entitled "Mutual integration of dialects and dialects of Turkish languages"

(2020). Here, the mutual integration of dialects and dialects of all Turkic languages, as well as the historical genetic and structural analysis of adapted words in the phonetic, grammatical, lexical-semantic direction -functional features were reviewed on the basis of rich dialectological and Turkological sources. In this direction, the scholar's recently published monograph entitled "Grammatic features of M. Kashgari's "Divani-luğat-it-turk" work" attracts special attention. This work was published for the first time in Azerbaijani linguistics in the 11th century It is noteworthy as a monograph dedicated to the comprehensive study of the grammatical structure of the All-Turkic monument, as well as to the comparative study of modern Turkic languages with their dialects and dialects.

The book describes the services of the eminent Turkologist Mahmud Kashgari in the field of phonetic, lexical, morphological, and syntactic features of Turkish languages, traces the roots of genealogical and typological kinship of modern Turkish languages. At the same time, the work examines the development characteristics of individual Turkic languages from the Kashgari period to the present day, and their characteristic grammatical features are reviewed.

Professor M. Huseynova's recently published book "History created by word and deed", which is a collection of scientific and journalistic works, clearly shows her position as a citizen scientist in the investigation of innovations in social and political life. At the same time, the study of separate issues of philology is reflected in this book.

Moral purity and patriotism are also revived in M. Huseynova's artistic creations in a unique way. Her poetry is a clear poetic expression of feminine pride and masculine courage. He wrote "My mother" (2006), "Drinking water, mother" (2006), "Songs born from mother's love" (2008), "My mother will live me" (2009), "You are the lamp of my life" (2010), " In her poems collected in her book "My Mother's World" (2015), he managed to create a natural poetic expression of the divine word by "rooting the lullaby of her mother's heart on the notes of citizenship and patriotism" (I. Habibbayli).

Mahira Huseynova, whose creative credo is motherland, nation, Azerbaijaniism, turned her pen into a weapon during the Second Karabakh War. Muzaffar added a poetic poem to every victory of our army, to the wise policy of the Commander-in-Chief. Mahira khanum wove a wreath of words to our lands freed from Armenian occupation, she walked around those places mixed with words, her poems of victory turned into songs of victory. Whether it is because she grew up and was brought up in a large family, or because her soul was kneaded by the magic of words, the concepts of motherland and homeland form the cornerstone of Mahira Huseynova's poetry. No matter how wide the scope of her poems is, he rmost ambiguous feelings and most beautiful metaphors are addressed to the Motherland:

This is not the land called motherland
Mother's knee is the motherland.
If you have a chest to lay your head on,
If it is the cradle of your soul, know that it is the motherland.

Poetisms "beside mother's knee", "a chest to lay your head on", "cradle of the soul" make everyone feel the taste and salt of love for the Motherland, regardless of age. No matter what she writes about, national and moral values, the ideology of Azerbaijaniism, love of the Motherland, family bigotry, and an optimistic view of events are the main lines of Mahira Huseynova's poetry.

In Mahira Nagygizi's poetry, above all, the concerns and heartbeats of a citizen poet are heard. The poet, who loves to praise the motherland's spring, summer, flowers, mountains, stones, and rains, writes poems on the theme of victory in the days of hard trials - the days of the Patriotic War at the end of the 20th century. The horrors of the 44-day Patriotic War, Armenian ingratitude, betrayal, bravery of brave sons shielding their chests from enemy bullets, the greenness of bombed homelands, the moaning of babies, the lamentation of mothers, the revenge of peaceful residents were turned into poetry in the poems of the poetess.

Can you go to sleep when the blue light is gone?
Troubled, looking for a solution.
My heart can bear it, he only lived
He dreams of his dreams.
There is a cry here in Alkhanli,
A mother calls the world to the truth.
If you don't have a diamond, exchange it armenian khunkar,
Zahra's blood is drown us all.

During the 44-day long Patriotic war, the creative credo of the poetess was rooted in the determination to win and the joy of victory. With a series of poems, Mahira Huseynova created triumphant poetry in contemporary literary studies. The love of the Motherland, the glorious victories of our army, the wise policy of the Commander-in-Chief, the glorification of our lands freed from occupation are in the same form as the love of the Motherland, the glorious victories of our army, and the glorification of our lands freed from occupation in her triumphal poems written on the eve of the Patriotic War. The poet, like a mother, blessed the soldier sons of the motherland who put their chests forward and went to war, called them to be ready for the last battle, to reach the end of the road.

In general, this short description shows that Professor Mahira Nagygizi is tirelessly writing and creating in the development of our philology as a selfless scientist. Presidential scholarship holder, professor Mahira Nagygizi is living the age of wisdom as a prolific philologist. We wish this great scientist good health in her personal life and great success in her multifaceted and productive scientific-pedagogical activity.

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LINGUISTIC AND CULTURAL ASPECTS OF SIMULTANEOUS TRANSLATION

Babayev Javid Sabir
The head of the chair of "English and methods", Nakhchivan State University, Azerbaijan

Abstract
The article analyzes simultaneous translation in terms of linguistic and cultural perspectives. It has been noted that translation emerges as a result of inter-lingual transference. Besides, translation is also a transference of interdisciplinary data from source into the target language or vice-versa. The study reveals that translation is not only a linguistic phenomenon, but also a cultural act. To be able to translate the information from one language into another, the interpreter or translator should master the phonology, morphology, syntax, semantics of both languages properly. The article discovers that there is an inevitable bond between linguistics and translation. A translator or an interpreter should be a proficient linguist, as well.
Key words: simultaneous translation, interpreter, translator, cultural aspect, linguistic aspect

Translation deals with description, theory and practice of translation. Since it studies the translation both as an inter-lingual transference and as an intercultural communication. Translation studies may also be treated as an inter-discipline which mentions different fields of study such as cultural studies, history, linguistics, computer sciences, philosophy, semiotics and rhetoric. As obvious, it is the transference from one language to another one. In other words, translation is also the transformation of ideas, feelings and wishes from one language into another one. House gives a definition about the translation as "not only a linguistic act, it is also a cultural one, an act of communication across cultures" [6, p.11].

Linguistics owns the subfields of phonology, morphology, syntax, semantics, etc. There is a close relationship between translation and linguistics which will be mentioned in the next semi-chapters. Linguistic theories views translation as a linguistic activity. Catford claims about translation; " Translation is the replacement of textual material in one language by equivalent textual material in another language" [4, p.105]. Hodges says: "The linguistic approach to translation incorporates the following: meaning, equivalence, shift, text purpose and analysis, and the discourse register; which can be examined in the contexts of structural and functional linguistics, semantics, pragmatics correspondence, sociolinguistics and stylistics" . A translator plays the role of mediator between languages. Hence, translation is not only a bridge between languages, but also between different cultures. House thinks: "Translation mediates between languages, societies and literature, and it is though translation that linguistic and cultural barriers may be overcome" [6].

There is a close relationship between translation and linguistics. The translation draws the attention of a number of subjects and methods, particularly contrastive analysis. There is also computational linguistics which applies computer devices to address questions in theoretical linguistics as well as to form applications for use in data retrieval, machine translation and other uses.

Lexical asymmetries also differ in semantic fields of relevant words across two languages and in different patterns of semiosis. One can find morphological asymmetries like form distinctions between languages which require completed action from continuous action. There are some gender or number differences in some languages while these categories don't exist in other languages. Syntax might also be different or similar across two languages. Cognate languages don't experience such problems while non-cognate languages own such challenges. Tymoczko claims: "Syntax is also often highly variable between languages, particularly in translation across two language families and idioms are by definition almost always asymmetrical across languages" [7]. The study of linguistics may also be applied in translation and interpretation. This type of analysis may be seen while viewing the structures and idioms of a language and comparing them with their counterparts in another language. Sometimes, it is seen that a particular idiom or concept or a phrase can be found only in one language while they are a common expression in some other languages. Translator should be very literate and he/she should understand the meaning of most words in the sentence. If the translator does not understand the meaning of the phrases and words in the text, he/ she won't be able to transfer the correct meaning into the target language. The translator should know about historical and cultural background of native and target languages. For this reason, translation should be accepted as both cultural and linguistic activity. Translating always involves both language and culture simply because the two cannot be really separated.

Besides deep language knowledge, practice of simultaneous interpreting takes many years. A high-skilled simultaneous interpreter works in different fields, therefore the interpreter should learn relevant terms and be fully trained. Some interpreters are specialized in medical sciences while others are good at law or economics. As obvious it is not an easy job to be aware of all the terms. An interpreter who translated drug instructions for 20 years, will undoubtedly know more than even doctors. Since that translator translated the symptoms, treatment, side-effects, administration doses, etc., many times. In the meanwhile, the translator will have a deeper theoretical knowledge than doctors. So that interpreter can easily translate medical terms and even can write prescriptions to the patients. The interpreter unknowingly masters that profession very well.

A simultaneous interpreter should possess special psychophysical parameters. He/she should be able to overcome stress. Its most distinctive and intricate feature is the ability to listen and translate simultaneously. This kind of interpreter should possess high intelligence qualities. He/she should be very fluent and proficient in both source and target languages. Other criteria that a skilled interpreter should own are a good focus and proper distribution of attention, a strong memory in order to retain long sentences in mind deep language abilities, swift reaction, physical tolerance, clear pronunciation and good hearing.

Interpretation is the verbal transference of meaning between languages. Two major methods of interpretation are consecutive and simultaneous. In consecutive translation makes notes while the speaker is speaking, then he/she translates the information into another language once the speaker stops speaking. The sentences are sometimes very long containing three or more complex and compound sentences which force the interpreter to retain all necessary details in his/her mind. There is no need to translate the sentences 100 percent grammatically correct. 60-70 percent of main details should be exact. The major thing is to convey the main essence of the information. The interpreter may use synonyms and the words with closer meanings.

In simultaneous translation, interpreter listens to the speaker and translates as he/she is listening. The translation process occurs in real time or simultaneously. It can be carried out face-to-face or by means of earphone audio system and microphone. Simultaneous interpretation usually happens in a conference or a meeting where foreign participants are found.

Simultaneous translation requires a potent focus from the interpreter before all. The delivery of the data in another language may take a few seconds after the speaker starts his/her speech. The interpreter should listen to the speaker very carefully and convert the sentences and immediately deliver the message to the audience in the target language. An interpreter should own excellent speech and be able to improvise the sentences. Simultaneous interpretation is sometimes known as conference interpreting, too. Simultaneous interpreting is usually used in enormous international conferences and meetings.

In consecutive translation, the speaker utters a sentence or two or more successive sentences before the interpreter translates. Speech delay is observed during the interpretation process. This type of translation is implemented mainly in smaller meetings or conferences at which time is not a big deal. Consecutive interpreting is usually considered for school conferences, interviews and medical consultations.

Unlike simultaneous and consecutive translations, there is no need to have perfect listening skill in sight translation. Babayev Javid underlines this idea in his article: “The most inevitable language skills in sight translation process are reading and speaking skills. Because the translator sees the text first, then interprets the information shown there. The translator does not need to have perfect listening skill since the translation is done by vision and speaking” [3, p.84].

Translation is indispensable in spreading of the information, ideas and knowledge. It plays the role of bridge between diverse cultures. For this reason, translation is very crucial for peace and social harmony. Translation is also one of the means that allows the people to expand their knowledge. For instance,

The Bible has been translated into about 531 languages around the world. Arab translators managed to retain the ancient Greek philosophers’ ideas alive in the Middle Ages. The significant role of written translation is undeniable in this case. However, simultaneous translation occurs in international summits or meetings, conferences held for different purposes. Simultaneous translation is a bit more intricate compared to written translation which has been identified above. Actually, as the technology improves, there will be no need for a human translator. There are numerous translation programs or applications which are able to translate from the native language into any language or vice-versa. This is also called machine transition. However, most translation applications have been designed and installed in consecutive form. You can easily download such applications from the internet on your phone and use them in the countries whose languages you don’t know. The translation procedure is not so difficult. Once you start the program, you start to record the voice of speaker, then you should wait for a while. After a few seconds, the program starts to translate the speakers’ sentences orally. Imagine that you have gone to India and you don’t know and understand the language of this country. You follow the procedure and understand clearly what they speak about. Despite the advantages, these programs may sometimes mistranslate or may not translate precisely. After the information is received by you, the process is reversed. You begin to speak and the application records your voice, and after a few seconds, the listener will get the needed information. So you and the foreigner will be able to understand what has been said. Unfortunately, these applications are unable to translate simultaneously. But we are sure that a translation program with this function will be devised in the future, too.

Synchronous translation is very difficult between the languages whose grammatical structures, particularly word orders are quite diverse. As we know, the predicate comes after subject in English, though predicate usually appears at the end of the sentence in the Azerbaijani language. So it will be relatively easier to translate from English into Azerbaijani, however this rule is not the same while translating from Azerbaijani into English. As the predicate is at the end of the sentence, the translator has to have the ability to approximate what verb could be used before the verb is uttered. But there is not such a complicated issue in the languages whose word orders are the same. For instance, as French and English have the identical word order, there won’t be any hardship in translation process. The only difference is that most adjectives come after the noun in French while the adjectives in English appear before the noun. Babayev Javid brings the difficulty of the translation into notice: “As the architect imagines the design of a building prior to its construction, a translator or an interpreter should imagine the grammatical structure of the language while translating something" [1, p.117].

To know a foreign language very well does not mean that you are already a professional translator or an interpreter. Efficient translation requires highly-skilled professionals. Linguists can sometimes become professional translators or interpreters. It is not a condition to graduate from the specialty of translation in order to be able to translate professionally. Simultaneous translation is a special skill that very few people possess. This is a special talent which does not depend on literacy completely. The combination of rapidness, approximation, attention, rich vocabulary and perfect grammar knowledge makes an interpreter professional.

Language is more than a means letting us communicate. It was made up of society, culture and religion. There are a myriad of cultures around the globe all expressing the specific features of their daily lives by means of their own languages. It is as if big cultural treasure lost if they unexpectedly ditched their native languages and just interacted in one universal language.

At the same time, other languages may be incapable of expressing definite feelings, emotions and specific depictions.

Translation does not mean only the change of words from one tongue into another. It builds up bridges between cultures allowing you to experience cultural phenomena which would, on the contrary, be too foreign and remote to understand by means of your own cultural lens. Translation plays the role of courier for the transmission of information or knowledge. It can also be considered to be the protector of cultural heritage. It is also essential to the development of world economy.

Nevertheless, accomplished translators are demanded to build up these bridges. Translators are the persons that have a near-perfect comprehension of both the native language and its culture and the target language along with its culture. They can use some other words or change the whole paragraph but retaining the general original meaning. In this case, you understand foreign concepts which have been bridged over to your mother language. Babayev Javid emphasizes the importance of cultural awareness in translation process: "Interpreters are not workers following some definite rules. Besides the native language, they should get acquainted with the customs and traditions of the target language knowing that a language is a cultural reflection and it is impossible to do proficient translation without perception, awareness and comprehension of cultural elements in both native and foreign languages" [2, p.52].

The mother tongue is the language that you understand best of all. You created it from your childhood. You can express all feelings, emotions and concepts in you native language better than any other languages. It is not a problem how perfect your other language skills are, there will never be a language that you will understand better than your own language. For this reason, receiving data in this language is crucial, since it helps you avoid miscommunications and this is exactly what translation does for you.

Very interesting works including pamphlets, poems, novels, stories from the world literature have been translated from English into different languages around the world. This facilitates the readers' reading those works in the libraries. If they read those works in the original, readers might find them a little bit more difficult. Since the English word stock is very rich in French, Latin and other borrowed words that make the works intricate to understand. In the meanwhile, the responsibility of the translators solves the matter. If the translator feels the plots and essence of the work, he/she will be able to translate the literature samples professionally and appropriately. There are some criteria that the translator should own in order to create a good work.

1) A translator should possess a rich word stock

2) A translator should master the grammatical structures of the native and the target languages including word order, complex and compound sentences.

3) A translator should be well-informed about the culture of the target language.
4) A translator should be literate and have an ample worldview.
In this way, masterpieces by different playwrights and poets may be read and enjoyed around the globe.

Interpreting makes oral interaction much easier helping conference participants communicate in their native languages and follow what other speakers are saying in real time. There are some reasons why simultaneous interpretation is so crucial for participants. The most noticeable advantage is that communication gets efficient. All participants may convey their thoughts in their own language and simultaneously listen to other participants' speeches in the language they say.

Information remains intact as the interpreting occurs in real time situation. During the process, the interpreter does not interpret literally what is said, so a professional interpreter paraphrases the information most often. Furthermore, time is saved during simultaneous interpretation. Because of the absence of pause, time is saved while interpreting compared to consecutive translation.

Translation is generally used to transfer spoken or written SL texts to the same spoken or written TL texts. Generally, the aim of translation is to reproduce different kinds of texts including economic, political, scientific, religious, medical o philosophical texts in another language making the materials easier to massive readers.

If the language was just a classification of universal concepts, it could be easy to interpret from SL to TL. From this viewpoint, Culler says : "Languages are not nomenclatures and the concepts of one language may differ radically from those of another, since each language articulates or organizes the world differently. And the languages do not simply name categories; they articulate their own [5, p.21]

Culler claims that one of the most controversial challenges of interpretation is the disparity among languages. The greater the gap between the SL and the TL, the harder the transmission of the information from the from the first to the second will be.

The distinction between the SL and the TL and the difference in their cultures make the interpretation challenging. You can find the controversial factors involved in the process of interpretation such as style, meaning, form, proverbs, idioms, sayings, slangs, etc.

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Art History

MODERN AZERBAIJAN FINE ART HISTORY: NEW TRADITION, STYLE AND COMPOSITION

Sevinc Mahmudağa qızı Babaxanova
Teacher of the subject combination commission "Art and physical education" of the Azerbaijan State Pedagogical College under the Azerbaijan State Pedagogical University

Abstract. Azerbaijani fine art, while maintaining its uniqueness, is more distinguished by tradition, style and compositions in modern times. In the works of the artists, we observe the western art traditions as well as the national color. Different plot, trend, genres are based on individual creative manner. Artists who put thoughts, ideas, and thoughts into the medium bring a new feature to modern Azerbaijani fine art. In this article, the works of Butunay Hagverdiyev, Anar Huseynzade, Farhad Farzali, Zohrab Salamzade, Orkhan Garayev, Eldar Babzade are analyzed in the context of art criticism.
Keywords: Azerbaijan, fine art, modern, color, image

Innovations in modern world art, the integration of currents reveal a new concept of art. Freedom of idea, image, plot sometimes weakens the concept of art. If we take into account the history of Azerbaijani fine art traditions, we can talk about the names of our artists who innovated in our modern times. More avant-garde, conceptual, collage, installations are popular in the new phase of our art.

We should especially highlight the name of Butanay Hagverdiyev, one of the artists who stand out for his creativity. We watch the calm sea, boats, colorful nature. The work "Sunrise" is a general solution of the traditions of realism and impressionist views. Butunay addresses the themes of the vineyard, the sea, and recreation. In "Boat and Tables" the end of summer, the arrival of autumn, the beginning of a new stage.

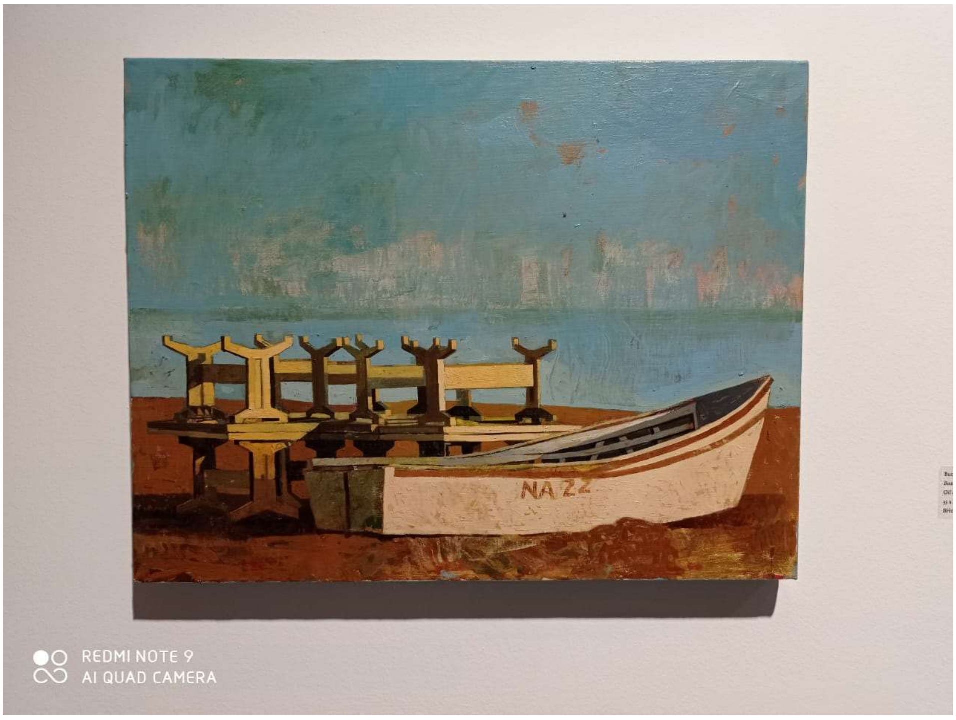

Fig 1. Butunay Hagverdiyev "Boat and tables" (canvas, oil paint, 35x45 cm)

In the works of Anar Huseynzade, we watch the plots he recreated in his memories. In each of the compositions "Village", "Morning", "Childhood Memory", you can feel a journey to thoughts, lyrics and an exciting color range. Subordinating colors to mazoics in a more prominent form creates a deep impression on the viewer.

Fig 2. Anar Huseynzade "Village House" (2017) (canvas, oil paint, 50x70 cm)

The artist's work "Absheron" as a whole is based on the description methodology of the primitivism trend.

Fig 3. Anar Huseynzade "Absheron" (canvas, oil paint, 167x167cm)

Eldar Babazadeh prefers the images of musicians in his work. In each of the works "Musician", "Old Town Melody", "Ceramist", we see colorful characters dedicating a melody to ancient, historical Baku. "Gobustan Motifs" and the plots depicted on the rocks were made on fish. And the background based on carpet decorations has a complementary function.

Fig 4. Eldar Babazade "Melody to the ancient city" (canvas, oil painting, 93x50 cm)

The animalistic genre, which is developing in contemporary Azerbaijani fine art, emerges from the traditional plots we see in Farhad Farzali's "Tiger" and Anar Huseynzade's "Fish". In both compositions, we observe a close connection with nature, stylized forms, spatial solution with color contrast.

Fig 5. Eldar Babazade "Gobustan motif" (canvas, oil painting, 130x80 cm)

Zohrab Salamzadeh's miniature style, fairy-tale, traditional image surrounded by stars reminds of a theater stage. Surrealist artist Orkhan Garayev directed human dreams from small to big in his work "Great Hope".

In the article dedicated to the development of modern Azerbaijani fine art, the development direction of the new generation of talented artists is followed. The compositions in different genres of which he was the author were analyzed in the context of art studies.

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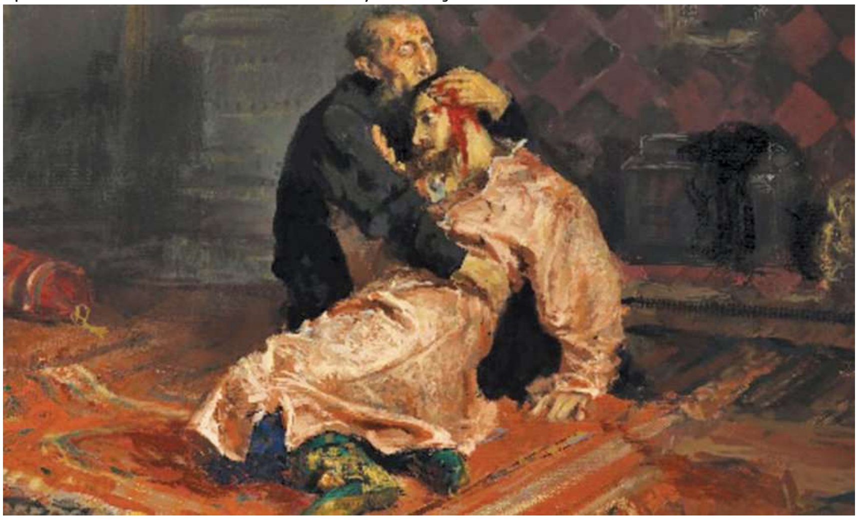
XIX əsr Avropa rəssamlarının əsərlərində Azərbaycan xalçaları

Arzu Aslan qızı Sadiyeva
Teacher of the subject combination commission "Art and physical education" of the Azerbaijan State Pedagogical College under the Azerbaijan State Pedagogical University

Abstract. Azerbaijani folk art and its branch, carpet weaving, occupy a special place in the history of the nation's national culture. The most widespread type of folk art is carpet art, which has taken a firm place in the life of the Azerbaijani people and has almost become a symbol of the people. Pile and non-pile carpets, decorated with various pattern elements and images, are used in wall decorations and flooring of tents, tents, sheds, as well as residential houses and other buildings, and at the same time are of high aesthetic importance.
It is known that since the Middle Ages, Azerbaijani carpets have been known in European countries and are highly appreciated by foreign merchants. Admirable information about our carpets exported to European countries can be found in the manuscripts of historians and travelers.
Keywords: Azerbaijan, carpet, art, pattern, Europe

Azərbaycan xalq-tətbiqi sənəti və onun bir qolu olan xalçaçılıq xalqın milli mədəniyyəti tarixində özünəməxsus yer tutur.Xalq sənətlərinin ən geniş yayılmış növü Azərbaycan xalqının məişətində özünə möhkəm yer tutmuş və az qala xalqın rəmzinə çevrilmiş xalça sənətidir. Müxtəlif naxış elementləri və təsvirlərlə bəzədilən xovlu və xovsuz xalçalar dəyələrin, çadırların, alaçıqların, habelə yaşayış evlərinin və digər binaların divar bəzəklərində, döşənməsində istifadə edilir, eyni zamanda yüksək estetik əhəmiyyət kəsb edir.
Orta əsrlərdən bəri Azərbaycan xalçalarının Avropa ölkələrində tanındığı və xarici tacirlər tərəfindən çox bəyənildiyi məlumdur. Bu dövrlərdə Avropa ölkələrinə ixrac olunan xalçalarımız haqqında heyranlıq doğuran məlumata tarixçilərin, səyyahların əlyazmalarında rast gəlmək olar.
Məşhur Avropa rəssamları da öz əsərlərində xalçalarımızın təsvirlərinə yer vermişlər. Buna misal olaraq, Hans Memlinqin “Madonna körpəsi ilə”, “Dolça və güllərlə natürmort” (XV əsr), Yan van Eykin “Keşiş van der Paele madonnası” (XV əsr), Hans Holbeynin “Elçilər” (XVI əsr), Antonello de Messinanın “Müqəddəs Sebastian” (XV əsr) və s. əsərləri göstərmək olar. Bu əsərlərdə Qarabağ, Quba, Gəncə və Qazax xalçaçılıq məktəbində toxunan əsrarəngiz xalçaların təsvirinə rast gəlirik. Bu xalçaların rəsm əsərlərində təsvir edilməsi həmin əsərlərin daha da baxımlı olmasında və şöhrət qazanmasında mühüm rol oynamışdır.



Xalçalarımızın təsvirinə XIX əsr Avropa rəssamlarının əsərlərində də rast gəlmək mümkündür. Məhz bu dövrdə Azərbaycan xalçaları daha çox şöhrət qazanmağa başlamışdır.

XIX əsrdə xalçalarımızın daha çox ixrac olunduğu ölkələrdən biri Rusiya olmuşdur. Ona görə də Azərbaycan xalçalarının bu dövr rus rəssamlarının əsərlərində təsvirinə rast gəlmək təbiidir. Onlardan ilk olaraq İlya Repinin adını çəkmək olar. Tarixi janrın böyük ustası olan İlya Repinin "İvan Qroznı və onun oğlu İvan – 16 noyabr 1581-ci ildə" əsərini buna misal göstərmək olar. Əsərin süjetinin gerçək hadisədən götürüldüyü güman edilsə də, bu hadisənin dəqiq baş verib-vermədiyi məlum deyil. Deyilənə görə, rus çarı İvan Qroznı oğluna qəzəblənərək əlindəki əsa ilə onun gicgahına zərbə endirir. Zərbənin təsirindən şahzadə yerindəcə dünyasını dəyişir.

Repinin 1883-1885-ci illərdə çəkilmiş bu əsərində İvan Qroznının qolları arasında şahzadənin cansız bədənini tutduğu an təsvir olunmuşdur. Əsərdə ata və oğulun ayaqları altında Qazax xalçasının təsviri verilmişdir.

Digər məşhur rus rəssamı Nikolay Nikolayeviç Ge "I Pyotr şahzadə Aleksey Petroviçi Peterqofda dindirir" əsərində (1871) Təbriz xalçasını təsvir etmişdir. İlya Repinin əsərindəki xalçadan fərqli olaraq, bu xalça döşəmədə deyil, masa üzərində təsvir olunmuşdur ki, bu da ata və oğul arasında bir sərhəd rolunu oynayır. Xalçadakı rəng həlli, simvolik elementlər əsərin mövzusunun əsas qayəsini ortaya çıxarır. Xalça tökülələcək oğul qanının simvoludur. İlya Repin məhz bu əsərdən təsirlənərək öz məşhur tablosunu yaratmışdır.

Bu dövrdə Avropa ölkələrinin rəssamları da rəsm əsərlərində Azərbaycan xalçalarının təsvirini verirdilər. İtalyan rəssamı Culyo Rosatinin iki əsəri buna bariz nümunədir. "Xalça taciri" adlanan bu iki əsərdə də Qazax xalçası təsvir edilmişdir. Əsərlərdən birində xalça taciri əlindəki xalçanı xanım müştərisinə göstərdiyi an təsvir olunmuşdur. Həmin xalça Qazax xalçaçılıq məktəbinin "Qaraqoyunlu" kompozisiyasıdır. Sarı yerlikli xalça öz simvolik elementləri ilə tamaşaçıların diqqətini cəlb edir. Xalçanın ara sahəsində "Qaraqoyunlu" xalçaları üçün xarakterik olan böyük medalyonlar şaquli formada yerləşdirilmişdir. Həmin medalyonların sağ və sol tərəflərində isə kiçikölçülü qarmaqlı elementlər və xalçanın enli ara haşiyəsində isə "məşəl" adlanan elementlər təsvir olunmuşdur. Çox gözəl rəng həllinə malik olan xalçanın haşiyə zolaqları ilə ara sahənin rəngləri bir-biri ilə uyğunluq təşkil edir.

Rəssamın digər əsərində Qazax xalçası üzərində bardaş quraraq oturmuş tacirin başqa biri ilə söhbət etdiyi an əks olunmuşdur.

Digər məşhur nümunə ingilis rəssam Çarlz Robertsonun "Xalça satıcısı" əsəridir. Əsərin mərkəzi kompozisiyasında çiynindəki xalçaya müştəri axtaran tacirin təsviri verilmişdir. Rəsmdəki xalça bu dövrlərdə ölkəmizdə və Avropada üzərindəki elementləri ilə şöhrət qazanan Qarabağ vərnisidir. Qırmızı yerlikli xovsuz xalçanın üzərində "S" formalı elementlər verilmişdir ki, bir çox tədqiqatçılar bu elementlərin mifoloji obraz olan, suyun və havanın hamisi hesab edilən Əjdahanın təsviri olduğunu qeyd edirlər.

XIX əsrə aid bu cür bir çox rəsm əsərlərini də qeyd etmək olar ki, bu da həmin dövrdə Azərbaycan xalçalarının xaricdə geniş şöhrət qazandığını və bu xalçaların əcnəbi alıcılarının çox olduğunu sübut edir. Təəssüflər olsun ki, illər keçdikcə bu əsərləri araşdıran bəzi tədqiqatçılar, sənətşünaslar həmin təsvirlərə laqeydliklə yanaşır, bu xalçaların konkret olaraq hansı xalqa məxsus olduğunu qeyd etmirlər, onları Şərq xalçası, ya da Qafqaz xalçası kimi qələmə verirlər. Hətta bəzi tədqiqatlarda bu xalçalar İran, Ermənistan xalçası kimi qeyd edilir. Lakin xalçalardakı ornamentlər onların Azərbaycan xalqına məxsus olduğunu sübut edir. Sadəcə, xarici tədqiqatçılar bu cür nüanslara ötəri yanaşdıqları üçün belə problemlər ortaya çıxır. Buna yol verməmək üçün xalq sənətimizə sahib çıxmalı, mədəni sərvətlərimizi qorumalıyıq.

Arxeoloji materiallara və yazılı mənbələrə əsasən Azərbaycanda xalçaçılıqla hələ Tunc dövründən (e.ə. II minilliyin sonu-I minilliyin əvvəllərində) məşğul olmuşlar. Cənubi Azərbaycanın Maku şəhərindən tapılmış gildən düzədilmiş at fiqurunun (e.ə. II minillik) üzərində gül-çiçək təsvirləri ilə bəzədilmiş çul rəsmi, Urmiya gölü yaxınlığındakı Həsənli təpəsində aşkar edilmiş qızıl camın (e. ə. I minillik) səthində üstünə çul salınmış şir təsviri və başqa tapıntılar Azərbaycanda xalça sənətinin nə qədər qədim tarixə malik olduğunu göstərir. Arxeoloji qazıntılar zamanı Mingəçevirdən I-III əsrlərə aid katakomba qəbirlərdən palaz və xalça qalıqları aşkar edilmişdir. Orta əsrlərdə qızıl-gümüş saplardan toxunan xovsuz xalçaların əsas istehsal mərkəzləri Təbriz, Şamaxı və Bərdə şəhərləri idi. Baha başa gəldiyindən əsasən feodallar üçün toxunulan bu cür xalçalar "zərbaf" adlanırdı. XVI əsrdə Azərbaycanda olmuş ingilis səyyahı Antoni Cenkinson Şamaxıda Abdulla xanın yay iqamətgahındakı qızıl-gümüş saplarla toxunulmuş xalça haqqında məlumat verir. XVII əsr Holland səyahətçisi Yan Streyts Şamaxı hakiminin atının üstünə salınan çulun qızıl saplarla toxunub mirvari və qiymətli qaş-daşlarla bəzədildiyini xəbər verir.Azərbaycanın xalça məmulatları və onların bədii xüsusiyyətləri haqqında orta əsrlərə aid yazılı mənbələrdə maraqlı məlumatlara rast gəlinir. X əsrə aid "Hüdud əl-aləm" ("Dünyanın sərhədləri") əsərində naməlum müəllif Muğanda toxunulan palas və çullardan, Naxçıvanın zili toxunuşlu xalılarından məlumat verir, "Kitabi-Dədə-Qorqud" dastanında Azərbaycanın ipək xalçaları, Əbül Üla Gəncəvi, Nizami, Xaqaninin (XII əsr) əsərlərində xovlu və xovsuz xalçalar tərənnüm olunur.

1872-ci ildə Moskvada " Moskva-Politexnik" sərgisində və 1882-ci ildə "Ümumrusiya sənaye və incəsənət sərgisi"ndə nümayiş etdirilən Bakı, Quba, Şamaxı, Gəncə, Şəki, Qazax, Cavad qəzası və başqa yerlərdən gətirilmiş xalçalar və xalça məmulatlarının ən yaxşı nümunələri qızıl, gümüş medallara layiq görüldü. 1872-ci ildə Vyanada (Avstriya), 1911-ci ildə Turində (İtaliya), 1913-cü ildə Londonda və Berlində təşkil edilmiş Beynəlxalq sərgilərdə nümayiş etdirilən eksponatların əsas hissəsi Azərbaycandan aparılmış xalça və xalça məmulatlarından ibarət idi.Azərbaycanda xalçalar quruluşuna görə 2 yerə ayrılır:Xovlu və Xovsuz. Xovsuz xalçalar toxuculuq sənətinin ən erkən dövrünə təsadüf edir. Azərbaycan xalça sənəti öz yüksək bədii texniki keyfiyyətinə, xovsuz toxunuşunun müxtəlifliyinə görə fərqlənir. Burada xovsuz xalçaların bütün nümunələri təqdim edilmişdir, digər ölkələrin xalça sənətində isə bu nümunələr az miqdarda təmsil olunur. Bundan çıxış edərək Alman sənətşünası Q.Rop "Şərq xalçası" kitabının "Qafqaz xalçaları" bölməsində buradakı xalçaların Asiya xalçalarından daha erkən əmələ gəldiyini, xovsuz xalçalardan kilimlərin Qafqazda ən yaxşı olduğunu sübut edir. Xovsuz xalçaların, ümumiyyətlə xalça sənətinin yaranmasının əsasını onların ilk sadə nümunələri olan həsir, çətən, buriya təşkil edir. Xovsuz xalçalar öz toxuma üsuluna, kompozisiya quruluşuna, ornament zənginliyinə və rəng koloritinə görə bir-birindən fərqlənən 8 növə bölünür:palaz,cecim,ladı,kilim,şəddə,vərni,zili,sumax

Azərbaycan xalçaları sənət sahəsi kimi həm coğrafi mövqeyinə, həm də naxış, kompozisiya, rəng həlli və texniki xüsusiyyətlərinə görə şərti olaraq 7 xalçaçılıq məktəbinə bölünür:

1.Bakı yaxud Abşeron
2.Quba
3.Şirvan
4.Gəncə
5.Qazax
6.Qarabağ
7.Təbriz

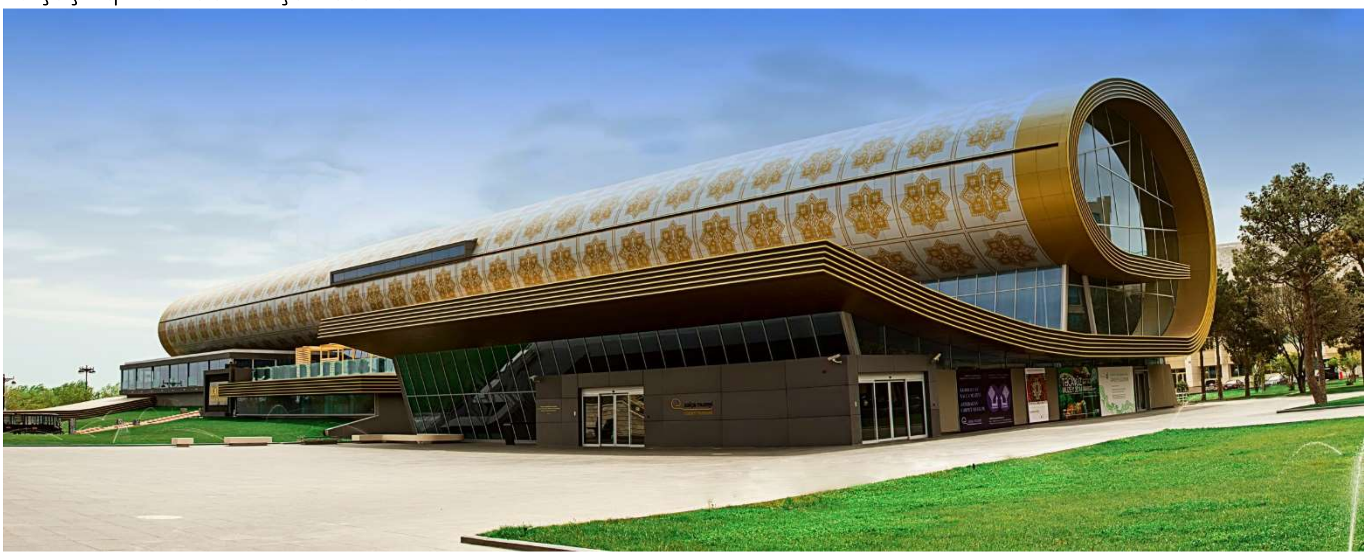
1. Azərbaycanın şimal-şərqində yerləşən Quba xalça mərkəzi üç hissəyə — dağlıq, dağətəyi və ovalıq hissələrə bölünür. Dağlıq hissəyə Qonaqkənd, Xaşi, Cimi, Afurca, Yerfi, Buduq, Qırız, Cek, Salmasöyüd kəndlərində mərkəzləşmiş məntəqələri aid etmək olar. Quba xalçalarının bəzəyini həndəsi naxışlardan ibarət ornamentlərin stilizə edilmiş nəbati, bəzən isə heyvan motivləri təşkil edir. Bu məktəbin xalçalarında medalyonlu çeşni üslubu da geniş yayılmışdır. Quba xalçalarının ən parlaq kompozisiyaları "Qədim-Minarə", "Qımıl", "Alpan", "Qollu-çiçi", "Pirəbədil", "Hacıqayıb", "Qırız", "Cek" və s.-dir.
2. Bakı məktəbi Abşeronun kəndlərini — Görədil, Novxanı, Nardaran, Bülbülə, Fatmayı, Mərdəkan, Qala, Xilə və digər kəndləri, həmçinin Abşerondan kənarda yerləşən Xızı rayonu və ona daxil olan Qədi, Hil, Keş, Fındığan və s. xalça məntəqələrini əhatə edir. Bakı xalçaları daha yumşaq olması, rənglərinin intensivliyi, bədii elementlərinin orijinallığı və naxışlarının incəliyi ilə seçilir. Xalçaların bəzəklərində həndəsi formalı göllər, əyri xətli nəbati elementlər üstünlük təşkil edir. Bakı qrupuna aid xalçaların rəng koloritində ara sahə yerliyi üçün, əsasən tünd göy, nadir hallarda isə qırmızı və sarı rənglərdən istifadə edilir. Bu xalçaların əksəriyyəti toxunduğu kəndin adını daşıyır. Bakı qrupuna "Xiləbuta", "Xilə-əfşan", "Novxanı", "Suraxanı", "Qala", "Bakı", "Görədil", "Fatmayı", "Fındığan", "Qədi" və s. çeşnilər daxildir.

3. Şirvan xalçaçılıq məktəbi
Şamaxı, Mərəzə, Ağsu, Kürdəmir, Qazıməmməd (Hacıqabul), Göyçay və onların ətraf kəndlərini əhatə edir. Şirvan qrupuna "Mərəzə", "Qobustan", "Şirvan", "Kürdəmir", "Şilyan", "Şirəlibəy", "Çuxanlı","Bico", "Sor-Sor", "Hacıqabul" və s. kompozisiyalar daxildir. Şirvan xalçalarının zəngin və mürəkkəb naxışlı kompozisiyaları orta əsrlərdən məşhurdur. Şirvan xalçalarının bədii dəyəri haqqında VI - VIII əsr alman, ingilis tacirləri, səfirləri öz gündəliklərində qiymətli məlumatlar vermişdilər. Bu xalçalar hələ XIV-XV əsrlərdə Avropa rəssamlarının tablolarında tərənnüm edilmişdir. Niderland rəssamı Hans Memlinq (XV əsr) "Məryəm öz körpəsi ilə" əsərində "Şirvan" xalçasının təsvirini vermişdir.
4. Gəncə xalçaçılıq məktəbi Gəncə şəhəri və onun ətraf kəndlərini, Gədəbəy və Goranboy, Şəmkir, Samux rayonlarının ərazisini əhatə edir. Bu məktəbin mərkəzi Gəncə şəhəridir. Qədim şəhərlərdən olan Gəncə Azərbaycanın şimal qərbində yerləşir. Gəncə hələ X-XI yüzilliklərdə ipək, yun parçaların, ipək xalçalarını istehsal mərkəzi kimi tanınmışdır. Əsrlər boyu yüksək keyfiyyətli xalça istehsalı mərkəzi olan Gəncədə xüsusi xalça emalatxanaları olmuşdur. Gəncə xalçaçılıq məktəbi Gəncə ətrafında olan rayonların xalçaçılığına müsbət təsir göstərmişdir.Gəncə xalça məktəbinə "Gəncə", "Qədim Gəncə", "Gölkənd", "Fəxralı", "Çaykənd", "Çaylı", "Şadılı", "Çıraqlı", "Samux" və s. kompozisiyalar daxildir. Gəncə qrupuna daxil olan "Fəxralı" namazlıq xalçası öz yüksək bədii xüsusiyyətinə, toxunuşuna görə digər xalça kompozisiyalarından fərqlənir.
5. Qazax xalçaçılıq məktəbinə Qazax, Gürcüstan ərazisindəki azərbaycanlılar yaşayan Borçalı və 1988-ci ilə qədər azərbaycanlıların tarixi yaşayış məskəni olan Ermənistan ərazisində Göyçə xalçaçılıq mərkəzləri aiddir.Qazax xalça məntəqəsinə Azərbaycanın qədim şəhərlərindən olan Qazax və onun ətraf kəndləri, Ağstafa və Tovuz rayonları daxildir.Göyçə xalçaçılıq mərkəzini Bəmbak, Ləmbalı, İcevan, Qaraqoyunlu və Göyçə gölü (indiki Sevan) ətrafındakı ərazi, Borçalı xalça mərkəzini Borçalı, Qarayazı, Qaraçöp, Qaçağan xalça məntəqələri əhatə edir.Qazax qrupuna, "Şıxlı", "Borçalı", "Qaymaqlı", "Qaraqoyunlu", "Qarayazı", "Qaraçöp", "Qaçağan", "Dağkəsəmən", "Dəmirçilər", "Kəmərli", "Göyçəli", "Salahlı" və s. çeşnili xalçalar daxildir.

6. Azərbaycanın cənub-qərbində yerləşən **Qarabağ xalça məktəbi** iki regionda — dağlıq və aran zonalarında inkişaf etmişdir. Dağlıq zonaya nisbətən xammalla, şübhəsiz ki, daha yaxşı təmin olunmuş aran rayonlarında Cəbrayıl, Ağdam, Bərdə və Füzuli xalça istehsalında əsas yer tutur. Bu mərkəzin hər birində əhalisi satış üçün intensiv şəkildə xalça toxuyan çoxlu miqdarda kəndlər mövcud olmuşdur. Öz bədii quruluşu, texnoloji xüsusiyyətləri, rəng həlli baxımından Zəngəzur və Naxçıvan xalça istehsalı mərkəzləri də Qarabağ xalça məktəbinə daxildirlər. "Aran", "Bağçadagüllər", "Balıq", "Buynuz", "Bərdə", "Bəhmənli", "Qarabağ", "Qoca", "Qasımuşağı", "Ləmbərani", "Muğan", "Talış", "Ləmpə", "Malıbəyli", "Xanqərvənd", "Xanlıq", "Xantirmə", "Çələbi", "Şabalıdbuta", və s. çeşnili xalça kompozisiyaları Qarabağ xalçaçılıq məktəbinin klassik nümunələrindəndir. Qarabağda evlərin interyerlərinə uyğunlaşdırılmış 5 xalçadan ibarət dəst xalı — gəbələr geniş yayılmışdır. Qarabağ xalçalarının rəng - boyaq palitrası olduqca zəngindir. Bu palitra Qarabağ təbiətinin bütün rənglərinin ən zərif çalarlarını özündə əks etdirir.

7. 1828-ci il fevralın 10-da Rusiya ilə Iran arasında Təbriz yaxınlığındakı Türkmənçay kəndində bağlanmış sülh müqaviləsi tarixə Türkmənçay müqaviləsi adı ilə daxil oldu və bu müqavilə 1826-28-ci illər Rusiya-İran müharibəsinə son qoydu. Müqavilənin şərtlərinə əsasən Azərbaycanın şimal hissəsi Rusiyanın tərkibinə qatıldı. Təbriz, Ərdəbil, Urmiya, Xoy, Marağa, Mərənd, Maku və digər şəhərlər də daxil olmaqla, ölkənin cənub hissəsi İranın əsarəti altına keçdi. Beləliklə, Azərbaycan 2 yerə parçalandı. Bax elə həmin vaxtdan da "Cənubi Azərbaycan" termini yaranıb meydana gəldi. Həmin vaxtdan Təbriz xalçaçılıq məktəbinin xalça nümunələri bütün dünyada İran xalçaları adı ilə tanındı. Təbriz xalçaçılıq məktəbi əsas xalça kompozisiyalarına görə 2 qrupa ayrılır: Təbriz və Ərdəbil qrupları. Təbriz qrupuna "Təbriz", "Baxşayış", "Qərəcə", "Görəvan", "Heris", "Ləçəkturunc", "Əfşan", "Ağaclı", "Ovçuluq", "Dörd fəsil" kompozisiyaları, Ərdəbil qrupuna "Ərdəbil", "Şeyx Səfi", "Şah Abbası", "Sərabi", "Zəncan", "Mir" və "Açma-yumma" çeşniləri daxildir. Təbriz xalçaçılıq məktəbinin "Bağ-behişt", "Bağ-meşə", "Balıq", "Buta", "Dərviş", "Kətəbəli", "Gördəst", "Göllü-guşəli", "Güldanlı", "Leyli və Məcnun", "Məşahir", "Mun", "Namazlıq", "Nəcaqlı", "Sərvistan", "Sərdari", "Səhənd", "Silsiləvi ləçək", "Fərhad və Şirin", "Xəyyam", "Xətai", "Həddad", "Çərxi-gül", "Ceyranlı" və s. klassik kompozisiyaları da məşhurdur.

Təbrizdə toxunmuş "Ləçəktürünc" kompozisiyalı məşhur "Şeyx Səfi" xalısı (ölçüsü 56,12 kv. m, 1539-cu il, "Viktoriya və Albert" muzeyi, London) ornamental xalçaların ən gözəl nümunəsi, Təbriz xalçaçılıq məktəbinin şah əsəridir.



XX əsrdə xalçaçılığın inkişafı. Azərbaycan xalça sənətinin sonrakı inkişaf dövrü XX əsrin ortalarına təsadüf edir. Bu dövrdə Azərbaycan xalça sənətinin inkişafı bir neçə istiqamətdə davam edərək çoxcəhətli xarakter daşımışdır. Respublikanın rayon və kəndlərində xalça sənəti ənənələri ayrı-ayrı xalça ustaları tərəfindən davam etdirilir. Onların ənənəvi çeşnilərdə toxuduqları xalçalarda klassik kompozisiyalara yaradıcı münasibət qabarıq şəkildə özünü göstərir. Eyni zamanda xalçaçılıqda yeni-yeni kompozisiyalar, naxış elementləri meydana gəlir. Yeni yaranan çeşnilərdə nisbətən əyri xətlərlə işlənmiş nəbati naxışlara, insan, heyvan, quş təsvirlərinə, lirik və romantik üslubda yaradılmış süjetli kompozisiyalara meyl üstündür. Xalça sənətinin inkişafının digər bir qolu "Azərxalça" İstehsalat Birliyinin fəaliyyətidir. "Azərxalça"nın sex və emalatxanalarında toxunan xalçalarda ənənəvi naxış, göl və rənglərdən ustaların yaradıcı şəkildə etdiyi dəyişmələr klassik xalça kompozisiyalarının sayını artırıb zənginləşdirir. Azərbaycan xalça sənətinin elm sahəsi kimi öyrənilməsi və professional rəssamların yaradıcılığında müasir inkişafı Azərbaycanın xalq rəssamı Lətif Kərimovun (1906-1991) adı ilə bağlıdır. Şərq, o cümlədən Azərbaycan xalçası və dekorativ-tətbiqi sənətinin mahir bilicisi, görkəmli ornamentalist-rəssam, tədqiqatçı alim kimi tanınan L.Kərimov uzun illər Azərbaycan xalçalarını tədqiq etmiş, Azərbaycan dekorativ sənətini yeni ornamentlərlə zənginləşdirmiş, ənənəvi bəzək elementləri əsasında yeni dekorativ motivlər yaratmışdır.

L.Kərimovun eskizləri əsasında toxunmuş "Əfşan" (1932), "Qonaqkənd" (1939), "Ləçəktürünc" (1952), "Şuşa" (1953), "Göygöl" (1958), "Qarabağ" (1960), "İslimi" (1964), "Butalı" (1965), "Bahar" (1966,1976), "Heyvanlar aləmində" (1969), "Şəbi-hicran" (1975), "Zərxara" (1977),"Vaqif" (1967),Nəsimi" (1974), "Səfiəddin Urməvi" (1975), "Əcəmi" (1976) və s. ornamental və portret xalçalar ornament elementlərinin uyarlığı, kompozisiya bitkinliyi, rəsmlərinin zərifliyi və ifadəliliyi, zəngin koloritinə görə xalçaçılıq sənətinin qiymətli nümunələrindəndir. 1949-cu ildə kollektiv müəlliflərlə birgə yaratdığı "Stalin" xalçasına görə 1950-ci ildə SSRİ Dövlət mükafatına layiq görülmüşdür. 1986-cı ildə Londonda açılmış fərdi sərgisi böyük müvəffəqiyyətlə keçmiş, sərgidə rəssamın "Bəndi-Rumi" (1980,1981), "Ləçəkturunc" (1981), "Xətai" (1981,1985), "Açma-yumma" (1982), "Ləçəkbəndlik" (1983), "Kətəbəbəndlik" (1984), "Əsrlərin nəğməsi" (1985) və s. xalçaları nümayiş etdirilmişdir. L.Kərimovun çox cildli "Azərbaycan xalçası" əsərində 1300-dən artıq Azərbaycan xalça ornament elementinin təhlili verilmişdir.

Müasir dövrdə xalçaçılığın inkişafı.2010-cu ildə Azərbaycan xalça sənəti UNESCO-nun "Bəşəriyyətin qeyri-maddi mədəni irsinin reprezentativ siyahısı"na daxil edildi. Azərbaycan Prezidenti İlham Əliyevin xalqımızın mədəniyyətinə, mədəni irsimizin təbliğinə göstərdiyi diqqət və qayğısı, Heydər Əliyev Fondunun prezidenti, UNESCO və İSESCO-nun xoşməramlı səfiri Mehriban Əliyevanın təşəbbüsü və əməyi nəticəsində Azərbaycan muğam sənəti və Azərbaycan aşıq sənətindən sonra milli xalça sənətimizin bu siyahıda yer alması ümumən mədəniyyətimizin beynəlxalq miqyasda tanıdılması yönündə daha bir uğurlu addımdır. Bu gün Azərbaycanda xalça sənəti öz inkişafının yeni mərhələsini yaşayır. "Azərbaycan xalça sənətinin qorunması və inkişaf etdirilməsi haqqında" qanunun qəbul edilməsi, Prezident İlham Əliyevin sərəncamı ilə Azərbaycan Xalçası və Xalq Tətbiqi Sənəti Dövlət Muzeyi üçün müasir standartlara uyğun binanın inşa edilməsi bu qədim el sənətinə dövlət qayğısının ifadəsidir. 2014-cü ildən fəaliyyətə başlayan Xalça Muzeyi Azərbaycan xalçasının dünya miqyasında yetərincə təbliğinə və tanınmasına töhfəsini verir. Müasir tələblərə cavab verən muzeydə toplanılan nümunələr xalqımızın tarixini özündə ehtiva edir. Orijinal üslubda inşa olunan bükülmüş xalçanı xatırladan Xalça Muzeyinin sərgi və fondlarında 13 min 300-dən artıq eksponat və əşya saxlanılır ki, bu da bu sənət növünün müxtəlif dövrlərdəki inkişafını əks etdirir. Muzeydə Böyük Britaniyanın Viktoriya və Albert Muzeyində saxlanılan məşhur "Şeyx Səfi" xalçasının surəti, eləcə də XVII, XVIII, XIX və XX əsrlərdə toxunmuş məşhur kompozisiyalar da yer alıb.

Son illər dövlətimiz tərəfindən xarici ölkələrdə saxlanılan Azərbaycan xalqına məxsus sərvətlərin geri qaytarılması məqsədilə görülən müvafiq tədbirlərin nəticəsi olaraq Xalça Muzeyinin kolleksiyası daha da zənginləşib. Belə ki, Cənab İlham Əliyevin "Azərbaycan xalça sənətinin qorunması və inkişaf etdirilməsi haqqında" 07.12.2004-cü il tarixli qanun və həmin qanunun tətbiqi haqqında 07.02.2005-ci il tarixli Fərmanının 4.1.4 maddəsindəki "Xarici ölkələrin muzeylərində saxlanılan nadir Azərbaycan xalçalarının ölkəyə qaytarılmasına şərait yaradılması" bəndinə əsasən muzeyi beynəlxalq aləmdə təbliğat işlərini davam etdirilir. Aparılan uğurlu işlərin məntiqi nəticəsi olaraq Şərq xalçası və tekstili üzrə Çikaqo (ABŞ) cəmiyyətinin üzvü mərhum Qrover Şiltsin kolleksiyasından iki ədəd Azərbaycan xalçası — "Əjdahalı" (Qarabağ, XVII əsrin sonu) və "Səlyan Xiləsi" (Şirvan, XIX əsr) muzeyə hədiyyə olunub. Bu hadisə Azərbaycan xalça sənəti tarixinin mühüm səhifələrindən birinin bərpa edilməsi deməkdir. Torpaqlarımızın erməni işğalçıları tərəfindən zəbt edilməsi ilə əlaqədar olaraq təbii, maddi-mədəni abidələrimizin də talan olunaraq “əsir düşməsi” faktı təkzibedilməzdir. Onlardan bəziləri xaricdə yaşayan həmvətənlərimiz tərəfindən alınaraq öz vətəninə qaytarılır. Azərbaycan Xalça Muzeyinin xovlu xalçalar kolleksiyasında Qarabağ qrupunun qeyri-adi tarixə malik “Baxçadagüllər” xalçası saxlanılır. 2017-ci ilin fevral ayında əslən Azərbaycandan olan ABŞ vətəndaşı Elşad Tahirov incəsənət əşyalarının virtual ticarətini həyata keçirən saytda onun diqqətini cəlb edən xalçaya rast gəlir. Qeyd edək ki, Los-Ancelesdə yaşayan E.Tahirov Azərbaycan xalçalarımızı və görkəmli alimi, xalçaçı-rəssam, Azərbaycan xalçaçılıq elminin banisi Lətif Kərimovun yaradıcılığı haqqında kitabları toplamağı sevir, tez-tez internetdə maraqlı sənət əsərləri və məlumatlar axtarır. Bu dəfə kolleksiyaçının diqqətini cəlb etmiş xalçanı təsvir edən yazıda qeyd edilirdi: “Qədim Ermənistan. Qarabağ xalçası”. Lakin, xalçada Azərbaycan dilində kiril əlifbası ilə toxunmuş “1 yanvar 1979-cu il Sərvərin doğum gününə anasından hədiyyə” yazısı bu əşyanın Azərbaycana aid olduğunu dəqiq sübut edir və belə bir nəticəyə gəlinir ki, xalça erməni işğalçıları tərəfindən ölkəmizdən çıxarılmışdır. Və budur, əsrin dörddə biri keçdikdən sonra, Elşad Tahirov bu xalçanı hərracda alır və 2017-ci ilin mayında Bakıya – Azərbaycan Xalça Muzeyinə göndərir. E.Tahirov əşya sahibini tapmağa çalışsa da, buna nail ola bilməyib xalçanı muzeyə hədiyyə edir. Qeyd edək ki, bu uzun illərdən sonra erməni işğalından qayıtmış ilk xalçadır.

Azərbaycan Respublikası Prezidentinin 2016-cı il 5 may tarixli Sərəncamı ilə “Azərxalça” Açıq Səhmdar Cəmiyyəti yaradılmışdır. Cəmiyyətin əsas məqsədi xalça və xalça məmulatlarının istehsalı, ixracı, onların ölkə daxilində və xaricdə satışının təşkili, xalça və xalça məmulatlarının istehsalında yeni texnologiyaların tətbiqi, maddi-texniki bazanın müasirləşdirilməsi və ondan səmərəli istifadə, habelə bu sahənin inkişafı ilə bağlı digər işlərin yerinə yetirilməsindən ibarətdir. İlkin mərhələdə "Azərxalça" ASC-nin Füzuli (Horadiz), Ağdam (Quzanlı), Tovuz, Ağstafa, Qazax, Şəmkir, Quba, İsmayıllı, Xaçmaz və Qəbələ rayonlarında filiallarının yaradılması nəzərdə tutulmuşdu. 2016-2017-ci illərdə adıçəkilən bu rayonlarda binaların tikintisi başa çatdırılmış, filiallar fəaliyyətə başlamış, "Azərxalça"nın xalçaçılıq üzrə tədris-hazırlıq kursları təşkil edilmiş, işçi potensialının gücləndirilməsi məqsədilə müvafiq tədbirlər görülmüşdür.

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СӨЙЛЕУ КОММУНИКАЦИЯСЫ-АДАМДАРДЫҢ ҚАРЫМ-ҚАТЫНАС ӘРЕКЕТІНІҢ КӨРІНІСІ

Мусаев Жанғали
магистр- оқытушы, Қожа Ахмет Ясауи атындағы Халықаралық қазақ-түрік университеті, Түркістан қаласы Қазақстан Республикасы
Пірмахан Жәнел
6В02122- Дәстүрлі музыка өнері мамандығының 1 курс студенті

Соңғы кезде жалпы тіл білімінде сөйлеу коммуникация мәселелері әр қырынан зерттеліп, оның біркатар мәселелері қазақ тіл білімінде де карастырылып жүргендігі белгілі. Сөйлеу коммуникациясы қарым-қатынас негізі ретінде жасалғандықтан тілімізде оның ықпалы күшті екендігі тәжірибеде дәлелденді, ол-дайындықсыз, еркін түрде өтіп, адам факторының рөлін ашып береді.

Тілдің коммуникативтік қызметі жеке тіл бірліктерінің қарым-қатынастық қызметтерін экстралингвистикалық факторлармен байланыстыра отырып жүзеге асырады. Ең алдымен, коммуникация-адамдардың өзара байланысы, қарым-қатынасы болып табылады.

Осы күнгі лингвистиканың дамуында сөйлеу үдерісі жөнінде көптеген ой-пікірлер қалыптасқан. Соның ішінде белгілі неміс тілшісі В.Гумбольдт «Сөйлеу оймен байланысты шексіз әрі алуан. Оны реттейтін, бірақ осы шексіздікте белгілі бір қалыпқа ие байланыс түрлерін жүйелеп отыратын тіл бірліктері бар» десе, Е.В.Клюев «Сөйлеу-ең алдымен, коммуникативті актіні бастау мақсатындағы қажеттіліктен туындайды» дейді.

Қазақ тіл білімінің негізін қалаған Ахмет Байтұрсынұлы еңбегінде «Сөйлеу деген - біреудің екінші біреуге хабар беруі. Сөйлегенде, жазғанда кім де болса ойын айтады. Ауыздан шыққан сөздің бәрі сөйлем бола бермейді, айтушының ойын тыңдаушы ұғарлық дәрежеде түсінікті болып айтылған сөздер ғана сөйлем болады» деп, сөйлеудің мақсатын прагматикалық тұрғыда айтып өткен [Тіл тағылымы, А., 1992, 141-б.].

Қазақ халқы-сөз өнеріне көп мән беріп, жоғары бағалаған халық. Тоқсан ауыз сөзден тобықтай түйін түйгендігін, мақал мен мәтел қолданыстарынан байқауға болады. Әсіресе «Тіл тас жарады, тас жармаса, бас жарады», «Өнер алды-қызыл тіл» деп бекер айтылмағандығы белгілі. Ежелден ата-бабаларымыз шешен сөйлейтін адамдарды ерекше бағалап, құрмет тұтқан. Сөйлеген сөзінен-ақ әр адамның ішкі жан дүниесінің қандай екендігін, білімін, мәдениеттілігін байқап, баға беріп отырған. Сондықтан тілімізде мәнерлеп, нақты әрі анық сөйлеудің орны ерекше, яғни сөйлеу- адамның ішкі айнасы.

Сонымен қатар сөйлеу — ең алдымен коммуникативті актіні бастау мақсатындағы қажеттіліктен туындайды. Сөйлеу арқылы қарым-қатынас орнап, тыңдаушыға әсер етіп, сөйлем коммуникациясы жүзеге асады. Сондықтан да қазіргі кезде лингвистикада сөйлеу коммуникациясы теориясы немесе сөйлеу актісі жаңа бағыт ретінде қарастырылып жүр.

Лингвистикада сөйлеу коммуникациясы тіл мен сөйлеуден басталады, яғни тіл мен сөйлеу бір-бірімен тығыз қарым-қатынаста өрбиді, бірі-жүйе болса, екіншісі-іске асатын үдеріс.

Тіл мен сөйлеудің (речь) айырмашылығын зерттеген ең алғаш швейцар лингвисі Фердинанд де Соссюр тіл мен сөйлеуге мынадай анықтама береді: «Тіл-таңбалар жүйесі ретінде, әрі оны реттеп тұратын болса, ал сөйлеу қарым-қатынас үшін қызмет атқаратын таңбалар жүйесі» [Труды по языкознанию. М., 1977, 31-б.]. мұнда автор тілдің жүйесі мен құрылымы болатындығын, ал сөйлеу іске асатын көрініс екендігін дәлелдеп, тіл мен сөйлеуге тән басты айырмашылықтарды пақтылай түскен, яғни тіл - барлық дыбыстық таңбалардың жиынтығы болса, сөйлеу-дыбысталудың жиынтығы.

Осы орайда Фердинанд де Соссюр тіл мен сөйлеуді бір-бірімен қарым-қатынаста қарастырып: «Исторически факт речи всегда предшествует языку; ... язык одновременно и орудие, и продукт речи» деп тілдің негізгі қаруы сөз екендігін айтып, сөйлеу әрекетін екі түрлі қырынан қарастырады. Оның бірі-тіл (құрылым, жүйе), ал екіншісі —сөйлеу арқылы мағыналы, нақты хабар беру әрі іске асуы деп тіл мен сөйлеуді екі түрлі жүйе арқылы дәлелдей түседі [Основы фонологии. М., 2000].

Тіл қарым-қатынас құралы ретінде сөйлеуші адамға тілдік материалдарды жүйелеп берсе, сөйлеу тілдік жүйені іске асырады. Ахмет Байтұрсынұлы «Тіл — адамның белгісінің зоры, жұмсайтын қаруының бірі» дей келіп, «сөйлегенде, жазғанда кім де болса ойын айтады. Ойын айтуға тиісті сөздерді алады да, олардың басын құрап, біріне-бірінің қырын келтіріп, қиыстырады» деп тіл арқылы сөйлеудің туындайтындығын нақты тұжырымдар арқылы көрсетеді.

Тіл өз мақсатына жету үшін таңбалар мен сөздерді қарастырып, таңбалар жүйесін құрып, адамның түсінігіне ыңғайлы әрі түсінікті болуын қажет етеді. Сол себепті тіл мен сөйлеу бір-бірімен ажырамас бірлікте қарастырылады.

Тіл-қатынас жасау үшін жинақталған материалдар жүйесі әрі сөйлеудің ең қажетті құралы болып табылады. Тіл арқылы сөйлеу үдерісі мақсатына жетіп, өз қызметін орындай алады.

А.Лурия «Сөйлеу дегеніміз-тіл арқылы екінші біреуге хабар беру» десе, В. Гумбольдт тіл мен сөйлеудің байланыстыра келіп, сөйлеу сөйлесу ағынында пайда болатынын айтады: «Сөйлеп тұрған адам ең алдымен санасындағы тілдік таңбаларды ойлайды. Біз тілдің құрылуын тек белгілі бір нәрсеге ат қойып, құрастырып сөйлеуден тұрады деген ұғымда болмауымыз керек. Негізінде сөйлеу сөздерді құрастырып сөйлеуден тұрмайтын, керісінше, сөз сөйлеу үстінде туындайды» дейді [Основы теорий речи. М., 2000, 126-б.]. Ал Н.М.Жинкин, Н.Түркбенбаев «Сөйлеу-адам ойы арқылы қалыптасып, тілдік коммуникация негізінде қарым-қатынас жасау үшін қызмет атқаратын лингвистикалық аспект» дейді де: «Егер тіл-қолданыс құралы болса, сөйлеу-тіл аркылы іске асатын қарым-қатынас. Тілдің дыбыстық ерекшелігі сөйлеу үстінде көрінеді, сондықтан олар сөзден сөзге өту үдірісінде көрінеді» дейді.

Сонымен қатар сөйлеудің ерекшелігі - бір адамның сол кезде айтқан сөзін екінші адам дәл сондай етіп, интонациясын да өзгертпей қайталауы мүмкін.

Сөйлеу кезінде — сөйлеуші мен тыңдаушы міндетті түрде қатысады. Сонымен бірге диалог түрінде еркіндік басым болып, дайындықсыз жасалады. Әрі тақырыптың әр алуандылығы сөйлеу жағдаятына тәуелді болады.

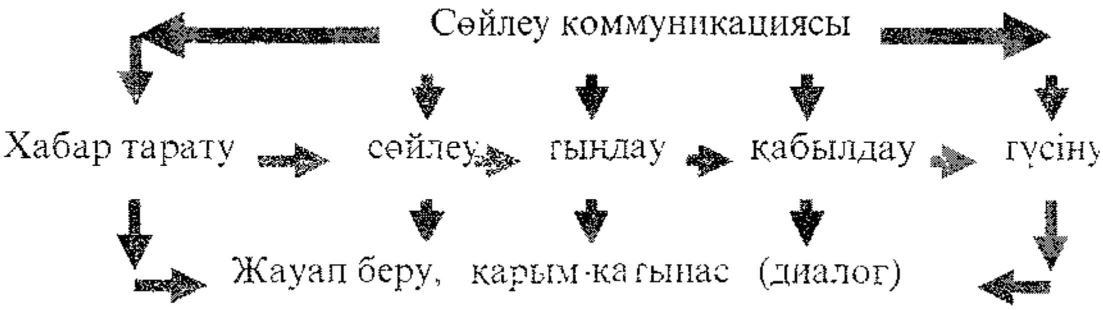
Сөйлеу - адам санасының жемісі. Ауызекі сөйлеуге (разговорная речь) - жалпы адамдардың қарым-қатынасы, әңгімелесуі жатады әрі ауызша, диалог, полилог түрінде, дайындықсыз, жоспарсыз, сол жерде ойланып сөйлеу - сөйлеу тілінің негізгі көрінісі болып табылады. Сөйлеу әрекеті, ең алдымен, ойлау арқылы іске асады да, сөйлеудің негізінде сөйлеу әрекеті туындап, тыңдаушыға әсер етеді. Сөйлеу кезінде тыңдау да, тілдік коммуникацияның бір элементі ретінде көрініс табады. Сондықтан тыңдау адамның негізгі ерекшелігі болғандықтан, оның төрт түрлі негізі бар. Олар:

1) есту қабілеті;
2) түсіну қабілеті;
3) есте сақтау қабілеті;
4) мұқияттылығы.

Осы төрт түрлі негіз арқылы адамдар арасында қарым-қатынас туындайды. Демек, сөйлеушінің негізгі мақсаты-қарсыласынан жауап алу әрі түсінісу болып табылады. Яғни сөйлеу кезінде адресаттың рөлі күшті, өйткені адресаттың қатысуынсыз сөйлеу коммуникациясы өз дәрежесіне жете алмайды.

Ойлау-сөйлеу коммуникациясының негізі ғана емес, ол — бүкіл сөйлеу үдерісі барысындағы адамзаттың болмысы. Ойлау мен сана, тіл мен сөйлеу бір-бірімен ажырамайтын құбылыстар.

Тілдік коммуникациядағы ең негізгі үдеріс-сөйлеу, сөйлесу арқылы қарым-қатынасқа түсу.



Қандай жағдайда болмасын, сөйлеу адамның өзінің алдына қойған мақсатына жету үшін қызмет етеді. Сөйлеусіз, сөзсіз қойған мақсатына жету үшін қызмет етеді. Сөйлеусіз, сөзсіз адамдар арасында қарым-қатынас болмайды. Сөйлеу үш түрлі коммуникативтік бағытта жүзеге асады. Алдымен, сөйлеуші, одан соң тыңдаушы, ал үшіншісі-сөйлеу жағдаяты мен орны. Сөйлеу кезінде әр саланың мамандары арасындағы сөйлеу әр түрлі болады, өйткені ор сала мамандарынын, өз термині мен сөйлеу жүйесіндегі ұстанымдары бар. Күнделікті тұрмыстық қарым-қатынастар (отбасы, тұрмысы, жағдайы) жайында ғана тілдік коммуникация толық байланысқа түсе алады. Демек, адамның дұрыс жауап беруі оның сөздік қорына байланысты.

Сөйлеген сөздің әсерлі, құлаққа жағымды, көңілге қонымды болуы, оның сазды айтылуынан болса, сөздің әсерлі-әсерсіздігі адамның эмоционалды-экспрессивтілігіне, көңіл-күйіне байланысты болады. Сөйлеу мәдениеті адамдар арасындағы тілдік коммуникация арқылы қалыптасып, адам сезімімен, ой-санасымен астасып жатады.

Лебіз мазмұнды, әсерлі болу үшін, жалпылама сөйлеуден қашу керек. Сөздің нақты, дәлелді болуын көздеу керек. Бос сөз ешкімге білім бермейді, қайта тыңдаушыларын жалықтырады.

Лебіз мазмұнды болу үшін шешен алдын-ала дайындықта мынаны ескеруі керек: . .

- кімдердің алдында сөйлейді;
- қандай мәселелер сол аудиторияны қызықтырады;
- сөздің мазмұнына тың мәліметтер мен дәлелдемелер жеткілікті ме?
- авторлық көзқарасы, қорытынды түйіні бар ма?

Музыка оқушысының сөйлеу-орындау әрекетінің теория және практика (тәжірибе) қорына Д.Б.Кабалевский үлкен үлес қосты.

Музыка педагогикада оның әртүрлі аспектілерін жасау, музыка пәнін беруде оқытудың дамуы (Г.М.Цыпин және тағы басқа); эстетикалық армандар және талғамдар (Г.Н.Падамаз) көркемдік мәдениет (Л.Т.Ракацкая және тағы басқа); музыка оқытушыларын дайындауда профессионалды-педагогикалық бағыттағы аймақты музыкалық білімнің мәселесін теоретикалық ұғынумен байланысты.

Музыкант — оқушы әрекетінің проблемасын (мәселесі) аша отырып, әрекеттің обьектісі және субъектісі арасындағы кез келген музыканы орындау әрекеттестігінің негізі болып табылатын, араласу (общения) процесін белгілеу қажет. Араласу қатынастың (коммуникация) белгілі бір ауызша және музыкалы тәсілдерін қолдануды ұйғарады, мұнда сөз және музыка араласу ортасына эмоционалды әрекет ретінде қатыстырылады.

Психологиялық ғылымда негізгі маңыздылықты сөз әрекетіне қатысты С.Л.Рубинштейннің ойларына көңіл аударсақ, автордың ойы бойынша, бұл таным, ой, сезім, уайымның жүзеге асуының және әрекеттің біруақытта жалпыланған бейнесінің формасы ретінде, әрекетті тіл көмегімен хабарлайтын, бейнелейтін араласу әрекеті.

Зерттеуші Г.В.Селихов сөйлеу әрекетін ұйымдастырудың үш деңгейлі құрылымын белгілейді: мотивациялы — қозғаушы; нысаналы — зерттеуші; орындаушы; мотивациялы — қозғаушы деңгей — қажеттіліктердің, мотивтердің, мақсаттардың өзара әрекеттестігінен құрылады, мұнда сөйлеу әрекетінің қажеттілігі қатынасты тану мотиві болып құралады.

Нысаналы — зерттеуші деңгей — «әрекет жағдайларын зерттеуге, қасиеттерін ашуға және белгілеуге, процесті ұйымдастыруға құралдарды жұмылдыруға» бағытталған.

Орындаушы деңгей сыртынан артикуляциялы қозғалыстармен бейнеленген, мұнда сөйлеу әрекеті түрлерінің өнімі ретінде мәтін қолданады.

А.З.Зимнейдің ойы бойынша, дәл сол мотивация «тек сыртқы ортаның әсерін және мотивацияның танылған ортасы ретінде интенцияны бейнелейтін, қоздырушыны және мотивті ұғым ретінде біріктіретін» қоздырушы болып табылады.

Л.Т.Аргансникевтың ізінше Н.Н.Гришанович музыкант — оқытушының квалификациялы сипаттағы үлгісін (модель) жасайды, оның кәсіптік шеберлігінің құрылымында білімге, қажеттілікке, қабілеттілікке сүйенетін, орындаушылық дайындығының ортасы (сферасы) бар, сондай-ақ «тек құрастырылған армандарды, талғамдарды, дағдыларды және қажеттіліктерді ғана емес, сонымен бірге эстетикалық білімдерді, пікірлерді беру қабілеттерін ұйғаратын» музыкалык мәдениетті белгілейді.

Орындау әрекеті өзінің тәжірибелік жүзеге асуына жетеді, егер ол белгілі бір мақсатпен және белгілі бір педагогикалық жағдайларда ара қатынаста болса. Музыка арқылы жеке араласуда, оның «ауызша қоршауы» А.Т.Каузов сөзі бойынша «орындаушы педагогқа» оқушының ішкі дүниесін жаңа музыкалық әсерлерімен және музыка туралы ойлармен байытып қана қоймай, сонымен бірге оны өзінің құндылықтарына, өзінің эстетикалық толғаныстарына және рухани талпыныстарына қатыстыруға мүмкіндік береді.

Бұл кезде пайда болатын диологиялық әрекеттестік, А.Т.Каузовтың айтуынша, оқу процесін шығармашылық деңгейге көтереді, музыканттың орындаушылық қатынас тәжірибесін, оның педагогикалық шеберлігіне бағыттайды, ал оқушыға «музыкадағы өмір» және музыка туралы әңгіме үлгісін береді.

Оқушы еңбегі — бұл жігерлік күштің, қатал мінездің пайда болуын, педагогикалы қабілетті және шеберлікті талап ететін, зерттеу лабораторияның, педагогикалық мәселелердің тиімді шешімдерін тұрақты іздеу.

В.М.Галузинский ойы бойынша сөйлеу әрекеті оқытушы әрекетінің көп қырларын қамтиды: тәрбиелеу теориясындагы білімі, жұмыстағы дағдылары, оқу пәнінен материалдарын және ЖОО білімі деңгейіндегі қатарлас пәндерді игеру; үздіксіз өзі - өзін дамытуға талпыну. О.А.Апраксина педагог сөзіне назар бөле отырып, кездейсоқ мәселелер мен жағдайды табысты шешу үшін, ол шығармашылық интуицияны, жылдам реакцияны, зерттеуші талантын игеру керек деп белгіледі.

Оқушының орындау — сөйлеу дайындық маңыздылығын анықтау, ен алдымен оның құрылымдық — компоненттік құрамының пайда болуымен басталады.

Қазіргі дамыған педагогикалық теорияда музыкант — педагогты дайындау процесін зерттеуге ғылыми тұрғыдан қарауға сәйкес, болашақ маманның әрекетін, оның мәнінің белгілі бір ерекшеліктерімен, оған тән қызметтерімен, көп мәнді, ұйымдастырылған жүйе ретінде қарастыруға болады.

Музыка оқушының орындау — сөйлеу әрекетін сәтті құрастыру, педагогикалық шеберліктердің «құпиялықтарына» араласу кезінде жеткен, нәтижелерді жекеше және критикалық бағалауды кез келген педагогикалық жағдайларды шешуді творчествалық тұрғыдан қарауды талап ететін, кез келген өзгеретін жағдайларда алынған білімді іске асыруға бағытталған, тәжірибелік қызметке тәуелді.

Мотивациялы, мазмұнды, операциялы компоненттер, музыка педагогикасы бойынша Қазақстандық ғылымдардың — А.К.Ахметованың, А.А.Момбектің, М.Е.Мукееваның, Г.У.Оспанованың және тағы басқа жұмыстарында жиі кездеседі. Осылайша Г.У.Оспанова студенттердің лекторлы — орындау ептілігін қалыптастыруда іздеу, конструкторлы, орындау сияқты компоненттерін бөледі.

Музыкант — педагогтың «кәсіптігінің» ерекше механизмін анықтай отырып, А.К.Ахметова негіз ретінде мотивациялы, мазмұнды және операциялы критерияларды алады. Автордың ойы бойынша, олар болашақ әрекеттің шеберлік негіздеріне жетуге субьектінің потенциалды дайындығының бар болуымен шартты сипатталуы мүмкін.

Мотивациялы компонент қозғаушы күш, оның арқасында әрекет механизмі қимылға келеді, ал оның жүзеге асуы музыкант — педагог жағынан қызықтырылған қажетті — творчествалық сипатты игереді, оның мазмұны тиімділікке жетуге қабілеттендіретін және тәжірибе процессінде көрінетін, даралықтың кажеттілік және құнды ортасымен байланысады. Музыкант оқытушы тәжірибесінің маңызды факторы, даралы-құнды қатынас арқылы көріне отырып, әрекеттің мазмұнды және процессуалды жағын игеруге, тұрақты кәсіби қызығушылықтары бар, педагогикалық бағыттылық болып табылады. Мотивациялы компонент мазмұнында кәсіптік — мәнді мотивтердің туындауы және дамуы маңызды рөлді атқарады, ол еөйлеу шеберлігіне жетуге қажетті білімді, дағдыны игеруге ынталандыруда пайда болады.

Музыкалық білім педагогикасында қабылдау, музыкалық-сөйлеу бейнесінің даралығы болуды, бейнелейтін процесс ретінде түсіндіріледі. (Б.В.Асафьев, Б.Л.Яворский, Д.Б.Кабалевский, О.А.Апраксина, Ю.Б.Алиев, Е. В.Назайский және тағы басқа).

Бақыланатын және құбылыстан жаңа элементтерді бөлуге талпыну, музыкалық педагогикалық процеске жаңа сипаттама береді, оның негізінде жасанды таным жүзеге асады.

Болашақ музыка оқушысының міндеті — орындау — сөйлеуді қабылдау процесінде ойдың белсенді әрекетін бағыттау, көрнекіліктін, және сөздің, қадағалауды және түсініктердің үйлесімділігін қамтамасыз ету. Бұл кезде жаңа білімдерді, студенттердің өмірлік тәжірибесіне сүйенуді, жаңа материалды үйрену қажеттілігін сенімді дәлелдеуді, оның тәжірибелік мәнділігін көрсетуді баяндау кезінде жалғастырушылықты (мирасқорлықты) сақтаудың маңызы зор.

Материалдарды игеру кезінде студенттер даралығының мотивациялы жағына, көркем — сөйлеу көрнекілігінің арнайы құралдарын — музыка сабағын жаңашыл ұстаздар, лекторлардын өткізу видео иллюстрацияларын қолдану ерекше әсер етеді, олардың арқасында музыкант — педагогтың әрекетінің мазмұны туралы көрнекті ұғымды алады, сөйлеу мәдениетінің ерекше рөліне көз жеткізеді, оны жүзеге асыруға қызығушылық туады.

Осы кластың бағдарламасында бүкіл жыл бойы оқылатын, оқу тақырыбы ұсынылған; «Музыканы қалай естуге болады», мұнда алты және жеті жасар балаларды музыкалық оқытуға байланысты жалғастырушылықтар қарастырылған.

Бағдарламада оқушының музыкамен араласуының барлық формасында жүзеге асатын, алты жасар баламен жұмыс істеудің әдістемелік қағидалар бірінің имправизаторлығының үлкен маңыздылығы бар.

Авторлар айтқандай, бұл қағиданың әрекет етуі,музыка оқытушысынан сабақ уақытысында тек музыканы «конструкцияны» құруды ғана емес, сонымен бірге рухани жағдайын, әсері бейнелеуге балалардың қажеттілігін және дайындығын ынталандыруды талап етеді.

Бірінші сатының орталық идеясы — бұл музыкалы өнердің - ән, би, марш жанрлы негізін ұғыну.

Дамыту ретінде музыканың осы үш негізі операға, балетке, симфонияға «өсу» процесі қолданады. Тақырыптың материалдардың қосымша «желілері» ретінде «музыкадағы мәнерлілік және өнертапқыштық», сондай-ақ музыкалы сөйлеу әрекеттері және музыкадағы қарапайым формалар — бір жекелі, екі жекелі және үш жекелі (репризді) туралы түсініктер қызмет атқарады.

Музыкалы мәдениетке қатыстырылудың екінші сатысында музыкалы өнердің интанациялы табиғаты назарда болады.

Ол әңгіме және музыкалы сөйлеу, интонация — «дәні», мәнерлі және өнер тапқышты интонация, оның тембрлы, ырғақты, жоғары дыбысты қызметіне байланысты призма арқылы ашылады.

Үшінші сатыда халық музыкасы негізінде туындаған, композиторлар творчествосы, халық музыкасы және басқа халықтардың музыкасы (ең алдымен Ресей территориясында тұратын, халықтардың және орыстардың музыкасы) назарда болады.

Тіл адамдардың қарым-қатынас құралы болғандықтан, ол сөйлеу әрекетінің арқауы болып табылады. Тіл ұлт пен ұлтты жақындастыратын өзгеше қатынас. Тілмен сөйлесу адамзат баласы үшін тысқары бір дүние емес, ол ішкі құбылыс. Сөйлеу тек адамға ғана тән. Адам тіл арқылы бір-бірімен қатынаса алады. Қазіргі таңда, еліміз өз егемендігін алып, дербес мемлекет ретінде танылуда. Сондықтан еліміздің өркениетін көтеру мақсатында шет тілдерін меңгеру, шет елдермен қарым-қатынас орнатудың маңызы зор екендігін көрсетіп отыр. Бұл дегеніміз қазақстандықтар үшін, жастар үшін ағылшын тілін үйрену - ғылымды, экономиканы, бизнесті одан әрі дамыту қажеттілігінен туындатып отыр. Білім - адамзат қазынасы, халықтың білімділігі - елдің байлығының ең маңызды бөлігі. Тәрбиелеу мен оқыту жүйесінде білім арқылы ең озық мәдениет пен дүние таным қалыптасады.

Н. Ю Вторушинаның пікірінше, шетел тілін, жалпы кез келген тілді үйренуде немесе үйретуде жаза білудің, жазбаша тілдің маңызы зор. Өйткені жазбаша тіл – бұл жазбаша сөздегі ойдың мақсатты және шығармашылық іске асуы, ал жазбаша сөз – ойды жазбаша тілдік белгілерде қалыптастыру мен тұжырымдау тәсілі. Оқушылардың жазбаша дағдылары көпжағдайда сөйлеу қызметінің басқа түрлеріне үйрену деңгейінен елеулі қалып қояды.

Жазбаша тілге оқытудың мақсаты оқушыларда жазбаша коммуникативтік құзіреттілікті қалыптастыру болып табылады, ал бұл жазбаша белгілерді, сөйлеу түрлерінің жазбаша мазмұнын және нысанын жазбаша меңгеруді қалыптастырады. Жазбаша тілге оқыту кезінде шешілетін міндеттер жазбаша тілдің оқыту мазмұнын игеру үшін жағдайлар жасаумен байланысты. Бұл міндеттер оқушыларда қажетті графикалық автоматизмдерді, сөйлеу-ойлау дағдыларын және айтылатын ойдың жазбаша стильге сәйкес тұжырымдай білу дағдысын қалыптастыруға, білімі мен дүниетанымын кеңейтуге, жазбаша тілдің мазмұнын жеткізе білу мәдениеті мен интеллектуалдық дайындығын игеруге, жазбаша мәтіннің тақырыптық мазмұны, сөйлеу стилі және графикалық пішіні туралы түпнұсқадан ауытқымай жеткізе білуді қалыптастыруға мүмкіндік береді.

Жазбаша тілді оқытуға қойылатын ақырғы талаптар оқушыларда шетел тілін меңгерудің қол жеткізілген бағдарламалық деңгейіне сәйкес тілдесу, танып білу және шығармашылық тәсілі ретінде шетел тіліндегі жазумен қалай практикалық жұмыс жасау қабілеттерін қалыптастыруды енгізеді. Жазбаша тілді үш жазықтықта: мазмұны (ойлау), бейнелеу (сөз) және орындау (графикаларды) қарастыруға болады. Жазбаша тілдің мазмұны оның қызметтік мақсаты және міндеттерімен анықталады, мысалы, эмоциялық әсер, көмекке жүгіну, қызметті басқару, ақпаратты сұрату, іс жүргізу әрекеттерін орындау, ақпаратты сақтау, адамның шығармашылық әлеуметін жазбаша бейнелеу.

Ойды мазмұнды қорыту жазбаша туындының нысанын анықтайды. Жазбаша тіл туындыларының нысанына оқыту мазмұны енгізілуі мүмкін, оған жататындар: құттықтау ашық хаттары, телеграммалар (жеке және іскерлік мазмұнда), жазбалар (отбасы мүшелері, достары, жұмыстағы әріптестері), маңдайша жазулар (үйлерде, мекемелерде), заттаңбасы (тауар орамаларында), суреттерге қол қою, хабарландырулар - нұсқаулықтар, хабарландырулар - ақпараттар (жұмыс іздеу туралы, жұмысқа қабылдау туралы, спорттық және мәдени өмірдегі жаңалықтар), мәзірлер, жарнамалар, шақыртулар, көңіл айтулар, жеке хаттары, көбінесе хатта жұмысқа қабылдау туралы, алғыс хаттар, яғни bread-and-butter letters, наразылық және шағымдары бар хаттар, өтініш хаттар (басшыға, қоғамға), өтінішке берілген жауаптар, автобиографиялық мәліметтер, яғни curriculum vitae, сипаттамалар, яғни confidential references, толтырылған сауалнамалар және бланкілер, анықтамалар, mind-maps үлгідегі тірек схемалары (аудитория алдында сөйлеу үшін), нұсқаулықтар (қауіпсіздік техникасы бойынша, тапсырмаларды орындау үшін), рецепттер (кулинарлық, белгілі және жеке), күнделіктер (бақылаулар, саяхаттар), сөздіктер, диктанттар, библиографиялар (автордың шығармалары, проблема жөніндегі кітаптар), конспектілер, яғни notes (оқыған мәтіннің мазмұнын қысқаша баяндау), қабырға газетіне мақалалар, әсерлер (көрген немесе тыңдаған кездегі алған әсерлер туралы), кітапқа шолу, рецензия, яғни reviews (кітапқа, әңгімеге, кинофильмге, өнер туындыларына), есептер, яғни reports (бақылаулар туралы, сауалнама туралы, сұрақтар туралы), баяндамалар (проблема туралы, case-studies үлгідегі нақты жағдайларды зерттеу туралы), баяндау, яғни reproduction (оқыған мәліметтерді, естіген мәліметтерді), резюме, яғни summary (оқыған мәліметтердің, естіген мәліметтердің негізгі идеясы), хабарламалар (жаңалықтар туралы, соңғы жаңалықтар туралы), шолулар (газеттегі мақалалар, апта ішіндегі жаңалықтар), аннотациялар, яғни précis (әңгіменің, кітаптың, фильмнің негізгі мазмұны), рефераттар, яғни synopses (оқыған мәліметтерді қысқаша шолу), тезистер, яғни abstracts (сөйлеуді қысқаша баяндау), жобалар, яғни projects (қоршаған әлем жағдайына және өзгерісіне көзқарастар), очерктер, яғни essays (заттарға және құбылыстарға жеке көзқарас), шығармалар (тақырыпты немесе проблеманы қайта түсіндіру (интерпретация)), әңгімелер (фабулалар мен сюжеттерді ойдан шығару), өлеңдер (әр түрлі пішіндегі өлеңмен жазылған туындылар жазу) т.б.

Қазіргі заманғы әлемде жазбаша коммуникацияның рөлі тым жоғары деген пірірмен ешікім дауласа алмайды. Жазу бізге өлшеусіз, бірақ сенімді қызмет етеді. Сөйлеу түрі және жазу өнімді қызмет түрі болып табылады, бірақ жазбаша тілдік нұсқалардың жағдайымен байланысты бірқатар міндеттер туындайды.

Бұл қандай міндеттер және осыдан туындайтын жазбаша тілінің сапасы қандай деген сұрақ туындайды. Сөйлеу мен жазудың арасында психологиялық және лингвистикалық тұрғыда маңызды айырмашылық бар. Профессор А.И.Гальперин: «бәрінен бұрын, ең алдымен, тікелей реципиент пен аралық кері байланыстың болмауын атап көрсету керек» дейді. Сөйлеп тұрған адам тыңдап тұрған адамның әрбір фразаны мұқият тыңдап, соған сай реакциясын тікелей көре алады, бұл оның сөзін реттілікпен сөйлеуіне әсер етеді; жазатын адам бұл реакцияны алдын ала болжауы мүмкін, сондықтан оның сөзі неғұрлым негізделген, толық баяндалады. Жазатын адам ең алдымен тиісті оқиғаға сәйкес реципиентті көрсетіп, сосын өз пікірін айта алады. Бұл жазатын адамға болған оқиғаны неғұрлым толық сипаттауға мәжбүрлейді, әйтпесе қате бұрмаланып кетуі мүмкін.

Жазатын адам өзінің сөзін мәнерлеп баяндай алмайды. Сондықтан ол фразаларды неғұрлым мұқият синтаксистік түрде құрастыруы, соған сәйкес дәлме-дәл бейнелеуі тиіс.

Сөйлеп тұрған адам көбінесе уақыт тапшылығы жағдайында болады; ал жазатын адамның уақыты шектеусіз. Сондықтан ол тек сөздің мағынасына ғана емес оның формасына де барынша көңіл бөледі. Біз жазылғандарды саралап көргенде барынша сәйкес пайдаланылған сөздердің мағынасы мен формасы айтылған ойдың мазмұны мен мағынасын қаншалықты бере алатындығын тексереміз. Жазатын адам, негізінен, өз сөзін ұзақ мерзімді жоспарлаумен білдіреді, сондықтан оның сөзі барынша ойға қонымды, түсінікті. Ол дәлме-дәл сөзді іріктеп, сөзінің лексикалық құрамын түрлендіре алады.

Жазбаша жазу мен жазба тілдің сапасы тек белгілі бір қиыншылықтар мен ерекшеліктерге ғана емес, сонымен бірге жазба жұмысының өзіндік бір сипатты ерекшеліктеріне де байланысты.

Жазбаша тіл қызметі жазбаша сөзде ойды мақсатқа сай бағытталған және шығармашылық тұрғыда аяқтау, ал жазба тілі – жазбаша тілдік белгілерде ойды қалыптастыру және тұжырымдау тәсілі (Л.С. Выготский, И.А. Зимняя, Tricia Hedge). Атап айтқанда жазудың өнімді жағына шетел тілі сабақтарында аз үйретеді. Оқушылардың жазбаша жазу дағдылары сөйлеу қызметінің басқа түрлерін үйрету деңгейінен елеулі түрде артта қалып қоятынын көріп жүрміз.

Жазу да сөйлеу сияқты үш жиілікті құрылыммен сипатталады: түрткі салу-мотивациялық, аналитикалық-синтетикалық және орындаушылық. Түрткі салу-мотивациялық бөлігінде мотив пайда болады, қажеттілік түрінде сөйлесуге деген ниетінің болуына, жазбаша түрде бірнәрсені беруге, қандай да бір ақпаратты хабарлауға байланысты. Жазатын адам өзінің түпкі ойын айтқысы келеді. Аналитикалық-синтетикалық бөлігінде сөйлеудің өзі қалыптасады, іске асырылады: мәтінді құрастыру үшін қажетті сөздерді іріктеу, тақырыптық белгілерді ұсыныстар тобына бөлу, сөйлемдер арасындағы байланыстарды мағыналық ұйымдастыруда предикатты немесе өзекті бөлігін атап көрсету. Жазба тілінің орындаушылық бөлігі қызмет түрі ретінде жазбаша мәтіннің графикалық белгілерінің көмегімен өнімді көрсетумен іске асырылады.

Historical Sciences

Vətənpərvər Azərbaycan qadını

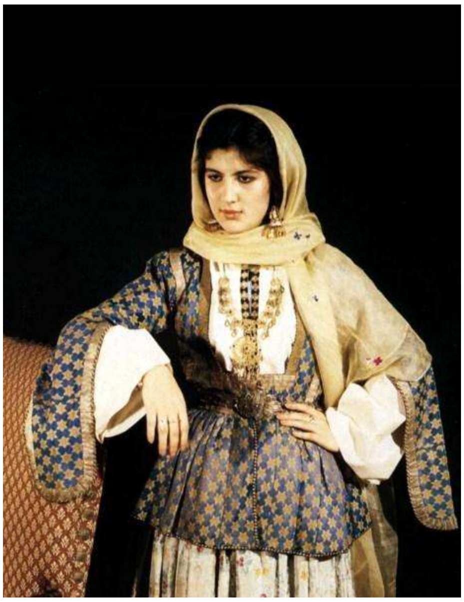
Çobanova Nərgiz Məhəmməd qızı
ADPU-nun nəzdində Azərbaycan Dövlət Pedaqoji Kollecinin müəllimi

Abstract. Azerbaijani women have had to go through many difficult trials in history. Along with the brave sons, the women also took the zeal of the clan. They directly participated in the battles against the enemy of Elin fat. As in the family, they showed examples of selflessness and heroism in the wars. He came and replaced his spouses, sons and brothers. They gave a worthy response to the insidious enemies who were eyeing our lands with their deep intelligence and wit, mounted horses, armed themselves with various weapons, and showed heroism.
Keywords: Azerbaijan, Mehriban Aliyeva, woman, hero

Haqlarında tarixi mənbələrdə, yazılı və şifahi xalq yaradıcılıq nümunələrində, dastanlarımızda qürurduyulası faktlara rast gəlirik. Onların cəsurluğu, qorxmazlığı, qayğıkeşliyi, mərdliyi, qeyrəti bu gün uşaq və yeniyetmələrin vətənpərvərlik ruhunda tərbiyəsində böyük əhəmiyyət kəsb edir. Qadınlarımızın yüksəldiyi zirvə isə uzaq keçmişin mürəkkəb və təlatümlü hadisələrindən başlanıb.

Azərbaycan qadını tarixdə bir çox çətin sınaqlardan keçməli olub. İgid oğullarla yanaşı, qadınlar da el-obasının qeyrətini çəkib. Elin yağı düşməninə qarşı döyüşlərdə bilavasitə iştirak ediblər. Ailəsində olduğu kimi, savaşlarda da fədakarlıq və qəhrəmanlıq nümunələri sərgiləyiblər. Yeri gəlib həyat yoldaşlarını, oğullarını, qardaşlarını əvəz edib. Torpaqlarımıza göz dikən məkrli düşmənlərə öz dərin zəkası, ağlı ilə layiqli cavab verib, at minib, müxtəlif silahlarla silahlanıb, qəhrəmanlıq göstəriblər.
Cəsur qadınlar barədə Azərbaycan xalq ədəbiyyatının ən qədim yazılı abidəsi olan "Kitabi-Dədə Qorqud" dastanında da məlumat verilib. Dastanda Selcan xatunun, Burla xatunun, Banuçiçəyin və digər xanımların silahlanıb, at çapıb, savaş meydanlarına atılmalarının şahidi oluruq. Tariximizdə Mömінə, Mehrcan, Sara, Bəyim xatın, Taclı, Behruzə, Pərixan, Tutu Bikə xanım və digər adlarını çəkmədiyimiz dərin zəkaya, möhkəm iradəyə malik döyüşçü, hökmdar qadınların göstərdiyi qeyrət nümunəsi bu gün yeniyetmə və gənclər üçün əsl qəhrəmanlıq məktəbidir.
Yüksək mənəvi keyfiyyətlərə malik, ağıllı, iradəli, namuslu, qürurlu və mətanətli qadınlarımız öz soykökünə, xalqın mənəvi dəyərlərinə, adətlərinə sadiq qalıb, tarixi ənənələri qoruyub, yaşadıb.

Həyatın çətin sınaqlarında belə, yada əyilməyən bu tip qeyrətli qadınlarımız hər zaman cəmiyyət tərəfindən yüksək qiymətləndirilib, adları minnətdarlıqla anılıb.
Şanlı tariximizi vərəqləyərkən cəsur, qayğıkeş, mətanətli Azərbaycan qadınını dövrünün hər cür əzab-əziyyətinin, fiziki və mənəvi zülm və əsarətin içində olduğunu, lakin öz ağılı, zəkası, biliyi, istedadı sayəsində qalib çıxdığının şahidi oluruq. Zaman keçdikcə əllərindəki soyuq silahlarını, biliyin silahı ilə əvəz etdiklərini, istedadları sayəsində uğur və nailiyyətlərə imza atdıqlarını, hədəf və ideyalarını həyata keçirdiklərini görürük.
Xalqımız 1918-ci il 28 may tarixini heç zaman unutmayacaq. O gün Şərqdə, Türk-müsəlman dünyasında ilk demokratik respublika olan Azərbaycanda azadlıq bayrağı dalğalanıb. Bu azadlığa da hamından çox qadınlar sevinib. Çünki qadın məsələsi Azərbaycan Xalq Cümhuriyyəti parlamentinin diqqətdə saxladığı aktual mövzulardan biri olub. Kişilərin əsrlər boyu davam edən üstünlüyünə və qadınların hüquqsuzluğuna həmişəlik son qoyulub. Məhz bu dövrdə qadınlar klubu yaradılıb, savad kursları, məktəblər təşkil edilib. Çadra əleyhinə qarşı kəskin mübarizə aparılıb. Şərqdə ilk dəfə qadınlara seçkidə iştirak etmək hüququ verilib. Qadınların illər boyu tapdalanmış hüququ, molla, axundların əlindən alınıb yenidən özlərinə qaytarılıb. Üzlərinə bağlanan, uzun illərlə qadağa qoyulan məktəblər, kitabxanalar açılıb.
Azərbaycan qadınları özlərinin mübariz orqanı "Şərq qadını" jurnalını yaradıb. Həyatları bahasına da olsa, nəfəslərinin son anına qədər xalqının ictimai həyatında fəallıq göstərən maarifpərvər qadınlar ölkədə qadın hüquqları uğrunda mübarizə aparıblar. Dövrünün ictimai, siyasi, publisistik və başqa sahələrində çalışan ziyalı xanımlardan Şəfiqə Əfəndizadə, Nigar Şıxlinskaya, Xədicə Ağayeva, Fatma Topçubaşova, Pəri Topçubaşova, Sürəyya Axundova, Əminə Ağayeva, Mədinə Qiyasbəyli, Mina Aslanova, İsmət Aşurbəyova, Gövhər Vəlibəyova, Suğra Yaqubova, Xeyrənsə Rəhimova, Fatma İsmayılova, Raziyyə Əliyeva və digərləri qadınları yeni cəmiyyət quruculuğu uğrunda
mübarizəyə cəlb etməkdə tarixi rol oynayıblar. Onlar qadınların maariflənməsi, ictimai fəallığının artırılması sahəsində böyük işlər görməklə yanaşı, on minlərlə qadınları da öz arxasınca aparıb, onlara nümunə olublar.
Tariximizin bütün dövrlərində Azərbaycan qadınları Vətənimizin daha gözəl, daha zəngin olması üçün əlindən gələni əsirgəməyib. Onlar "hər şey Vətən üçün" şüarı ilə tərifə və təqdirəlayiq fədakarlıq nümunələri göstəriblər.
Müstəqillik əldə etdikdən sonra Azərbaycan qadını ölkənin ictimai-siyasi, sosial-iqtisadi və mədəni həyatının fəal iştirakçısına çevrilib. Bu gün ölkəmizdə bütün sahələrdə qadınlar öz sələflərinin ləyaqətli davamçısı kimi cəmiyyətimizin həyatında qürurduyulası fəaliyyət göstərir, Vətənimizin parlaq sabahı uğrunda səylə çalışır. Ölkəmizin çoxcəhətli mədəni həyatını öz istedadı ilə xalqın mənəvi sərvətlərini artıran alim, müəllim, həkim, hüquqşünas, yazıçı, bəstəkar, rəssam, şair, dövlət və maarif xadimləri ziyalı qadınlarımız var. Müstəqil ölkənin yeni nəsilləri də onların diqqət və qayğısı sayəsində tərbiyə olunur. Onu da çox yaxşı bilirik ki, hər hansı bir dövrdə qadınlara münasibət ilk növbədə dövlətin qadın siyasətindən asılıdır. Bu sahədə bizlər çox şanslıyıq.
Müstəqil Azərbaycan dövlətinin qurucusu və memarı Ümummilli lider Heydər Əliyev hər zaman qadınlara xüsusi diqqət və qayğı ilə yanaşıb. Dahi öndər tərəfindən həyata keçirilən bir sıra tədbirlər - 1998-ci il tarixli Fərmanı ilə Qadın Problemləri üzrə Dövlət Komitəsinin (indiki Ailə, Qadın və Uşaq Problemləri üzrə Dövlət Komitəsi) yaradılması, həmin ildən başlayaraq Azərbaycan Qadınlarının Qurultayının keçirilməsi, "Azərbaycan qadınının rolunun artırılmasına dair tədbirlər haqqında" Sərəncamı, 2000-ci ildə "Azərbaycan Respublikası Dövlət Qadın Siyasətinin həyata keçirilməsi haqqında" Fərmanı və digər mühüm tədbirlər qadınların hüquqlarının tapdalanmasının qarşısını almağa yönəldilib. Dövlət qadın siyasətinin Prezident İlham Əliyev tərəfindən qətiyyətlə davam etməsinin nəticəsidir ki, bu gün Azərbaycan qadınının cəmiyyətdə yeri və nüfuzu daha da artıb.



“Azərbaycan qadınları xalqımızın adət-ənənələrini, mədəniyyətini, elmini, intellektual potensialını yüksək səviyyədə təmsil etmişlər və bu, indi də belədir. Qadınlar dövlətimizin, dövlətçiliyimizin, müstəqilliyimizin, bu günümüzün, gələcəyimizin dayağıdır”. Ulu Öndərimiz Heydər Əliyevə məxsus olan bu dəyərli fikri müstəqil Azərbaycanın həyatında qadınların roluna dövlət səviyyəsində verilən yüksək qiyməti əks etdirir. Möhtərəm Prezidentimiz cənab İlham Əliyev də qadınların cəmiyyətin inkişafındakı rolunu qiymətləndirərək qeyd edir ki, “Tariximizin hər bir dövründə qadınlarımız cəmiyyətin sarsılmaz mənəvi dayağı olmuş, ölkəmizin bu günkü simasının müəyyənləşməsi üçün böyük fədakarlıqlar göstərmişlər.“ Bəli, böyük tarixi, mədəni irsə malik olan Azərbaycan xalqı qadının ailədə və cəmiyyətdəki roluna daim yüksək ehtiramla yanaşmışdır. Qadın yaşadığı tarixi dövrdən, onun sosial-iqtisadi vəziyyətindən, coğrafi məkandan, irqindən, dilindən, dinindən asılı olmayaraq, hər zaman bəşəriyyətin inkişafına mühüm töhfələr veriblər. Azərbaycan qadını çətin, keşməkeşli inkişaf yolu keçərək bütün mərhələlərdə ilklərə imza atmağa müvəffəq olmuşdur.

Xalqımızın fəxr və qüruru olan qadınlarımız ölkəmizi bu gün bütün dünyada ləyaqətlə təmsil edir. Azərbaycanın Birinci vitse-prezidenti,millət vəkili, YUNESKO-nun və İSESKO-nun xoşməramlı səfiri, Heydər Əliyev Fondunun prezidenti Mehriban xanım Əliyevanın ölkənin ictimai-siyasi həyatındakı uğurlu fəaliyyəti, dövlətimiz, dövlətçiliyimiz naminə, xalqın rifahı üçün gördüyü işlər, xeyirxah əməllər bu gün bütün Azərbaycan qadınlarının yorulmaz, mübarizə əzmi göstərən güc və qüdrətinin bariz nümunəsidir

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ON THE ISSUE OF INTERETHNIC TENSION IN THE ALMATY REGION OF THE REPUBLIC OF KAZAKHSTAN

Amanzhol Kalysh
Doctor of historical sciences, professor of the Al Farabi Kazakh National University (KazNU), Kazakhstan, Almaty city
Aizhan Bakbersin
MA student at Al Farabi Kazakh National university, Kazakhstan, Almaty city

Abstract: This report examines the causes of interethnic tension in the Almaty Region of the Republic of Kazakhstan. Primary attention is paid to both objective and subjective factors contributing to their emergence. Naturally, they are directly and indirectly affected by the consequences of transitional market relations that arose following the collapse of the former totalitarian Soviet state and the formation of post-Soviet states. On the other hand, the status of the titular nation is influenced by the so-called Soviet international policy, which ignored the interests of indigenous ethnic groups that achieved actual independence. It should also be noted that, over a century and a half of Tsarist Russia and the totalitarian USSR, as a result of specific migration policies and the forcible deportation of several dozen ethnicities, Kazakhs became a minority population in their republic.

With the country's sovereignty, the transformation of Kazakhs into a titular ethnic group leads to the fact that some peoples living together, including their younger and middle generations, objectively misunderstand this change. This negative process, firstly, with the weakening of the culture of interethnic relations and the loss of ethnic memory formed among them over an extended historical-chronological time, precedes the older generation who experienced all life's hardships in those challenging times. Secondly, there is a lack of basic respectful attitude towards the indigenous Kazakh ethnic group, known for significant tolerance and confessional tolerance, from the youth of other nationalities and partly from representatives of the middle stratum. In the context of polyethnic Kazakhstan, the emergence of interethnic conflicts is perceived not only by authoritative structures but also by the public, as well as representatives of ethnic minorities, ethnocultural centers, and the Assembly of the People of Kazakhstan.

Keywords: post-Soviet Kazakhstan, transitional market relations, conflicts, Kazakhs, ethnic decline.

Introduction

On the global stage, contemporary Kazakhstan positions itself as a state harmoniously maintaining interethnic and interconfessional relations and public stability. However, the authorities do not acknowledge the emergence of ethnic tensions and disagreements. Experts assert that the most important thing is not to learn from past mistakes.

At the current stage of the Republic of Kazakhstan's development, one of the most crucial features of socio-political and historical progress is the continuous expansion of comprehensive interethnic connections on an equal, democratic basis. Undoubtedly, the expansion of democracy worldwide, the comprehensive establishment of people's equality and legal principles, the rise of the civilization level of culture in modern society, the development of new technological communications, increased population mobility, and the refinement of tools in line with the achievements of scientific and technological progress and other new opportunities have contributed to the dissolution of ethnic insularity and the growth of their interaction and dependency.

According to researchers and scholars, interethnic tension is inherently driven by economic, political, and social reasons. Accordingly, they begin to evolve as a form of political, labor, or even interpersonal conflicts (a criminal event as a form of interpersonal conflict). Interethnic contradictions represent a distinct type of social contradictions arising due to inequality, real disparities in wealth distribution, authority, and power among ethnic groups [1: 34].

In the public consciousness and in the media, there is a widespread perception of interethnic contradictions, which represent other known types of conflicts - labor, political, social. Moreover, ethnic conflicts are explained by contradictions related to ethnic features, not irrational, emotionally specific interests, and goals.

Currently, ethnicities are more open to each other than ever before. In this context, evolutionary stability is a crucial aspect not only for socio-political and economic development but also for the demographics of the Republic of Kazakhstan.

In a multi-ethnic state, any issue, be it economic, political, or cultural, constantly takes on a national expression. The emergence and intensity of interethnic tensions depend on the form of the multi-national state's creation and its national policy.

Main part

After many years of regaining independence, a series of interethnic conflicts occurred in the Kazakh steppe. However, addressing such tensions in reports as "domestic conflict" has further exacerbated the issue. In our view, approaching the problem from the standpoint of domestic conflict indicates that the ethnogeopolitical policy in the state is being implemented incorrectly, and the development of effective mechanisms for its resolution and regulation is improperly established.

The primary path to mitigating ethnic tension in the country is the strengthening of national educational policy and the creation of a free civil society.

Overall, there exists a biased perception of interethnic relations, whether in the media or politics. We particularly view this realm as mutual cooperation, the unification of nations. This is true on one side, though there is another. When various ethnic groups mix, their disagreements and competition go hand in hand. Therefore, one of the most critical tasks of ethnic policies is harmonizing the conflicting interests of many nationalities. If disputes or tensions arise between ethnicities in a particular place, it demonstrates the presence of vulnerabilities in interethnic relations.

Since the main area of study in the report are the primary ethnic contradictions that took place in the Almaty region, primarily based on the latest national census conducted in 2021, the area is inhabited by 162,018 Uyghurs, 2,290 Dungans, and 6,191 Chechens [2: 12].

Paying attention to historical events, it is noticeable that, in general, the majority of ethnic conflicts in the country are associated with socio-economic problems. All interethnic conflicts that existed during independence grew from domestic, criminal, labor, and other disputes. Each incident was studied, resulting in the identification of patterns and stages of conflicts.

● Interethnic tension in Uzynagash (July 27–end of August 1990). The type of tension was ethno-social, "anti-immigrant." The conflict was local, engulfing the villages of Yntymak and Uzynagash. It involved the youth of the Zhambyl district of the Almaty region. The protestors were: 1) the local Kazakh population; 2) the local Chechen and Ingush youth [3: 25].

The ethno-conflict was sparked by a brawl between young Kazakhs and Chechens in the village of Yntymak on July 27, 1990. The main causes of interethnic disagreements were the exacerbation of social and economic problems in rural areas, contradictions, interethnic competition during the transitional period, dissatisfaction among the local Kazakh people with their economic position, and poor adaptation to established market relations.

As known, Chechens and Ingush were deported to Kazakhstan in 1944. Trading and the service sector became the main activities for a significant part of them. Even in the 1960s and 1980s, in conditions of relatively low population polarization by income level, engagement in these areas provided them with a higher level of real income compared to the local, predominantly Kazakh population employed in education, manufacturing.

Progressing social and ethnic differentiation in the context of modernization led to increased social and interethnic tension. Previously, the Soviet system strictly suppressed interethnic conflicts, including at the interpersonal level, at the earliest stages. With the weakening that began with the collapse of the political regime in the late 1980s, property differentiation and interethnic contradictions became more frequent in the Almaty region. In these instances, any one of them could trigger interethnic tension.

Unlike previous conflicts between Kazakh and Chechen youth, the disagreements in the village of Yntymak on July 27, 1990, drew hundreds of people to the confrontation and were reflected in several publications of the Kazakhstani press. This was the cause of a relatively large local interethnic conflict.

On the morning of July 28, a citizens' assembly was convened in the village of Yntymak, and the sides reconciled. However, a week later, on August 4, the conflict reignited with the use of melee weapons. On August 5, Kazakh youth from neighboring villages began arriving in the village. They were not allowed into the village by the district police forces and were redirected to Uzynagash, where they were received by representatives of the district authorities. An agreement was reached that a meeting of the conflicting parties would take place in Uzynagash on August 6 to resolve the conflict. On August 5-6, about twenty assemblies were called in the settlements of the district.

The main demands of one side of the conflict were the "cessation of Chechen dominance in the sphere of trade and supply" and the "relocation of Chechens and Ingush from the territory of Kazakhstan."

On August 6, in the village of Uzynagash, instead of a reconciliatory meeting of the conflicting parties, an unauthorized rally took place. To maintain public order, alongside the district police, officers from the Internal Affairs Directorate (UVD) of the Almaty region and the city were involved. The rally adopted a resolution demanding the expulsion of Chechens and Ingush from the republic by September 1.

On August 8, a rally was held in Uzynagash, reaffirming the previously adopted resolution regarding the relocation of Chechens and Ingush. As with the case of the new river, Kazansu, and several other conflicts, demands for the deportation of Kazakhstan's citizens were ultimately recognized as unconstitutional. The tense situation in the district persisted until August 16-18, 1990.

Like most local "anti-immigrant" ethnic disputes, after a brief period of tension, this ethnic conflict gradually subsided. The main tactic of the authorities in localizing and resolving the conflict was a compromise approach. The period of cessation of interethnic tension was not covered in the press.

One of the factors provoking the exacerbation of ethnic contradictions is the lack of development of a culture of healthy relationships among the population. This is evidenced by the 2006 "bucket" incident history.

● Interethnic tension in the village of Shelek, Almaty region (November 18-19, 2006). The type of conflict is ethno-social. The conflict involved representatives of the youth of two local and permanent ethnos: 1) Uyghur youth; 2) Kazakh youth of the settlement. The main reasons are the growth of social and economic inequality of ethnic groups in the Enbekshikazakh district of the Almaty region, differentiation among representatives of nationalities, and the politicization of ethnicity in youth environments [4: 32].

The cause of local interethnic disagreements was an incident (a fight) that occurred on November 18, 2006, at the cafe "Staryi Zamok" located in the center of Shelek, which escalated into interethnic tension during a domestic conflict. The interethnic economic and social factor among Uyghurs and Kazakhs began to intensify with the establishment of market relations, and in subsequent years, the economic and social inequality of ethnic groups strengthened [5: 8].

On November 19, the conflicts between Kazakh and Uyghur youths involved about 600 people. Mutually negative ethnic stereotypes in the Uyghur and Kazakh environments led to an exacerbation of contradictions, as evidenced by the thesis "your state, our land," published by one of the parties involved [6].

The prompt involvement of law enforcement forces, the introduction of a curfew, and the organization of police patrolling significantly contributed to the prevention and regulation of escalating tensions. These circumstances contributed to the end of the conflict by the end of November 2007 [7].

● Interethnic tension in the settlements of Baidibek bi (Malovodnoe) and Kazatkom (March 17-19, 2007). The parties to the ethno-social, conditionally "anti-immigrant" conflict are the Kazakh and Chechen populations of the Baidabek bi, Kazatkom of the Enbekshikazakh district, and several other villages [8: 34].

On March 17, an interethnic conflict flared up between Kazakhs and a Chechen, Mukhammad Makhmahanov, in the billiard room "Botagoz" in the village of Malovodnoe (40 kilometers from Almaty). In the evening of the same day, Muhammad's cousin Takhir Makhmahanov, according to the official version of the investigation, ran over someone with a jeep near the "Botagoz" billiard room, owned by Makhmahanov, after which one of the fight participants, Bekzhan Salimbaev, was wounded in the leg by an unknown weapon.

On March 18, a group of three hundred people arrived by car at the Makhmahanovs' house in the nearby village of Kazatkom, demanding Takhir be handed over. Takhir's four brothers, armed, came out to meet the crowd and opened fire from a rifle. About ten people were wounded, two of whom died later. Many began to pelt the Makhmahanov brothers and their house with stones.

The Makhmakhanov brothers attempted to flee. One of them managed to escape, but the other brothers were brutally dealt with. On the same day, March 18, the house of these brothers in the Kazatkom settlement, as well as the billiard room they owned and several kiosks in the Malovodnoye were demolished. As a result of the conflict, five people (three Chechens and two Kazakhs) died, and about ten received gunshot wounds.

The events in Malovodnoe and Kazatkom elicited a broad response in Kazakhstan, and in Russia - in Chechnya and Ingushetia [9].

The main factors of tension were poverty, rural unemployment, landlessness, and significant economic and social inequality among the rural population in recent years.

The official policy was to regard the conflict in Malovodnoye as a domestic-level dispute. The authorities, in assessing such interethnic conflicts, crave more significant narratives beneficial for their ideological interests and do not delve into the true essence. The appropriateness of obscuring the truth is neither considered nor acknowledged. It is an interethnic tension because there are two conflicting parties, two sides, two nations. These are representatives of the Kazakh and Chechen nationalities. Their interests led to a conflict between themselves in a particular region, district, and locality, where there were no compromises, resulting in such bloodshed [10].

We view interethnic politics from the perspective of subservience to a single political interest, for tactical rather than strategic purposes. For instance, we assess it as a consequence of hooliganism, even when conflicts arise in a certain situation.

To prevent interethnic conflicts, it is essential, firstly, to have the skills to identify and eliminate the causes of emerging negative situations in advance, and secondly, to respond promptly at the first signs of conflicts [11: 65].

Since this tension is sparked by conflicts between groups differentiated on a national basis, it is necessary to create optimal conditions for the equal observance of their rights. The state should positively influence the state of interethnic tensions and engage ethnic groups in preserving and developing their culture and studying their history. This approach ensures the favorable development of ethnic groups. Overall, including the prevention of interethnic conflicts, is one of the primary functions of the state.

These and other forms of interethnic cooperation, conducted on the basis of adherence to the norms of international law, contribute to the qualitative resolution of conflictual relationships. A third party on behalf of certain international organizations at the UN (United Nations) and UNESCO (United Nations Educational, Scientific and Cultural Organization) can be a crucial factor in resolving prolonged conflicts.

Sanctions by the UN and other international organizations prompt criminal cases' initiation aimed at the dissolution of illegal armed groups, identification of the guilty parties, and compensation for damages from state funds. This comprehensive system of necessary measures applied by state bodies aims to prevent conflicts in a specific region or alleviate conflict situations. To avoid conflict situations, the state must ensure its people's welfare. Alongside conducting national policy, the state should develop social policy.

The Assembly of the People of Kazakhstan holds significant importance in resolving interethnic conflicts. We sometimes recall the Assembly during acute situations, overlooking the fact that law enforcement agencies and local authorities responsible for regional stability are to blame. The Assembly should not deal with conflicts but with the mutual integration of ethnicities, bridging their positions, overcoming stereotypes, and creating a single civic nation where all ethnic groups feel equally comfortable.

Conclusion

Interethnic tension is one of the most intractable problems. These contradictions typically have a long history stemming from a complex of ethno-psychological, socio-economic, political, sociocultural, legal, and other issues. Therefore, it is essential to comprehensively identify and develop mechanisms and ways of preventing interethnic conflicts, as well as to resolve all contentious issues exclusively through conflict-free methods based on a normative legal framework.

Moreover, misconceptions conditioned by the propaganda of historical consciousness and culture of human communication generate social groups. Instead of being drawn into a common interest, division, promoting a superficial understanding, obstructs the formation of civil society. From the local authorities' side, such issues will intensify ethnic protests to warmly close them off, disguise, and involve in everyday conflicts.

Preserving peace between the state-forming nation and various diasporas is closely linked to socio-cultural solidarity. For this, it is necessary for the state-forming nation in our society to clearly understand its mission, its role in the path of state formation, and to approach the development of social evolution responsibly [12].

A significant positive influence on this is provided by respect for the nation itself, its values, the promotion of professionalism, not through connections, in many sectoral structures, a competent systematization of activities in the judicial and law enforcement fields, education and production, healthcare, and economics, strengthening democratic processes.

It should be noted that unfair punishment of criminals in conflicts arising from various ethnicities, incorrect legal assessments of their actions, and specific neglect based on ethnicity, particularly when addressing the punishment of Kazakhstani individuals who have committed crimes, serve as a contributing factor to misunderstandings among all social groups and their subsequent opposition to each other [13].

For instance, in 2007, in the village of Malovodnoe in the Enbekshikazakh district, where ethnic tensions flared between Kazakhs and Chechens, the Prosecutor General's Office declared its jurisdiction. It was reported that the Prosecutor General's Office prohibited any discussion on this topic and issued a stern warning to media representatives, especially website owners, early in the conflict. The warning entailed criminal liability not only for publishing material about the tension but also for clarification.

Ethnic tension is the most complex area of conflictology, where an end is not readily visible. The primary way to avoid interethnic tensions is through the establishment of a rule-of-law state and civil society. The factor of "religion" should not be forgotten in preventing ethnic conflicts in Kazakhstan and in peacekeeping.

Most ethnicities in our country profess Islam, and considering the Islamic religion and the state language as common values, embarking on the path of genuinely democratic development, transforming into a rule-of-law state, and becoming a country of tolerance – these are the principal factors in resolving ethnic conflicts in Kazakhstan.

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Agricultural Sciences

УЛУЧШЕНИЕ МОЛОЧНОЙ ПРОДУКТИВНОСТИ КОРОВ РАЗНЫХ ГРУПП, ПРИНАДЛЕЖАЩИХ К ГОЛШТИНСКОЙ ПОРОДЕ РАЗВОДИМЫХ В УСЛОВИЯХ АЛМАТИНСКОЙ ОБЛАСТИ

КУЛАТАЕВ БЕЙБИТ КАЗБЕКОВИЧ
Кандидат сельскохозяйственных наук., доцент, профессор кафедры «Зооинженерии», НАО «Казахский национальный аграрный исследовательский университет», г.Алматы, Республика Казахстан
ДЖЕТПИСБАЕВА БАГИЛА ШАХИМАРДАНОВНА
Кандидат сельскохозяйственных наук., ассоц. профессор кафедры «Технология продуктов питания», АО «Алматинский технологический университет», г.Алматы, Республика Казахстан
АБИЛЬМАЖИНОВА НАЗЫМ КЫЛЫШБЕКОВНА
Магистр технических наук, лектор кафедры «Технология продуктов питания», АО «Алматинский технологический университет», г.Алматы, Республика Казахстан
ЕРКІН ХАДИША АСЫЛҚЫЗЫ
Студент 4 курса, образовательной программы 6В08201-Технология производства продуктов животноводства, АО «Алматинский технологический университет», г.Алматы, Республика Казахстан
ӘСКЕРБЕК НҰРФАТИМА МҰРАТБЕКҚЫЗЫ
Студент 4 курса, образовательной программы 6В08201-Технология производства продуктов животноводства, АО «Алматинский технологический университет», г.Алматы, Республика Казахстан
КРЫМ ҮМІТ БЕРІКҚЫЗЫ
Студент 4 курса, образовательной программы 6В08201-Технология производства продуктов животноводства, АО «Алматинский технологический университет», г.Алматы, Республика Казахстан

АННОТАЦИЯ В статье приведены исследования физико-химических и технологических свойств молока, получаемого от коров, принадлежащих к различным линиям голштинской породы. Принадлежащих к различным генотипам двух ведущих групп на основании данных динамики живой массы, качественных и количественных показателей молока и скорости молокоотдачи. Научно обоснована возможность использования коров голштинской породы различных генотипов на основании изучения их биологических и зоотехнических показателей применительно к условиям юга-востока Казахстана.

Ключевые слова: коровы, голштинская порода, живая масса, молочная продуктивность, лактационные кривые.

Введение

Актуальность темы. Молочная продуктивность коров обусловлена многими факторами. Однако наибольшее влияние оказывают генотипические факторы: порода, генотип, генеалогическая принадлежность. Большое влияние оказывает физиологическое состояние и паратипические факторы: сбалансированность кормления и условия содержания. Факторы, влияющие на молочную продуктивность и качество молока должны постоянно учитываться и контролироваться с целью получения качественного молока и молочных продуктов [1].

Однако, наряду с этим, в ряде областей Казахстана на животноводческих фермах и комплексах появляется все большее количество высокопродуктивного голштинского скота зарубежной селекции, обладающего высоким генетическим потенциалом, что позволяет повысить молочную продуктивность. Для реализации генетического потенциала коров голштинской породы необходимо создание комфортных условий содержания, приближенных к естественным условиям и обеспечение полноценного кормления сбалансированного по комплексу питательных веществ.

В Алматинской области численность чистопородных животных голштинской породы постоянно увеличивается по причине того, что порода является высокомолочной. В молоке этих животных большое содержание белка и жира. В стадах голштинского скота много высокопродуктивных коров, проявляющих рекордную продуктивность.

Голштинские животные используются для чистопородного разведения и для получения быков с целью совершенствования других пород и дальнейшего разведения полученных помесей в себе. Общеизвестно, что племенная ценность быка-производителя на 90% определяет генетическое улучшение стада молочных коров [2].

Большое значение оказывает линейная принадлежность быка. Как правило, голштинская порода хорошо передаёт потомству технологические особенности вымени и скорость молокоотдачи [3,4]. Для скрещивания желательно использовать голштинских быков, полученных от матерей с удоем более 10 тыс. кг молока и выращивать телок с таким расчетом, чтобы, будучи первотелками, они весили около 550 кг.Замечено, что высококровные помеси крупного рогатого скота не всегда характеризуются высокой продуктивностью. Иногда у таких животных возникают проблемы, связанные с воспроизводством, наблюдается снижение показателя оплодотворяемости, а так же увеличен межотельный и сервис периоды, что сокращает сроки их хозяйственного использования. По этой причине очень важным является поиск повышения воспроизводительных качеств скота и его продуктивного долголетия, которые влияют на уровень молочной продуктивности [5,6,7]. В процессе разведения голштинского скота обращают особое внимание на оценку производителей по качеству потомства для эффективного использования быков-улучшателей [8].

Целью работы являлось сравнение продуктивности импортных коров принадлежащих к различным генотипам двух ведущих групп по молочности

Задачами явилось изучить и сравнить молочную продуктивность коров разных групп, принадлежащих к голштинской породе. В процессе опыта были обработаны данные об увеличении живой массы коров, качественных и количественных показателях молока и скорости молокоотдачи.

Материал и методика исследований. Опыт проводился в ТОО «Айдынгуль» Алматинской области в течение 12 месяцев. Для постановки эксперимента были сформированы две группы животных по принципу пар-аналогов, численностью 30 голов каждая. При подборе животных-аналогов учитывалась их порода, возраст, живая масса, физиологическое состояние. В первую группу входили коровы, относящиеся квысоко удойные. Во вторую группу – коровы, средне обильно удойные. Кормление и условия содержания у подопытных животных в течение всего периода были одинаковыми. Кормление осуществлялось два раза в день сбалансированными рационами, поение происходило из групповых поилок с дозаторами с постоянным доступом животных к воде. Прирост живой массы учитывался от рождения до первого осеменения. Качественные и количественные показатели молочной продуктивности коров изучались в течение третьей лактации.

Результаты исследований Фундаментальное значение для интенсификации скотоводства имеют модернизация отечественных пород, улучшение их продуктивных и технологических признаков на основе использования генофонда лучших пород мира, что имеет народно-хозяйственное значение. Одной из самых перспективных для скрещивания является голштинская порода крупного рогатого скота.

Накопленный в стране научный и практический материал о скрещивании отечественных пород скота с голштинами свидетельствует о том, что животные наследуют многие хозяйственно-полезные признаки, присущие отцовской породе, дающий улучшающий эффект только лишь в условиях высокой культуры ведения молочного скотоводства. Они требовательны к уровню, ассортименту и качеству кормов, условиям содержания, ухода и технологии машинного доения. Подавляющее большинство исследований посвящено эффекту гетерозиса помесных животных.

Длительная селекция голштинского скота повысила его молочность и интенсивность доения, улучшила форму вымени и пригодность к использованию в условиях промышленной технологии. Поэтому голштинская порода скота высоко ценится и характеризуется не только как самая обильномолочная, но и как наиболее технологичная и экономичная в условиях индустриализации скотоводства и рыночных отношений. Большинство животных голштинской породы имеет черно-пеструю масть, красно-пестрая масть является рецессивной формой и используется при совершенствовании палево-пестрых и и красных пород. Результаты молочной продуктивности поголовья приведены в таблицах 1.

Таблица 1. Продуктивность коров ТОО «Айдынгуль»

Показатели	n	M± m		σ		C_v	
		I	II	I	II	I	II
Удой за лактцию	30	7598,3±18	5935,1±16,5	178,5	594,2	12,8	10
Содержание жира, %	30	3,6±0,01	3,6±0,01	0,03	0,03	0,833	0,833
Содержание белка, %	30	3,04±0,01	3,04±0,01	0,05	0,05	1,64	1,64
Скорость молокоотдачи, кг/мин	30	1,52±0,03	1,52±0,02	0,18	0,19	12,5	12,4

Анализ данных показывает, что по удою коровы, принадлежащие к I группе превышают стандарт черно-пестрой породы на 111% и на 65% стандарт голштинской породы. Жирномолочность находится на уровне стандартов, содержание белка уступает на 5% стандартам. Коровы, принадлежащие к II группе, по удою превышают стандарт черно-пестрой породы на 64,86% и на 29% стандарт голштинской породы.

Содержание жира находится также на уровне стандартов, содержание белка уступает на 5% стандартам. В этой связи совершенствование голштинской породы, направленной на создание в ней животных интенсивного молочного типа имеет важное значение для повышения конкурентоспособности животноводства в условиях перехода отрасли к рыночной экономике.

Таблица 2 - Изменение живой массы животных ТОО «Айдынгуль»

Показатели	n	M± m		σ		C_v	
		I	II	I	II	I	II
Живая масса при рождении, кг	30	31±0,2	31,1±0,3	1,2	1,3	3,87	3,86
Живая масса в 6 мес, кг	30	158,3±3,2	155,7±2,3	17,4	12,7	11	8,16
Живая масса в 10 мес, кг	30	243,2±5	246,5±4,9	33,2	26,8	11,6	10,8
Живая масса 12 мес, кг	30	285,6±6,1	289,2±6,4	33,2	34,8	11,6	12
Живая масса при 1 осеменении, кг	30	396,4±1,2	396,3±1,1	6,6	6,2	1,66	1,54
Живая масса при 1 отеле, кг	30	514,2±0,8	513,4±0,7	4,3	3,7	0,836	0,74
Прирост до 6 мес, г	30	708,8±17,3	691,6±13,4	95	73,5	13,4	10,6
Прирост до 6-10 мес, г	30	706,1±16,1	729,9±51	88,2	279,5	12,5	38,3
Прирост до 10-12 мес, г	30	703,2±17,9	710,8±40,6	98,1	222,3	14	31,3
Прирост до 12-1 осеменение, г	30	614,9±28,4	604,9±34,3	155,7	187,9	25,3	31,1

Между тем, очень важно дать комплексную оценку помесных животных различной кровности в условиях Алматинской области. Живая масса подопытных коров находится в прямой коррелятивной связи с показателями их молочной продуктивности. Данные роста и развития подопытных животных приведены в таблице 2.

Развитие живой массы у коров, принадлежащих к I группе в возрасте 6 месяцев отстаёт от стандартов черно-пестрой и голштинской пород на 4%. На следующем этапе развития они превышают стандарт на 1%. Далее, в возрасте одного года и при первом осеменении, превышение показателей составляет 5,7%. К моменту отёла показатель живой массы превышает стандарты на 7,1%. В возрасте 6 месяцев животные, принадлежащие к II группе, на 5,6% отстают по развитию живой массы от стандартов ч/п и голштинской пород.

Наиболее доступными для основной массы населения были и остаются молоко и молочные продукты. Увеличение их производства может быть достигнуто за счет использования животных с высокой продуктивностью, либо путем увеличения поголовья крупного рогатого скота.Лучшим решением этой проблемы может стать использование животных, обладающих высоким генетическим потенциалом продуктивности.

В этой связи возникает необходимость всестороннего исследования физико-химических и технологических свойств молока, получаемого от коров принадлежащих к различным линиям. Глубокое сравнительное изучение молочной продуктивности, состава молока и его технологических свойств животных разных линий черно - пестрой породы отродья является необходимым и актуальным для науки и практики, особенно в зонах распространения этих животных.

На следующем этапе развития превысили стандарт на 2,75%, а уже в годовалом возрасте и при первом осеменении превышение составляет 7,1%. Эта тенденция в развитии сохраняется и при первом отёле. В таблице 3 приведено сравнение показателей продуктивности голштинских коров, принадлежащих к различным группам.

Таблица 3- Показатели молочной продуктивности коров ТОО «Айдынгуль»

Показатели	I группы	II группы	Соотношение по группам
Удой за 305 дней	7598,3±18,5	5935,1±16,5	1,28:1
Содержание жира, %	3,6±0,01	3,6±0,01	1:01
Содержание белка, %	3,04±0,01	3,04±0,01	1:01
Скорость молокоотдачи, кг/мин	1,52±0,03	1,52±0,03	1:01

При сравнительном анализе продуктивности коров подопытных групп, можно сделать вывод, что животные обеих линий, находящиеся в одинаковых условиях кормления и содержания, проявляют различную продуктивность.

Следовательно, на продуктивность оказывает влияние их генотип. Коровы, принадлежащие I группы превосходят своих сверстниц II группы по качественным и количественным показателям продуктивности, находясь в равных условиях.

На основании проведенных исследований и сделанных выводов можно предложить хозяйствам увеличить в стаде долю количества коров принадлежащих к Iгруппы, т.к. они показывают большую продуктивность, нежели их завезенные сверстницы IIгруппы.

Голштинские коровы венгерской селекции имели некоторые хозяйственно-биологические особенности, обусловленные возрастом.

Максимальную живую массу имели коровы по третьей лактации - 551,6568,7 кг, что на 32,4-52,4 кг или на 6,3-10,2% выше по сравнению с первой лактацией. Животные были сравнительно крупные, о чем свидетельствуют основные промеры, характеризующие развитие экстерьера.

Высота в холке коров по третьей лактации составляла 144,4 см, косая длина туловища - 173,6 см, обхват груди за лопатками - 191,7 см. Продолжительность сервис периода у коров находилась в пределах 152,3-192,8 дней; сухостойного периода - 55,6-59,9 дней; интенсивность молокоотдачи - 1,70-1,81 кг/мин.

Молочная продуктивность коров венгерской селекции повышалась от первой лактации к третьей на 1156-1419 кг или на 19,7-25,4%».

Максимальный удой по третьей лактации получен от коров Iгруппы -7034 кг с массовой долей жира 4,0% и белка - 3,17%. От коров этой линии был получен максимальный удой за полных лактации - 20880,9 (P>0,99) и максимальный выход молочного белка - 656,9 кг (P >0,999).

Реализация генетического по удою за третью лактацию находилась в пределах 86,198,6%, по массовой доле жира - 102,7-108,4%; по массовой доле белка - 95,2104,9%.

Заключение. Результаты проведенных исследований, позволили получить молочную продуктивность коров венгерской селекции в среднем до уровня 7000 кг молока за 305 дней третьей лактации и создать молочный потенциал в стаде на уровне 9000 кг молока и добиться улучшения его качества в соответствии с современными требовании технического регламента.

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ოლღა ხარაიშვილი

საქართველოს ტექნიკური უნივერსიტეტის ც.მირცხულავას სახელობის წყალთამეურნეობის ინსტიტუტის ირიგაციისა და დრენაჟის განყოფილების უფროსი მეცნიერ თანამშრომელი ამავე ინსტიტუტის აგრარური მეცნიერებებისა და ბიოსისტემების ინჟინერინგის ფაკულტეტის ასოცირებული პროფესორი

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ლალი ბაიდაური

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ნანა ფარულავა

სოფლის მეურნეობის აკადემიური დოქტორი

გიორგი კიღურაძე

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მიკრობიოლოგიური პროცესები დამოკიდებულია ყველა იმ პირობებზე, რომლებიც იქმნება ნიადაგში დროის ნებისმიერ მომენტში. მიკრობიოლოგიური პროცესების განმსაზღვრელი ფა-ქტორებია- წყალ-ჰაეროვანი რეჟიმი, ნიადაგის რეაქცია, მარილიანობის რეჟიმი, ტემპერატურა.

კვლევების შედეგად მიღებული მონაცემები გვაჩვენებს ძალიან ღრმა ცვლილებებს მიკრობიოლოგიურ აქტივობაში, როგორც რესურსდამზოგავი ტექნოლოგიების, ასევე ტრადიციული მორწყვის რეჟიმების დროსაც.

კვლევების მიხედვით, ჰაერში ნახშირორჟანგის ჩვეულებრივი შემცველობა საკმარისი არ არის მცენარეების კარგი განვითარებისთვის. ამიტომ მნიშვნელოვანია ველების აირადი ნახშირორჟანგით პირდაპირი განაყოფიერების მცდელობები, რამაც იმედის მომცემი შედეგები გამოიღო; პრაქტიკულად ეს მეთოდი გამოიყენება სასათბურე მეურნეობებში. ჰაერის ნახშირორჟანგით გამდიდრების უახლოესი წყარო შეიძლება იყოს თავად ნიადაგი, თუ მასში გამოვიწვევთ ორგანული ნივთიერებების დაშლას.

ჩვენს მიერ მიღებული მონაცემები რომელიც არსებობს ნიადაგის მიერ ნახშირორჟანგის გამოყოფის ენერგიასა და მის ნაყოფიერებას შორის , თითქმის ბევრი მეცნიერის (კრისტენსენი, სტოკლაზა) მონაცემებეს ემთხვევა (იხილეთ ცხრილი 1,2)

ცხრილი N1

კავშირი ნიადაგის მიერ CO_2-ის გამოყოფის ენერგიასა და მის ნაყოფიერებას შორის

ნიადაგის მახასიათებლები	1 კგ ნიადაგიდან 24 სთ განმავლობაში გამოყოფილი CO_2-ის რაოდენობა (მგ-ში)	1 ჰა ფართობის 30სმ -იანი ნიადაგის ფენ ის მიერ 20 დღის განმავლობაში გამ-ოყოფილი CO_2-ის რაოდენობა (ც-ში)	შენიშვნა
ნაყოფიერი, იძლევა ხორბალს 25-30 ც/ჰა	60-118	482	დაკვირვებების ანალ-იზი,20%-იანი ტენია-ნობის,20^0C ტემპერატ-ურის პირობებში
ბოსტნეულს(თალგამი) 350-400 ც/ჰა.	30-62	241	
არანაყოფიერი	15-18	121	

სხვადასხვა ნაყოფიერების ნიადაგების სხვადასხვა მცენარეების მიერ 13-17^0ტემპერატურის პირობებში დიფუზიის გზით გამოყოფილი CO_2-ის რაოდენობაზე პირდაპირმა საველე დაკვირვებებმა მოგვცა შემდეგი შედეგები:

ცხრილი N2

ნაყოფიერების სხვადასხვა ნიადაგების მიერ გამოყოფილი CO_2

ნიადაგები	CO_2-ის რაოდენობა 1 ჰა/ზე (ც-ში)	ნახშირბადის პროდუქცია მოსავალში (ც/ჰა-ში)
ნაყოფიერი	121-161	32,73-43,60
ნაკლებად ნაყოფიერი	80-101	21,82-27,28
არანაყოფიერი	40-58	10,91-16,37

ორივე ცხრილში ნათლად არის გამოხატული პირდაპირი კავშირი CO_2-ის წარმოებასა და მოსავლიანობას შორის. ამ სახის მონაცემებზე დაყრდნობით შეგვიძლია გავაკეთოთ

დასკვნები: 1) ნახშირორჟანგის გამომუშავება არის ნიადაგში ადვილად დაშლადი ნივთიერებების მაჩვენებელი; 2) ნიადაგის მიერ გამოყოფილი ნახშირორჟანგი წარმოადგენს ასიმილაციის წყაროს მინიმუმში; 3) ნახშირორჟანგის გამომუშავება ნიადაგში მთლიანად დამოკიდებულია გარე პირობებზე , შესაბამისად შესაძლებელია მისი რეგულირება.

ნიადაგის ჰაერის ნახშირორჟანგის დინამიკის შედეგები მორწყვადი მინდვრის პირობებში წარმოდგენილია გრაფიკების სახით, რომლებიც შეეხება მოურწყავ, ნაკელით განაყოფიერებულ და გაუნაყოფიერებელ და ბოლოს, მორწყულ ნაკვეთს. (ნახ. 1, 2, 3, 4, 5)

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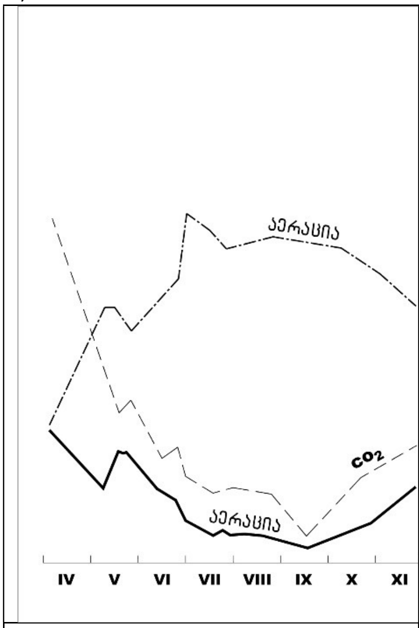
<td>
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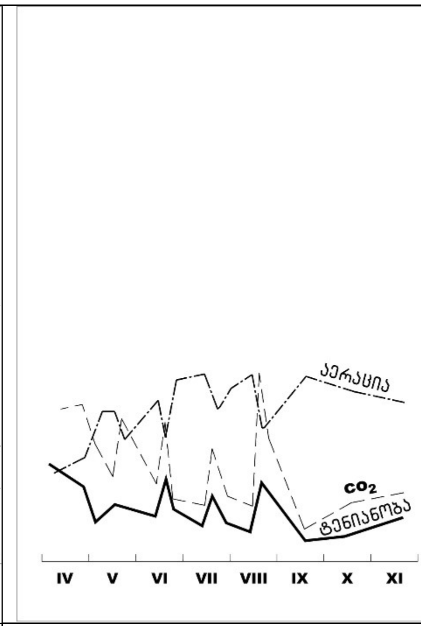
<td>
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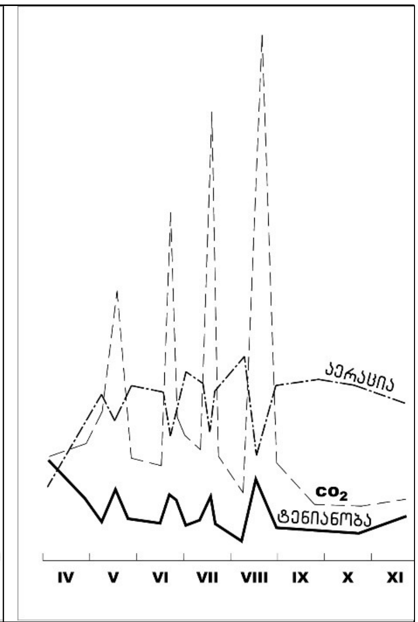
<td>
</td>
</tr>
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<td>ნახ.1.CO_2-ის, ტენიანობის აერაციის დინამიკა მორწყულ გაუნაყოფიერებელზე</td>
<td>ნახ.2. CO_2-ის, ტენიანობის, აერაციის დინამიკა მორწყულ(4-ჯერ მორწყვა)გაუნაყოფიერებელზე</td>
<td>ნახ.3 CO_2-ის, ტენიანობის, აერაციის დინამიკა ზაფხულის განმავლობაში 4-ჯერ მორწყულ განაყოფიერებულზე</td>
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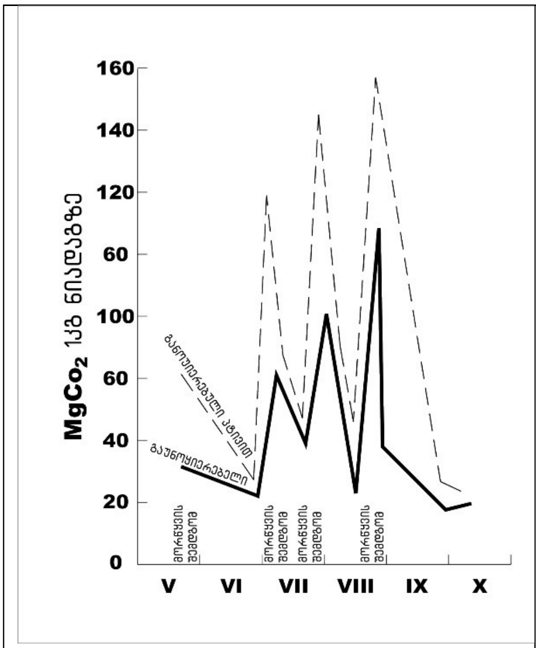
<td>
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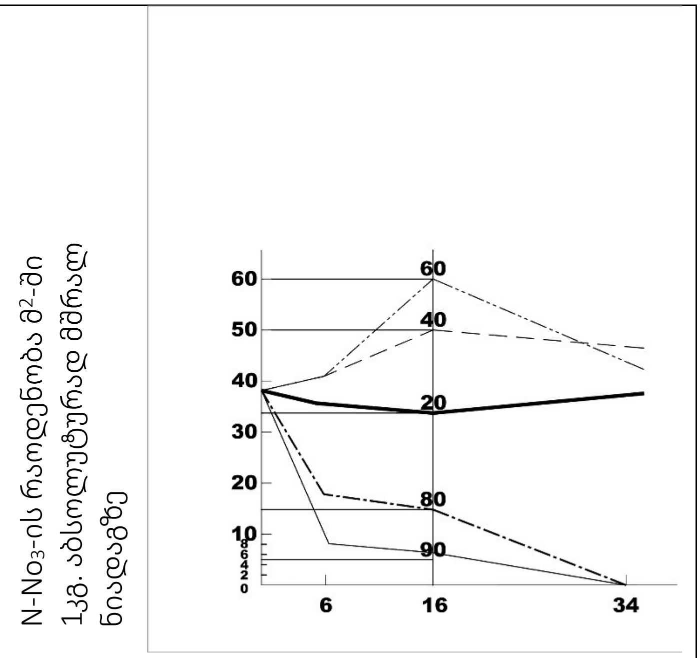
<td>
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<td>ნახ.4.CO_2-ის დინამიკა განაყოფიერებულ მინდორზე</td>
<td>გამოცდილების ხანგრძლივობა 20 დღე-ღამეში
ნახ.5 ტენიანობის გავლენა ნიტრიფიკაციის პროცესზე</td>
</tr>
</table>

ნახაზებზე კარგად ჩანს მჭიდრო კავშირი ნიადაგის ჰაერში CO_2-ის რაოდენობასა და ნიაგდაგში ენერგეტიკული მასალის რაოდენობას შორის. მოურწყავი ორთქლი წარმოქმნის ბევრად ნაკლებ CO_2-ს, ვიდრე ყველა მორწყული ნაკვეთი. ამ უკანასკნელებზე მოწყვის მომენტებში ემთხვევა ნახშირორჟანგის მკვეთრი პიკური გამოყოფა მორწყვიდან 2-3 დღის განმავლობაში. ნაკელის შეტანა და ნიადაგში არსებული ფესვთა სისტემა მნიშვნელოვნად ზრდის CO_2-ის რაოდენობას ნიადაგის ფორებში (შედარება ნახ. 2, 3 და 4).

CO_2-ის მიერ ნიადაგში გამოყოფილი მომატებული ენერგია შეფასებულია, როგორც დადებითი ფაქტორი, რადგან ამასთან დაკავშირებულია მომდევნი პერიოდის განმავლობაში აზოტმჟავას კერძოდ,ხსნადი ფოსფორმჟავას რაოდენობის ზრდა, ანუ მცენარეთა ზოგადი კვების რეჟიმის გაუმჯობესება. აშკარაა, რომ მორწყვის პირობებში ჩვენ შეგვიძლია დავისახოთ CO_2-ის წარმოების დარეგულირების ამოცანა მცენარეთა ვეგეტაციის პერიოდში საკმაოდ ფართო მასშტაბებში.

CO_2-ის წარმოების რეგულირებას აგრეთვე გააჩნია მეორე მხარეც: CO_2-ის წარმოების გაზრდა ნიშნავს ნიადაგის ზოგადი ორგანული მარაგების, მისი ჰუმუსის, შემცირებას. მაგალითად, ნიადაგში 40 ც 1 ჰა-ზე ჰუმუსის 3-5%-იანი შემცველობის და CO_2-ის გამოყოფის ენერგიის პირობებში ნახშირორჟანგის მარაგი ნიადაგში სრულად ამოიწურება 20 წელიწადში. მცენარეთა ფესვები გვაძლევს მხოლოდ 1937-5166 კგ. ორგანულ ნივთიერებას 1 ჰა-ზე და დანაკარგის სრულად კომპენსირებას ვერ შეძლებს. ამრიგად, ნიადაგი თანამიმდევრულად უნდა დაიცალოს ჰუმუსისგან, რაც უარყოფით ფაქტორს წარმოადგენს.

სხვადასხვა მკვლევარების მიხედვით მაგალითად დრაჩევის დაკვირვება ნაცრისქვეშა ნიადაგზე აჩვენებს ჰუმუსის დანაკარგს 43%-ის ოდენობით სოდთან შედარებით; ინდიანას შტატის ნიადაგებში ჰუმუსის დანაკარგმა 30-60 წლის განმავლობაში შეადგინა 47%, ნიუ ჯერსის 20 წლის განმავლობაში - 24,1%. ფ.იუ. გელცერმა კავკასთვის განსაზღვრა დანაკარგები 1,5 წლის განმავლობაში 19%-ის ოდენობით. ეს ციფრები, რა

თქმა უნდა, საორიენტაციოა, თუმცა ისინი მიგვითითებენ მოვლენის სერიოზულ მნიშვნელობაზე.

ჰუმუსის დანაკარგების კომპენსაციის პირდაპირ მეთოდს წარმოადგენს ნიადაგში ორგანული ნივთიერებების ხელოვნურად შეყვანა ნაკელის ან მწვანე სასუქის. თუმცა, ამავდროულად, შესაძლებლად გვეჩვენება იმ ორგანული ნივთიერების უფრო გონივრულად გამოყენების საკითხის დასმაც, რომელიც ნებისმიერი ფორმით ხვდება ნიადაგში, სხვაგვარად რომ ვთაქვათ, ჰუმუსის წარმოქმნის პროცესის რეგულირების საკითხი. ჩვენთვის ცნობილია, რომ მკვეთრად გამოხატული აერობიოზის,მაღალი ტემპერატურის პირობებში ორგანული ნივთიერებების დაშლა ხდება სწრაფად და ბოლომდე არ წარმოქმნის მყარ ჰუმუსს ნიადაგში.

ბუნებაში ექსპერიმენტებიც და დაკვირვებებიც გვაჩვენებს, რომ შემოდგომა-ზამთრის პერიოდში ადვილია ისეთი პირობების შექმნა, რომლებიც ხელს შეუწყობს ჰუმუსის ფიქსაციას ნიადაგში, მის დაგროვებას და არა მის დარღვევას. ამისთვის საკმარისია ნიადაგში გარკვეული ტენიანობის შექმნა.

აზოტი წარმოადგენს მცენარეთა კვების უმნიშვნელოვანეს ელემენტს. მას ითვისებს მცენარის ფესვი ძირითადად დაჟანგული ფორმით.

აზოტის მინერალური დაჟანგული ფორმები ყველაზე ხშირად ხვდება ნიადაგში მინიმალური ოდენობით, ამიტომ ნიადაგის აზოტის ბალანსზე, მისი რეგულირების მეთოდებზე დახასიათებულია ამ ბალანსის ორი ელემენტი - ნიტრიფიკაციის პროცესი და ნიადაგში არსებული აირადი აზოტის ნიადაგში თავისუფლად მცხოვრებ ბაქტერიებთან Azotobakter и Clostridium Pasteurianum შეერთება. ამ მიკროორგანიზმების გარდა აზოტის ბალანსში დიდ როლს თამაშობს ბაქტერია Bac. radicicola, ან Rhizobiales, რომელიც სახლობს პარკოსანი მცენარეების ფესვებზე.

ნიტრიფიკაციის პროცესი ზოგადად მდგომარეობს ორგანული ნივთიერების აზოტის აზოტმჟავაში გადასვლაში. ამ პროცესს აქვს სამი ფაზა:

- პირველ ფაზაში სხვადასხვა მიკრობების ზეგავლენით წარმოიქმნება ამიაკი (NH_3),
- მეორე ფაზაში ამიაკი იჟანგება ნოტრატული ბაქტერიების მიერ (nitro-somonas) (ნიტროზული მიკრობი) და გადადის აზოტმჟავაში (HNO_2)
- მესამე ფაზაში აზოტმჟავა იჟანგება ნოტრატული ბაქტერიების მიერ Nitrobakter და გადადის აზოტმჟავაში (HNO_3).

გარდასახვათა საერთო სქემა ასეთია:

N ორგანული $\rightarrow NH_3 \rightarrow HNO_2 \rightarrow HNO_3$.

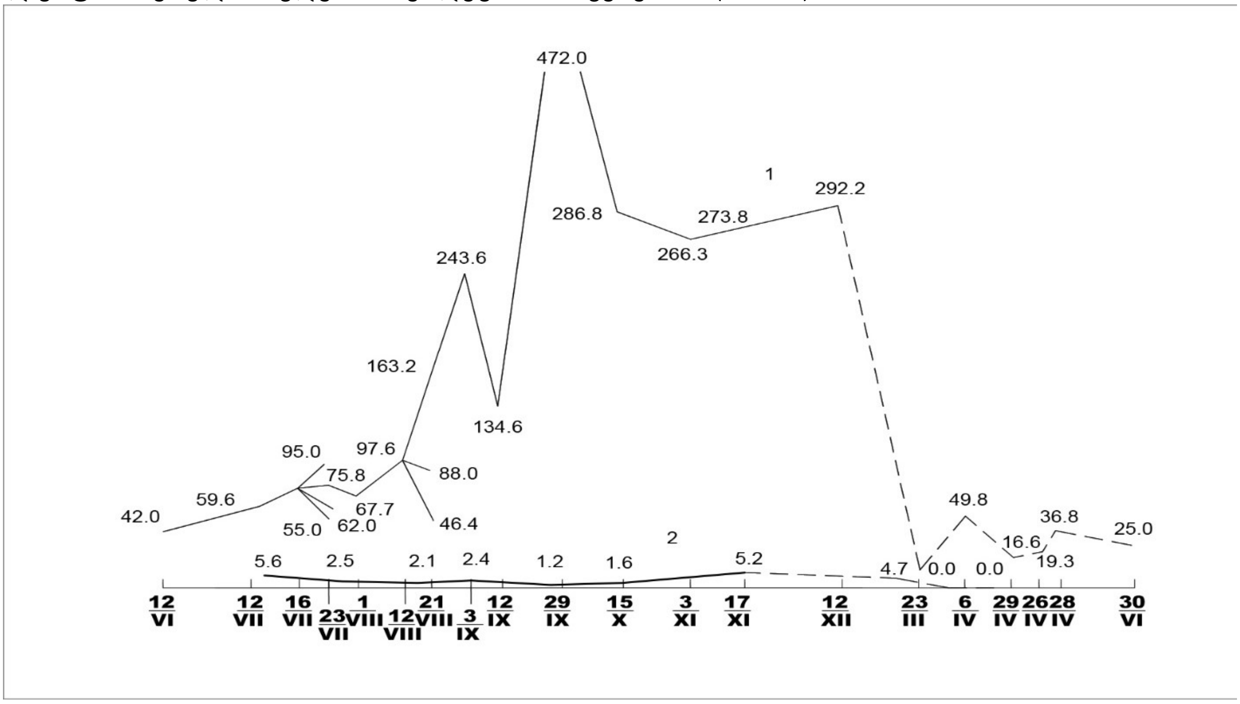
ნიტრიფიკაციის, როგორც ჟანგვის, პროცესი ხორციელდება მხოლოდ აერობულ პირობებში. ანაერობული პირობებში პროცესი შეიძლება წავიდეს უკუსვლით, ამასთან, ხშირად გამოიყოფა თავისუფალი აირადი აზოტი. ეს პროცესი დენუმრიფიკაციაა , რაც უარყოფით მოვლენად ითვლება. ნიტრიფიკაციის პროცესი დიდწილად დამოკიდებულია ტენიანობაზე და ნიადაგის დამლაშებაზე, ამიტომ შესაძლოა მისი რეგულირება.

ცხრილი N3

ნიტრიფიკაციის ინტენსივობა ნიადაგის სხვადასხვა ტენიანობის პირობებში

ცდის ხანგრძლივობა	$N-No_3$-ის რაოდენობა (მგ 1 კგ ნიადაგზე)				
	ტენიანობა (მთლიანი ტენიანობის %)				
	20	40	60	80	90
პირველადი ანალიზი	38,17	38,17	38,17	38,17	38,17
7დღე-ღამის შემდეგ	36,60	40,44	40,44	17,62	9,05
18დღე-ღამის შემდეგ	34,50	51,40	60,78	15,69	6,43
36 დღე-ღამის შემდეგ	38,64	48,35	42,70	უმნიშვნელო	არა

მიღებული მონაცემები აჩვენებს, რომ მთლიანი ტენიანობის 20%-იანი ტენიანობისას (რაც შეესაბამება ნიადაგის მასის 7,3%-ს) ნიტრიფიკაცია პრაქტიკულად არ მიმდინარეობს. მთლიანი ტენიანობის 40 და 60%-იანი ტენიანობისას ნიტრიფიკაცია მიმდინარეობს ენერგიულად, ხოლო ჭარბი ტენიანობისას - 80 და 90% (რაც შეადგენს ნიადაგის მასის 29,3 და 32,9%-ს), ინტენსიურად ვითარდება დენიტრიფიკაციის პროცესები, რაც იწვევს აზოტის შეუქცევად დაკარგვას. ნიადაგის ტენიანობის დონე დიდ გავლენას ახდენს ნიტრიფიკაციის ენერგიაზე როგორც ცნობილია . ამიტომ, თუ შევადარებთ ნიტრატების რაოდენობას მოურწყავ ნიადაგზე მის რაოდენობასთან მორწყვის პირობებში, არსებობს მნიშვნელოვანი განსხვავება. ეს თანაფარდობა ილუსტრირებულია ცდების შემდეგი მონაცემებით (ნახ. 6).



ნახ. 6 ნიტრატების შემცველობა (მილიგრამებში $N0_3$ 1 კგ ნიადაგზე) ჰორიზონტში 0-70სმ

სუფთა (ხელუხლებელ) ნიადაგზე ნიტრატების რაოდენობა არ აჭარბებს 5,6 მგ-ს 1 კგ ნიადაგზე, იმ დროს, როდესაც მორწყულ ნაკვეთზე მაქსიმუმი აღწევს 472 მგ-ს, შემოდგომაზე საშუალოდ შეადგენს 280 მგ-ს 1 კგ ნიადაგზე.

მორწყვისას იზრდება ნიტრიფიკაციის ბაქტერიების რაოდენობა და მათი აქტივობა.(ცხრილი 4).

ცხრილი N4

ბაქტერიების რაოდენობის ცვლილება მორწყვის ზეგავლენით

ნაკვეთები	ნიტრიფიკაციის ორგანიზმების რაოდენობა 1 კგ ნიადაგზე.
ურწყავი	1 000
სარწყავი	10 000

ამავე ნაკვეთებისათვის განისაზღვრა ნიტრიფიკაციის ბაქტერიების აქტივობა მათი მჟანგავი თვისებების მიხედვით $(NH_4)2SO_4$. მიღებული მონაცემები მოცემულია ცხრილში 5.

ცხრილი N5

ნიტრიფიკაციის ბაქტერიების აქტივობა სხვადასხვა პირობებში

მონაკვეთები	20-დღიანი ცდის განმავლობაში წარმოშობილი N-No_3-ის რაოდენობა (მგ 1 კგ ნიადაგზე)						
	25.07.17	25.08.2017	10.10.2017	4.05.2018	7.VI.2018	10.09.2018	22.10.2018
ურეწყავი	4,80	2,41	5,62	9,51	8,42	7,73	9,18
სარწყავი	8,69	4,68	11,87	13,52	11,44	11,33	10,39

ცხრილის მონაცემების მიხედვით მორწყვამ მკვეთრად გაზარდა მიკრობების რაოდენობა და მათი ფიზიოლოგიური აქტივობა ნიადაგში. ამრიგად, მთლიანობაში, ნიტრიფიკაციის პროცესი მორწყულ ნიადაგებზე სრულიად სხვაგვარად მიმდინარეობს, ვიდრე მოურწყავ ნიადაგებზე

დასკვნა

მთლიანობაში, ნიტრიფიკაციის პროცესი მორწყულ ნიადაგებზე სრულიად სხვაგვარად მიმდინარეობს, ვიდრე მოურწყავ ნიადაგებზე.როდესაც ნიადაგის ტენიანობა არის მაქსიმალურ ჰიგროსკოპიულობის ფარგლებში ნიტრიფიკაციის პროცესი არ მიმდინარეობს. ტენიანობის ზრდასთან ერთად იწყება ნიტრიფიკაციის პროცესი, რომლის ინტენსივობის მაქსიმუმი იწყება მაქსიმალურ მოლეკულური ტენიანობის შემდეგ.

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AGROCHEMICAL JUSTIFICATION INTENSIVE FARMING IN THE ARID STEPPE OF NORTHERN KAZAKHSTAN

Shilov Mikhail Pavlovich
expert, candidate of agricultural sciences, Research Center, «Agrochemical company DARKAN DALA» LLP, Kostanay, Republic of Kazakhstan.
Mukanov Miras Kuandykovich
Head of the Research Center, Research Center, «Agrochemical company DARKAN DALA» LLP, Kostanay, Republic of Kazakhstan.
Tokkuzhina Nurgul Saparzhanovna
Deputy Head of the Research Center, Research Center, «Agrochemical company DARKAN DALA» LLP, Kostanay, Republic of Kazakhstan.
Zholaushibayeva Diana Azamatovna
Senior chemical engineer, Research Center, «Agrochemical Company DARKAN DALA» LLP, Kostanay, Republic of Kazakhstan.

Abstract: Agrochemical examination of soils serves as the basis for rational and economically justified use of mineral fertilizers. Agrochemical cartograms of soil supply with nutrients allow you to manage fertility and apply optimal doses for the planned harvest.
Key words: agrochemical examination of soils, humus, nitrate nitrogen, mobile phosphorus, available potassium, sulfur.

Modern agrotechnologies of cultivation of agricultural crops are actively used in the steppe zone of Northern Kazakhstan. To increase the productivity of arable land, to obtain high and stable yields, the use of mineral fertilizers is a mandatory technological method [1]. Rational and economically justified use of fertilizers is determined primarily by the agrochemical properties of zonal soils [2]. In this regard, for the main types and subtypes of soils of Northern Kazakhstan, detailed recommendations on the timing, doses and norms of mineral fertilizers are given [3].

However, long term agricultural use of zonal southern chernozems and dark chestnut soils has led to a significant decrease in their potential and effective fertility. As a result, the conditions for the use of mineral fertilizers and the doses of their application have changed [4,5]. Therefore, the Ministry of Agriculture of the Republic of Kazakhstan introduces mandatory "Rules for agrochemical soil examination" [6], the results of which (digital agrochemical cartograms of security by 6 indicators) are used for the effective use of fertilizers and obtaining state subsidies for their purchase [7].

In this regard, the Research Center of “Agrochemical Company Darkan Dala” LLP (Kostanay) in the spring of 2023 conducted an agrochemical examination of the soils of Zhanbota-Agro LLP, located in the arid steppe of the Zhitikarinsky district of Kostanay region. The soil cover of the farm is represented by southern carbonate chernozems and brackish low-power heavy and medium loamy (the border of the transition zone to dark chestnut soils).

Agrochemical mapping was carried out with a grid of elementary plots with an area of 25 hectares. One combined sample of 15 point samples with a capacity of 0-30 cm was taken from each elementary plot. Agrochemical analyses were carried out in each sample, followed by averaging according to appropriate methods:

- GOST 26213-91. Soils. Methods for determining organic matter;
- GOST 26483-85. Soils. Preparation of salt extract and determination of its pH using the CINAS method;
- GOST 26488-85. Soils. Determination of nitrates using the CINAS method
- GOST 26205-91. Soils. Determination of mobile compounds of phosphorus and potassium using the Machigin method modified by CINAS;
- GOST 26490-85. Soils. Determination of mobile sulfur using the CINAS method.

Below are the agrochemical characteristics of the soil cover of the farm.

Table 1 – Content of humus and mobile nutrients in the arable layer

Humus, %	pH (salt extract)	Content, mg/kg of soil			
		N - NO_3	P_2O_5	K_2O	SO_4
Field 1, area 390,91 ha, average of 16 soil samples (each of 15 points)					
3,3	7,5	12,7	16,2	483	3,1
low	slightly alkaline	average	average	high	low
Field 2, area 594,88 91 ha, average of 24 soil samples (each of 15 points)					
3,8	7,6	11,8	16,1	486	2,3
low	slightly alkaline	average	average	high	low

Analysis of agrochemical indicators allows us to draw the following conclusions.

The humus content in the examined fields is assessed as low and amounts to 3.3-3.8%. The optimal amount of organic matter in the chernozems of the southern Kostanay region is taken to be 3.6% or more. This requirement is met by field No. 2, in which the humus content is 3.8%. On cell No. 1, this value is close to optimal – 3.3%. This humus content ensures high potential fertility of chernozems and forms favorable water-physical and physicochemical properties of the soil. Of the water-physical properties, these are primarily density, water permeability, moisture capacity and soil structure. Physico-chemical properties include absorption capacity, solution reaction (pH) and buffering capacity. Therefore, in these fields, various agricultural technologies for cultivating crops (minimum-zero, minimum, multi-depth non-moldboard, moldboard-flat-cut) can be used with high efficiency. However, preference should be given to a multi-depth, non-moldboard soil cultivation system (alternating - flat-cut shallow, medium, deep; chisel; slotting; Siberian racks).

The reaction of the soil solution (pH sol) in both fields is assessed as slightly alkaline with a pH of 7.5-7.6, which is associated with the carbonate and salt content of these soils. Therefore, long-term use of physiologically acidic simple and complex mineral fertilizers will not lead to a negative effect. In general, the reaction of the soil solution is favorable for the cultivation of all agricultural crops (grains, oilseeds, legumes and cereals).

The supply of nitrate nitrogen in fields No. 1 and 2 is characterized as average, 12.7 and 11.8 mg/kg, respectively. This amount of nitrogen in stubble predecessors is associated with several possible reasons: in 2022 - after harvesting the predecessor, autumn tillage was carried out or there was a low crop yield; in 2023 - pre-sowing row application of nitrogen fertilizers was made at a dose of N 10-20 kg a.s./ha . In general, we can conclude that these soils have good nitrification capacity.

At the same time, the spring content of nitrate nitrogen does not reach the optimal level - 15 mg/kg, so the pre-sowing application of nitrogen fertilizers is mandatory here for all crops (except for legumes) - ammonium nitrate, urea, UAM-32, sulphoammophos . In rainy (humid) weather in the 2nd and 3rd decades of June, it is also possible to provide nitrogen foliar fertilizing with urea or UAM during the growing season of plants, especially grain crops.

In terms of the content of available phosphorus, fields No. 1 and 2 have an average supply of 16.2 and 16.1 mg/kg, respectively. Considering that in all fields the phosphorus content does not reach the optimal level - 30 mg/kg, it is necessary to add phosphorus-containing fertilizers (ammophos, sulphoammophos, nitrogen-phosphorus liquid fertilizers, diammophos) to the rows when sowing crops. The best option is to use phosphorus fertilizers in the main (pre-sowing) application - in the fall before autumn tillage or in the spring before sowing at a dose of P40-60 kg a.s./ha.

The amount of mobile potassium on fields No. 1 and 2 is characterized as high and amounts to 483 and 486 mg/kg, respectively. Its optimal value for southern chernozems is 410 mg/kg. Therefore, there is no need for potash fertilizers for grains, legumes and oilseeds. It is possible to provide only for high-yielding and tall-stemmed sunflower hybrids the row application of nitroammophoska (azophoska) at a potassium dose of 20 kg a.s./ha.

The provision of available sulfur in fields No. 1 and 2 is assessed as low – 3.1 and 2.3 mg/kg. Therefore, when growing grain, oilseeds (sunflower, rapeseed, flax) and legumes (peas, chickpeas, lentils) crops, it is necessary to use sulfur-containing fertilizers (sulphoammophos) at a dose of S 20 kg a.s./ha when sowing in rows.

The obtained results of agrochemical examination of soils enable the farm to use economically justified doses of mineral fertilizers to obtain the planned crop yield. Agrochemical cartograms will make it possible to use fertilizers more rationally, as well as in the near future to bring the content of nutrients in the soil to the optimal level.

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Philosophical Sciences

Цифровая культура молодежи: проблемы и перспективы

Karipbaev Baizhol Iskakovich
Seifullina Galiya Rustembekovna
Arinova Olga Tastanbekovna

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Аннотация. Цифровая культура стала интегральной частью повседневной жизни молодежи, оказывая значительное влияние на их поведение, взаимодействие и образ мышления. Настоящая научная статья исследует проблемы, связанные с цифровой культурой молодежи, а также рассматривает перспективы и потенциал использования цифровых технологий для личностного и социального развития молодежи. Анализируются влияние социальных медиа, проблемы цифровой зависимости, а также возможности цифровой образовательной среды на формирование активного, информационно грамотного и ответственного поколения.

Ключевые слова: цифровая культура, современная молодежь, кибер-аддикция, информационная грамотность

Введение

В настоящее время молодежь оказывается в центре цифровой революции, которая привнесла значительные изменения в социокультурную среду. Информационные и коммуникационные технологии существенно изменили способы общения, образования и развлечения молодых людей. Цифровая культура оказывает огромное влияние на формирование и развитие молодежи, однако она также ставит перед ней ряд проблем. В данной статье мы рассмотрим какие проблемы существуют в цифровой культуре молодежи и каким образом можно использовать ее потенциал для достижения лучших результатов в социуме.

Цифровая культура молодежи представляет собой сложный социокультурный феномен, связанный с активным использованием и взаимодействием с цифровыми технологиями и сетевыми платформами. Несмотря на множество преимуществ и новых возможностей, которые предоставляет цифровая среда, она также сопряжена с рядом проблем, которые заслуживают научного рассмотрения. Вот некоторые из них:

1. Кибербуллинг и онлайн-жестокость. В силу анонимности и удаленности в сети некоторые молодые люди сталкиваются с дискриминацией, унижением и психологическим насилием со стороны сверстников или даже незнакомцев. Это может оказывать серьезное негативное влияние на психическое здоровье и самооценку молодежи.

2. Зависимость от социальных сетей. Чрезмерное время, проводимое в цифровом пространстве, может привести к зависимости от социальных сетей, онлайн-игр и различных гаджетов. Это может привести к проблемам с концентрацией, социальным взаимодействием и физическому здоровью.

3. Информационный шум и фейковые новости. Цифровая среда предлагает огромное количество информации, и молодежь сталкивается с трудностями отделения достоверной информации от ложной и манипулированной. Распространение фейковых новостей может приводить к неправильным выводам и взглядам на мир.

4. Онлайн-приватность и безопасность. Многие молодые люди не осознают полностью риски, связанные с разглашением личной информации в интернете, что может привести к краже личных данных, кибератакам или даже к реальной опасности для их физической безопасности.

5. Отсутствие критического мышления и информационной грамотности. Сфера цифровой культуры может не всегда способствовать развитию критического мышления у молодежи. Некритическое потребление информации может привести к стереотипам, предвзятости и недостаточной способности различать факты от мнений.

6. Дистанцирование от реальной жизни. Зависимость от цифровых устройств и онлайн-мира может привести к уменьшению времени, проводимого в реальном мире и общении с семьей и друзьями, что может повлиять на качество межличностных отношений и социальную адаптацию.

7. Ограничение креативности. Несмотря на доступ к разнообразным средствам для самовыражения и творчества в цифровой среде, некоторые молодые люди могут столкнуться с цифровым потребительством и ограничением собственной креативности из-за постоянного потока готового контента.

Исследование и понимание этих проблем цифровой культуры молодежи имеют важное значение для разработки соответствующих стратегий, направленных на создание более безопасной, экологичной и ответственной цифровой среды [1].

Основную часть современной цифровой культуры составляют социальные медиа, которые представляют собой онлайн-платформы и приложения, обеспечивающие взаимодействие пользователей и позволяющие им создавать, обмениваться и распространять различные типы информационного контента. Социальные медиа стали неотъемлемой частью современного общества и оказывают значительное влияние на различные аспекты жизни, включая социальные, культурные, экономические и политические сферы.

Среди преимуществ социальных медиа можно выделить тот факт, что они облегчают поддержание связи с друзьями, семьей и коллегами, даже на больших расстояниях, а также способствуют расширению социальных сетей и знакомству с новыми людьми с общими интересами. Пользователи социальных медиа имеют возможность представлять себя в цифровой среде, демонстрировать свои интересы, достижения, мнения и уникальные черты личности. Социальные медиа играют значительную роль в формировании общественного мнения, активизации общественных движений и распространении информации о текущих событиях. Они также могут влиять на поведение пользователей, например, побуждая к покупкам, участию в определенных акциях и т.д.

В целом социальные медиа стали существенным инструментом для рекламы, маркетинга и продвижения продуктов и услуг. Они также облегчают создание онлайн-бизнесов и формирование целевой аудитории, предоставляя доступ к образовательным материалам, культурному контенту и различным формам искусства. Все это способствуют обмену знаний и опытом между людьми из разных культур и стран.

Важно отметить, что социальные медиа несут как положительные, так и негативные последствия. Их влияние зависит от контекста использования и индивидуальных характеристик пользователей. Исследования и обсуждение социальных медиа продолжаются, и важно продолжать анализировать их воздействие на общество и стремиться к сбалансированному и ответственному использованию этого мощного инструмента коммуникации. Например, социальные медиа оказывают как положительное, так и отрицательное влияние на здоровье. С одной стороны, они могут способствовать психологическому комфорту и поддержанию ментального благополучия через общение и поддержку. С другой стороны, слишком интенсивное использование социальных медиа может привести к чувству одиночества, деструктивному сравнению с другими, а также к проблемам со сном и психическим здоровьем.

Нельзя, однако, отрицать следующий факт: социальные медиа стали неотъемлемой частью жизни молодежи, предоставляя им возможность общения, обмена информацией и создания виртуальных сообществ.

Самая главная и распространенная опасность, которую несет цифровая культура – это высокий риск появления кибер-аддикции (цифровой зависимости) [2].

Цифровая зависимость, также известная как интернет-зависимость или зависимость от цифровых технологий, является психологическим состоянием, при котором человек испытывает неотложную потребность и непреодолимое желание постоянно пребывать в цифровой среде или использовать цифровые устройства, такие как смартфоны, планшеты, компьютеры и другие подобные технологии. Это явление считается относительно новым, и исследователи продолжают изучать его механизмы и последствия.

Люди, страдающие от цифровой зависимости, проводят значительное количество времени в сети зачастую намного больше, чем это соответствует их первоначальным планам или замыслам. Зависимые от цифровых технологий люди испытывают трудности в управлении временем, они могут испытывать чувство беспомощности или неспособности контролировать свои цифровые привычки.

Кибер-аддикция может привести к сокращению реальных социальных контактов и отчуждению от окружающего мира. Люди предпочитают виртуальное общение реальным взаимодействиям, что в конечном итоге может отрицательно сказаться на их социальной жизни. Как следсвтие - пренебрежение важными обязанностями и активностями, такими как учеба, работа, спорт, живое общение с семьей и друзьями.

Исследования показывают, что цифровая зависимость может иметь негативные последствия для психического и физического здоровья, включая повышенный уровень стресса, снижение психологического комфорта, а также возможные проблемы социализации [3].

Однако важно отметить, что цифровые технологии также предоставляют значительные возможности и преимущества, и не все люди, использующие цифровые устройства, страдают от зависимости. Поэтому важно обеспечить баланс между цифровыми и реальными взаимодействиями и быть внимательным к своему поведению в цифровом пространстве, чтобы избежать попадания в ловушку зависимости.

Ключевым фактором преодоления кибер-аддикции и сопутствующих ей негативных моментов цифровой культуры нам представляется развитие информационной грамотности. Другими словами, необходимо повсеметсно инициировать процесс формирования и расширения уровня знаний, навыков и компетенций, необходимых для эффективного использования информации в современном обществе. Ключевым содержанием информационной грамотности является способность критически оценивать и использовать сведения из различных источников [4].

Современному человеку необходимо овладеть навыками эффективного поиска информации в разнообразных источниках, таких как интернет, библиотеки, базы данных и другие. Кроме того, важно научиться критически оценивать достоверность и качество полученной информации, чтобы избежать распространения мифов, стереотипов и ошибочных данных. Развитие информационной грамотности предполагает умение анализировать и сравнивать информацию из различных источников, отличать факты от мнений, а также учитывать контекст и авторство информации.

Понимание авторских прав и соблюдение этических принципов при использовании и цитировании информации также входит в состав информационной грамотности. Этот навык позволяет человеку работать с различными типами информационных ресурсов, включая тексты, аудио- и видеоматериалы, графику и т.д. Он включает как пассивное восприятие информации, так и активное создание собственного контента.

Развитие информационной грамотности помогает человеку успешно применять полученные знания в различных сферах жизни, включая учебу, работу, личную жизнь и участие в общественной жизни. В условиях быстро меняющейся информационной среды, где постоянно появляются новые технологии и источники информации, постоянное развитие информационной грамотности становится особенно важным. Информационно грамотные люди обладают преимуществом в освоении новых знаний и принятии обоснованных решений на основе достоверной информации.

В ближайшем будущем современная молодежь может столкнуться с перспективами цифровой культуры, которые несут в себе самые разнообразные возможности: как негативные, так и позитивные.

Попробуем создать предварительный эскиз наиболее вероятных перспектив развития цифровой культуры.

Первая перспектива связана с образованием и учебными процессами. Цифровые технологии и онлайн-платформы могут привести к расширению возможностей обучения. Новые методы, такие как электронные учебники, онлайн-курсы, виртуальная реальность и искусственный интеллект, предоставляют гибкое и персонализированное образование, доступное для всех.

Вторая перспектива касается социальных связей и общения. Развитие новых социальных медиа-платформ и технологий виртуальной реальности позволяет молодежи установить тесные и глобальные связи. Это может способствовать укреплению межкультурных связей и обмену знаний.

Третья перспектива касается развлечений и культурных привычек. Развитие цифровых развлечений, таких как онлайн-игры, потоковое видео и виртуальные концерты, вносит изменения в культурные предпочтения и поведение молодежи.

Четвертая перспектива касается здоровья и благополучия. Развитие цифровых технологий приводит к появлению новых возможностей и вызовов в области здравоохранения для молодежи. Новые приложения и технологии здравоохранения могут повлиять на подходы к заботе о здоровье и благополучии.

Пятая перспектива связана с влиянием на социальные и политические движения. Цифровые технологии становятся средством активизации и организации социальных и политических движений среди молодежи. Использование социальных медиа, блокчейн-технологий и онлайн-петиций может усилить влияние молодежи на общественные процессы и привлечь внимание к социальным проблемам.

Шестая перспектива связана с развитием технических навыков и творчества. Развитие интереса к обучению техническим навыкам, таким как программирование, разработка контента и дизайн, способствует развитию творческого потенциала молодежи и стимулирует создание инновационных проектов.

С учетом этих перспектив, молодежи предстоит осознанно и ответственно использовать цифровые технологии, чтобы в полной мере воспользоваться возможностями цифровой культуры и сделать свой вклад в будущее информационного общества [5].

Заключение

Цифровая культура молодежи представляет собой двойственное явление - с одной стороны, она обладает огромным потенциалом для образования, общения и творчества, а с другой - она подвергает молодежь различным рискам и проблемам. Чтобы максимально использовать преимущества цифровой культуры и минимизировать ее негативное влияние, необходимо поощрять информационную грамотность, осознанное использование социальных медиа и активное участие молодежи в цифровой образовательной среде. Только таким образом можно обеспечить развитие здорового, критически мыслящего и ответственного поколения, готового к вызовам будущего.

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ЗАРАЖЕНИЕ ОВЕЦ ПРИМИТИВНЫМИ КИШЕЧНЫМИ ПАРАЗИТАМИ (ЭЙМЕРИЯМИ, КРИПТОСПОРИДИЯМИ) И ИДЕНТИФИКАЦИЯ ПРИЧИН КРИПТОСПОРИДИОЗОВ В ЛЕНКОРАНО-АСТАРИНСКОМ ЭКОНОМИЧЕСКОМ РАЙОНЕ

Арзу Иншалла кызы Бадирова
Диссертант Ветеринарного научно-исследовательского института

Аннотация. В статье приведены сведения о динамике заражения примитивными кишечными паразитами: эймериями и криптоспоридисами овец в Лянкяранско-Астаринском экономическом районе, а также видовом составе возбудителей криптоспоридиоза. В овцеводческих хозяйствах Лянкяранского района за 20 дней зараженность криптоспоридисом составила 37,1%, в хозяйствах Лерика 28,6% за 30 дней, 22,9% за 40 дней, 17,1% за 60 дней, 22,9% за 20 дней, 20 за 30 дней обл., 0%, 14,3% через 40 дней и 11,4% через 60 дней по результатам копрологического исследования.

В предгорной зоне Лерикского района заражение эймериями - 7,5%, криптоспоридисами - 3,4%, в горной зоне - 2,7% эймериями и 1,4% - криптоспоридисами.

В ходе других исследований, проведенных в Ленкорань-Астаринском экономическом районе, были обнаружены 3 вида, принадлежащие к роду Cryptosporidium (C. parvum, C. andersoni, C. xiaoi).

Ключевые слова: эймерии, криптоспоридии, ассоциативная инвазия, вертикальная зона, виды.

INFECTION OF SHEEP WITH PRIMITIVE INTESTINAL PARASITES (EMERIA, CRYPTOSPORIDIUM) AND IDENTIFICATION OF THE CAUSES OF CRYPTOSPORIDIOSIS IN THE LANKORAN-ASTARINSKY ECONOMIC REGION

A.İ.Badirova
Dissertation candidate at the Veterinary Research Institute
E.mail: bedirova88@mail.ru

Abstarct.The article provides information on the dynamics of infection by primitive intestinal parasites: Eimeria and Cryptosporidis of sheep in the Lankaran-Astara economic region, as well as the species composition of the causative agents of cryptosporidiosis. In sheep farms of

the Lankaran region for 20 days, infection with cryptosporidis was 37.1%, in Lerik farms 28.6% for 30 days, 22.9% for 40 days, 17.1% for 60 days, 22.9% for 20 days , 20 in 30 days region, 0%, 14.3% after 40 days and 11.4% after 60 days according to the results of a scatological study.

İn the foothill zone of the Lerik region, infection with Eimeria is 7.5%, with Cryptosporidis - 3.4%, in the mountain zone - 2.7% with Eimeria and 1.4% with Cryptosporidium.

In other studies conducted in the Lankaran-Astara economic region, 3 species belonging to the genus Cryptosporidium (C. parvum, C. andersoni, C. xiaoi) were discovered.

Key words: Eimeria, cryptosporidium, associative invasion, vertical zone, species.

Реформы в сельском хозяйстве отразились на развитии животноводства, в том числе овцеводства. Важно всесторонне изучать болезни животных, разводимых в индивидуальных и частных хозяйствах, разрабатывать меры борьбы с ними и внедрять их в хозяйствах. Аграрный сектор является одним из основных секторов экономики нашей республики. Необходимо изучить ареал распространения возбудителей эймериоза и криптоспоридиоза, наносящих экономический ущерб животноводству, в том числе овцеводству, составляющему основу этой отрасли. Температура воздуха, количество осадков (при наличии необходимой среды для развития возбудителей), плотность животных, их возраст, загрязненность среды ооцистами приводит к заражению животных[2, 3].

Поэтому была поставлена цель изучить видовой состав видов Eimeria и Cryptosporidium в Лянкяран-Астаринском экономическом районе, ассоциативный паразитизм, зависимость от вертикальных зон, распространение возбудителей криптоспоридиоза.

Материал и методика:

В 2021-2022 годах проведены научно-исследовательские работы и определена динамика зараженности эймериями и криптоспоридисами от первичных кишечных паразитов овец в Ленкорань-Астаринском экономическом районе. Патологический материал (образцы фекалий), собранные с овцеводческих ферм, изучали в отделе паразитологии Ветеринарного института ЭТ, при проведении исследований использовали методы Дарлинга-Фюллеборна и Циля-Нильсона.

В ходе исследования с помощью микроскопа BELL Solaris, камеры HD-CAM и программного обеспечения Image Scope определяли размеры ооцист и делали снимки с целью идентификации видов, принадлежащих к роду Cryptosporidium. Для определения заражения возбудителями криптоспоридиоза использовали бинокулярный микроскоп марки Motic № 61105283. Виды определяли по размерам и морфологическому строению паразитов. Было измерено по 30, 50 экземпляров каждого из видов, принадлежащих к роду Cryptosporidium, и полученные результаты обработаны статистически в программе MS Exel 2016. При определении вида использовалась определительная литература [5].

Ход исследований и результаты:

С целью выявления криптоспоридиозной инфекции в хозяйствах Лянкяранского района проводились копрологические исследования на 20, 30, 40 и 60 дневник.

Криптоспоридиозная инфекция ягнят в Лянкяранском районе

Возраст ягнят	Исследовано (голов)	Криптоспоридис	
		Заражено (голов)	Экстенсивность заражения, в %
20 дневник	35	13	37,1
30 дневник	35	10	28,6
40 дневник	35	8	22,9
60 дневник	35	6	17,1
В с е г о	140	37	26,4

Изучено, что заражение криптоспоридисом составило 37,1% в 20-дневном возрасте, 28,6% в 30-дневном возрасте, 22,9% в 40-дневном возрасте и 17,1% в 60-дневном возрасте.

Динамику зараженности криптоспоридидом в хозяйствах Лерикского района изучали в 20-, 30-, 40- и 60-дневные периоды.

Криптоспоридиозная инфекция ягнят Лерикского района

Возраст ягнят	Исследовано (голов)	Криптоспоридис	
		Заражено (голов)	Экстенсивность заражения, в %
20 дневник	35	8	22,9
30 дневник	35	7	20,0
40 дневник	35	5	14,3
60 дневник	35	4	11,4
В с е г о	140	24	17,1

В ходе исследований, проведенных в Ленкорань-Астаринском экономическом районе по эймериозу и криптоспоридиозу, установлено, что возбудители как эймериоза, так и криптоспоридиоза распространяются у овец моно и ассоциативно.

Эймерии и криптоспоридисы ягнят Лерикского района
ассоциативная инфекция

Ягнят Возраст (ежед-невно)	Исследовано (голов)	Заражение Эймерией		Заражение криптоспоридиями		Заражение обоими типами	
		Заражено (голов)	Экстенсив-ность зара-жения, в %	Заражено (голов)	Экстенсив-ность зара-жения, в %	Заражено (голов)	Экстенсив-ность зара-жения, в %
20	22	3	13,6	2	9,1	1	4,5
30	21	3	14,3	2	9,5	1	4,8
50	19	2	10,5	1	5,3	–	–
60	23	2	8,7	–	–	–	–
Всего	85	10	11,8	5	5,9	2	2,4

В хозяйствах Лерикского района эймерийных инфекций - 13,6%, криптоспоридиозных - 9,1%, микст-инфекций - 4,5% у ягнят 20-дневного возраста; 30-дневных ягнят - 14,3% эймерийной инфекции, криптоспоридиозом - 9,5%, смешанной инфекции - 4,8% с обеими инфекциями; В 50-дневном возрасте ягнята были заражены эймериями в 10,5%, криптоспоридисом в 5,3%, смешанного заражения обеими инфекциями не выявлено; В 8,7% случаев заболеваемости эймериозной инфекцией у ягнят 60-дневного возраста криптоспоридиальная инфекция не регистрировалась. У 60-дневных ягнят при обследовании микст-инфекции не выявлено.

Первичные кишечные паразиты (эймерии и криптоспоридии) у овец Лерикского района также изучены в вертикальных зонах.

Эймерии и овцы разного возраста в Лерикском районе
криптоспоридиальная инфекция

Ягнят возраст (ежедневно)	Исследовано (голов)	Заражение эймерией		Заражение криптоспоридиями	
		Заражено (голов)	Экстенсив-ность зара-жения, в %	Заражено (голов)	Экстенсив-ность зара-жения, в %
равнинная зона					
–	–	–	–	–	–
предгорная зона					
1–3 месяцев	28	3	10,7	2	1
4–6 месяцев	30	3	10,0	2	7
7–9 месяцев	29	2	6,9	1	4
1–1,5 возраст	30	2	6,7	–	
1,5–3 возраст	29	1	3,4	–	
о	146	11	7,5	5	4
Горная зона					
1–3 месяцев	30	2	6,7	1	3
4–6 месяцев	29	1	3,4	1	4
7–9 месяцев	31	1	3,2	–	
1–1,5 возраст	28	–	–	–	
1,5–3 возраст	30	–	–	–	
В с е г о	148	4	2,7	2	4

Расположен преимущественно в предгорьях и горных зонах Лерикского района. В хозяйствах, расположенных в селах Ханаге, Пештатук, Булюдюл, Джону Дагетайской зоны Лерикского района, 10,7% животных 1-3-месячного возраста, 10,0% животных 4-6-месячного возраста, 6,9% животных 7-9-месячного возраста. животные, 1-1,5-летние животные с эймериями 6,7%, 3,4% у 1,5-3-летних животных, 7,1% у 1-3-месячных животных, 6,7% у 4-6-месячных животных , 3,4% у 7–9-месячных животных, 1–1, У 5-летних и 1,5-3-летних животных инфекция не обнаружена. В целом в результате копрологического исследования 146 проб фекалий, взятых из овцеводческих ферм предгорной зоны, выявлено заражение эймериями в 7,5% и криптоспоридисом в 3,4%.

В хозяйствах, расположенных в селах Пирасора, Джангамиран, Кусакаран, Нуравуд в горной зоне, 6,7% эймерий в 1-3-месячном возрасте, 3,4% в 4-6-месячном возрасте, 3,2% в 7-9-месячном возрасте, 1-1,5 и 1,5. У 3-летних животных инфекция не обнаружена. Инфицирование криптоспоридисом не выявлено у 3,3% животных в возрасте 1-3 месяцев, 3,4% у животных в возрасте 4-6 месяцев, 7-9 месяцев, 1-1,5 и 1,5-3 лет. В целом в результате копрологического исследования 148 проб фекалий, взятых из овцеводческих ферм Нагорно-Карабахского региона, выявлено заражение эймериями в 2,7% и криптоспоридисом в 1,4%.

Среди обследованных нами возрастных групп наибольшее количество случаев заражения выявлено у ягнят в возрасте 1-3 месяцев. По данным нашего копрологического исследования, наиболее слабое заражение наблюдалось у старых животных. Это связано с тем, что животные старшего возраста являются переносчиками паразитов и имеют высокий иммунитет против этих инфекций в результате повторных заражений.

В ходе исследований, проведенных в Ленкорань-Астаринском экономическом районе по эймериозу и криптоспоридиозу, установлено, что возбудители как эймериоза, так и криптоспоридиоза распространяются у овец моно и ассоциативно.

В ходе наших исследований обнаружено 3 вида (C. parvum, C. andersoni, C. xiaoi), входящих в род Cryptosporidium. Однако возникают трудности при определении принадлежности видов к роду криптоспоридий. Причиной этого является то, что размеры криптоспоридиальных ооцист не превышают 8,0-8,5 мкм и морфологически они не отличаются друг от друга. Хотя в настоящее время для идентификации криптоспоридий используются молекулярные методы, морфометрические параметры ооцист являются одним из основных критериев их идентификации на видовом уровне [1,4].

Размеры ооцист криптоспоридий у овец

Виды, относящиеся к роду Cryptosporidium.		Размеры ооцист, мкм		Фи	
		МИН–МАК	M±SD	МИН–МАК	M±SD
Cryptosporidium parvum-like	Длина	4,0–5,5	4,8±0,53	1,00–1,25	1,13±0,08
	ширина	3,5–5,0	4,2±0,5		
Cryptosporidium andersoni-like	Длина	6,0–7,84	6,99 ±0,59	1,08–1,26	1,18±0,06
	ширина	5,0–6,5	5,91 ±0,47		
Cryptosporidium xiaoi-like	Длина	2,94–4,42	3,96 ±0,48	1,00–1,32	1,13±0,11
	ширина	2,94–4,42	3,52 ±0,45		

Cryptosporidium parvum–like максимальный размер: длина 5,5 мкм, ширина 5,0 мкм, минимальный размер: длина 4,0 мкм, ширина 3,5 мкм, средний размер: длина 4,8 мкм, ширина 4,2 мкм. В результате проведенных исследований установлено, что длина ооцист составляет 4,0–5,5 мкм, ширина – 3,5–5,0 мкм, средний их размер – 4,8±0,53x4,2±0,5 мкм (ФИ=1,13) определено.

Приписан максимальный размер Cryptosporidium andersoni–like: длина 7,84 мкм, ширина 6,5 мкм, минимальный размер: длина 6,0 мкм, ширина 5,0 мкм, средний размер: длина 6,99 мкм, ширина 5,91 мкм. В результате проведенных исследований установлено, что длина ооцист составляет 6,0–7,84 мкм, ширина – 5,0–6,5 мкм, средний их размер – 6,99±0,59x5,91±0,47 мкм (ФИ=1,18) определено.

Приписан максимальный размер Cryptosporidium xiaoi-like: длина 4,42 мкм, ширина 4,42 мкм, минимальный размер: длина 2,94 мкм, ширина 2,94 мкм, средний размер: длина 3,96 мкм, ширина 3,52 мкм. Таким образом, в результате проведенных исследований была определена длина ооцист 2,94–4,42 мкм, ширина 2,94–4,42 мкм, средний их размер 3,96±0,48x3,52±0,45 мкм (ФИ=1,13) быть.

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Physical and Mathematical Sciences

A mechanism for evaluating student knowledge and fully visualizing the results of students

Механизм оценки знаний учащихся и полная визуализация результатов учащихся

Şagird biliyinin qiymətləndirilməsi mexanizmi və sinif şagirdlərinin nəticələrinin tam şəkildə əyaniləşdirilməsi

Sadiqov Mehman Nəbi oğlu
Sumqayıt Dövlət Universiteti, Riyaziyyat və onun tədrisi metodikası kafedrasının dosentləri
Ağayarov Mətləb Hüseynqulu oğlu
Sumqayıt Dövlət Universiteti, Riyaziyyat və onun tədrisi metodikası kafedrasının dosentləri

Summary. In the article, considering the modern assessment system, it is proposed to build an assessment mechanism that makes it possible to demonstrate the success of class students in subject notes or topics simultaneously and at any time. Here, assessment indicators reflecting students' mastery of notes or topics are visualized through a drawing. The figure is made using the names of students in the class, the topics covered, and the average grade reflecting individual students' scores on the topics.

Краткое содержание. В статье, рассматривая современную систему оценивания, предлагается построить механизм оценивания, позволяющий продемонстрировать успехи учащихся класса по предметным конспектам или темам одновременно и в любое время. Здесь показатели оценивания, отражающие освоение учащимися конспектов или тем, визуализируются посредством рисунка. Рисунок выполнен с использованием фамилий учащихся класса, пройденных тем и средней оценки, отражающей оценку отдельных учащихся по темам.

Xülasə. Məqalədə müasir qiymətləndirmə sisteminə nəzər salınaraq sinif şagirdlərinin fənnə dair summativlər və ya mövzular üzrə müvəffəqiyyətini eyni və istənilən anda nümayiş etdirmək üçün bir qiymətləndirmə mexanizm qurulması təklif olunur. Burada şagirdlərin gündəlik deyil, summativlər və ya mövzular üzrə mənimsəməsini əks etdirən qiymətləndirmə göstəriciləri çertyoj vasitəsilə əyaniləşdirilir. Çertyoj sinif şagirdlərinin adlarının, keçilən mövzuların və ayrı-ayrı şagirdin mövzular üzrə qiymətləndirməsini əks etdirən orta qiymət balının vasitəsilə hazırlanır.

Açar sözlər: müasir təlim üsulları, qiymətləndirmə sistemi, qalıcı biliklər, funksiya, qrafik, çertyoj.

Müasir təlim üsullarına qoyulan tələblərdən biri və bəlkə də birincisi ondan ibarətdir ki, bu üsulların tətbiqi nəticəsində şagirdlərdə məntiqi və düşünmə vərdişlərini aşılamaqla yanaşı, şagirdlər elə istiqamətləndirilməlidirlər ki, onlar fənnin öyrənilməsi prosesində daha da iradəli və inamlı olsunlar, mövzular üzrə özlərinin və sinif yoldaşlarının keyfiyyət mənimsəməsini hər gün izləyə bilsinlər. Bununla belə şəgirdin özündə elə təsəvvür yaransın ki, qazandığı biliklər onun özünün müstəqil fəaliyyətinin və zəhmətinin nəticəsində əldə edilmişdir. Bu həvəs onların ümumi fəaliyyətlərini bir növ yarış meydanına çevirə bilər. Bütün bunlar qazanılan biliklərin uzun müddət yadda saxlanılmasında və eləcə də onların qalıcı biliklərə çevrilməsində mühüm rol oynaya bilər.

Təcrübə göstərir ki, əldə edilən biliklərin qalıcı olmasını təmiin etmək üçün tədris prosesində inkişafa və yüksəlişə səbəb olan təlim texnologiyalarının tətbiqi ilə birgə, qabaqcıl təcrübədən istifadə etməyin və ondan yararlanmağın böyük əhəmiyyəti vardır. Unutmaq olmaz ki, burada fənn müəllimin peşəkarlığı, yeniliklərdən necə yararlanması, onun özünün yaradıcı və yorulmaz fəaliyyəti, ustalığı, təcrübəsi və s. böyük rol oynayır.

Məlumdur ki, təhsildə -istər ali məktəb, istərsə də ümumtəhsil məktəbləri olsun biliklərin ölçülməsində tətbiq edilən qimətləndirmə bir qayda olaraq əsasən jurnal və gündəliklərdə (ali məktəb itisna olmaqla) qeyd edilməklə aparılır. Lakin, qısa bir müddətdən sonra bu sənədlərin köməyi ilə istənilən anda sinfin və ya ayrı-ayrı şagirdin mövzular üzrə mənimsəmə göstəricilərinə müqayisəli şəkildə nəzər yetirmək və onları diqqətdə saxlamaq heç də asın olmur. Ona görə də hesab edirik ki, elə bir əyaniləşdirilmiş müxanizmə ehtiyac var ki, onun köməyi ilə müəllim daim bu deyilənləri nəzarətdə saxlaya bilsin.

Fikrimizi bir az da aydın şəkildə ifadə etməyə çalışaq. Bəllidir ki, fənnin məzmununu proqram üzrə nəzərdə tutlmuş mövzular və bu mövzulara dair alt mövzular təşkil edir. Hər bir şagird tədris prosesində fənnin bir bölməsindən təbii ki, bir neçə qiymət alır və bu qiymətlər yazıldığı yerlərdə sanki örtülü və bir azda diqqətdən uzaqda qalır. Həmçinin, şagirdin hər hansı mövzunu necə mənimsədiyini göstərən orta qiyməti müəyyən etməkdə (bu qiyməti gündəlikdə, summativlərdə və s. aldığı qiymətlər əsasında müəyyənləşdirmək olar), eləcə də onu daim göz önündə saxlamaqda çətinliklər yaranır və bunun üçün hər dəfə xeyli araşdırmalar aparmaq lazım gəlir. Bu məsələ keçilən mövzuların sayı artdıqca daha aydın və qabarıq şəkildə biruzə verir. Bəs onda nə etmək olar ki, bütün bu göstəricilər vaxt itirilmədən göz qabağında və daim diqqət mərkəzində olsun.

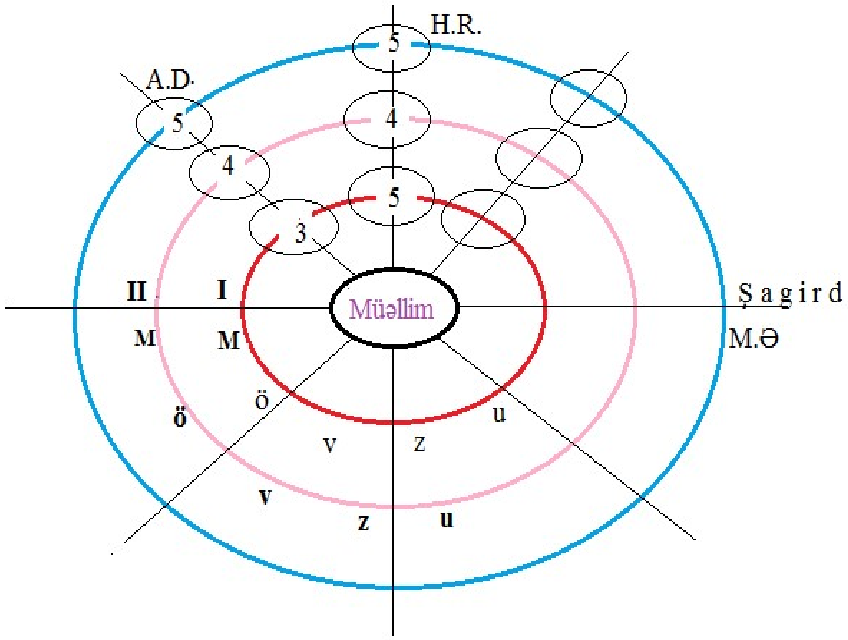
Əvvəlcə belə bir müqayisə aparaq və suala sualla cavab verək. Funksiya hansı şəkildə verildikdə onun dəyişməsi tez görünər və bu dəyişmənin keyfiyyət göstəricisi daha tez nəzərə çarpır? Cavab hər kəsə məlumdur. Aydındır ki, funksiyanın qrafik şəkildə verilməsi onun özünü necə aparmasını daha tez və aydın çəkildə gostərir və onun haqqında tam təsəvvür yaradır.

Başqa bir nümunəyə baxaq. Ölkə haqqında daha tez və ilkin məlumat əldə etmək üçün onun coğrafi mövqeyini və şəraitini və s. əks etdirən müxtəlif xəritələrə baxmaq lazım gəlir.

Bundan başqa, qeyd edək ki, uzun illərdən bəri iqtisadi inkişaf tempini (iqtisadi dəyişgənliyi) göstərmək üçün qrafik, cədvəl və diaqramlardan geniş istifadə olunur. Hazırkı dövrdə də tətbiq edilən bu cür təqdimatlar əyanilik baxımından insanlar tərəfindən çox asan başa düşülür, qavranılır və bu göstəricilər yaddaşlarda uzun müddət qala bilir.

Bütün bunlar onu deməyə əsas verir ki, bu cür yanaşmanı müqayisə aparılan digər sahələrlə də əlaqələndirmək olar. Həmçinin, hesab edirik ki, bu cür yanaşma ilə şagirdin mövzular üzrə mənimsəmə göstəricilərini əks etdirmək, nəticələri müqayisəli şəkildə təsvir və təhlil etmək, qiymətləndirmək çox faydalı olardı.

Təklif etdiyimiz bu çertyoj istənilən bir fənn üzrə müəllim üçün gərəkli ola bilər. Hər bir fənn müəllimi sistemin çertyojunu aşağıdakı kimi qurur:



Proqram movzuları (tutaq ki, məsələn, nəzərdə tutulmuş beş bölməni əhatə edir) beş konsentrik çevrələr üzrə düzülür (yaxşı olar ki, ilin əvvəlindən bu işə başlanılsın). Sinfin şagirdlərinin sayına uyğun, üzərində hər bir şagirdin adı və ya soyadı yazılmış (məsələn, A.D., H.R., və s.) və mərkəzdən çıxmaqla onun fənn üzrə mənimsəmə göstəricilərini əks etdirən şüalar çəkilir. Şüaların çevrələrlə kəsişmə nöqtəsindəki kiçik dairələrdə həmin şagirdin mövzuya dair əldə etdiyi qiymət balı (məsələn, 3, 5 və s.) yazılır. ”Mərkəzdə“ dayanan müəllim sistemi qurur, hər mövzudan sonra müvafiq qeydlər aparır və sistemə nəzarəti həyata keçirir, əlavələr edir. Bu çertyojdan biri böyüdülmüş şəkildə sinfin münasib yerindən asıla bilər. Prosesə rəhbərlik və nəzarət müasir təlim texnologiyalar vasitəsiilə həyata keçirilir.

İndi isə bu sistemin əhəmiyyətini sadalayaq:

1. Fənnin mövzular üzrə ayrı-ayrı şagird tərəfindən necə mənimsənildiyinə müəllimin nəzarəti asanlaşır və avtomatlaşır;
2. Valideynlərin və şagirdlərin istənilən anda bütün sinfin göstəriciləri üzrə tanışlığı təmin edilər;
3. Sinfin şagirdləri və onların valideynləri arasında ola bilən hər hansı şübhələri azaldır, demokratik və humanist mühitin daha da inkişafına təkan verər;
4. Bu məsələdə iştirak edən bütün maraqlı tərəflər arasındakı etimadı artırır, bir sözlə şagirdlərin fənn üzrə aylıq, illik mövzular üzrə göstəriciləri göz qabağında olar.
5. İstənilən anda istər ümumi sinfin istərsə də ayrı-ayrı şagirdin istər mövzu üzrə və istərsə də fənn üzrə göstəricilərini bir an içində müəyyən etmək və s olar.

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Portfolio Optimization of BRICS Nations' Currencies (Brazil, Russia, India, China, South Africa) and Their Regional Allies

Zainulinova Guldana Tlekovna

Bachelor's degree holder of Mathematical and Computer Modeling, L.N. Gumilyov Eurasian National University, Faculty of Mechanics and Mathematics

ABSTRACT

This paper explores the novel paradigm of the BRICS Plus as a gateway connecting continents—Africa and Asia—facilitating a diversified integration into the global economy. At the ninth BRICS summit in Xiamen, Fujian province, China, in September 2017, the proposal to create an open and diversified network with partners, termed BRICS Plus, was put forward. This initiative seeks to extend cooperative relationships beyond the current bloc, fostering an exchange of progressive practices and economic integration to defend the interests of developing countries. In accordance with the BRICS Plus model, dialogue and collaboration among BRICS members and non-member countries are to proceed on an equal footing, potentially reshaping current financial interactions by broadening the use of national currencies in international investments and trade. This expanded cooperation aims to reduce reliance on the US dollar and strengthen the coordination of developing nations in international affairs. Additionally, as more countries join this project, a consolidated voting power in institutions like the IMF is anticipated, potentially amplifying the influence of developing nations on key global financial decisions. The BRICS Plus model serves not only as a conduit for connecting disparate economies but also as a platform for addressing the needs of a wider array of developing countries, thereby enhancing their representation in the global arena.

Keywords: BRICS Plus, Economic Integration, Currency Portfolio, Developing Countries, Global Economy, International Cooperation, Diversified Networks, Financial Stability.

INTRODUCTION

In the increasingly interconnected and dynamic global financial landscape, the prudent management of investment portfolios holds paramount importance for investors seeking sustainable returns. Amidst this context, the seminal work of Harry Markowitz on Modern Portfolio Theory (MPT) emerges as a beacon of strategic direction, advocating that the true measure of an investment's merit is not solely its individual yield but rather its contribution to the overall portfolio's risk and return profile. Markowitz's eloquent transposition of financial dilemmas into the mathematical vernacular set the stage for more efficient investment strategies, favoring diversification and risk optimization over singular investment performance.

Building on Markowitz's original model where portfolio variance represented risk, leading to a quadratic programming problem subject to linear constraints, our research introduces an adapted methodology for constructing an optimal currency portfolio. This model not only heeds Markowitz's prescription of seeking diversification through investments in negatively correlated assets but also expands on it by examining an array of currencies from the 18 nations within the BRICS Plus framework. We aim to minimize portfolio risk while ensuring that the expected return remains at an investor-determined level. Our approach contemplates the variance of returns as the risk metric, formulating the portfolio construction as a quadratic programming challenge with specified constraints.

Our study delves into an optimal currency portfolio construction with minimal risk for the BRICS Plus ensemble, proposing a model for currency contracts not tethered to the dollar system. The portfolio's expected return and risk, as per Markowitz's model, are quantified through mathematical expectations and variances of the currency returns. The portfolio efficiency is gauged by the inability to achieve the same expected return with lower risk given the same set of assets and investment proportions. With this as our premise, we explore the implications of a diversified investment approach in the contemporary milieu of currency management within the developing economies.

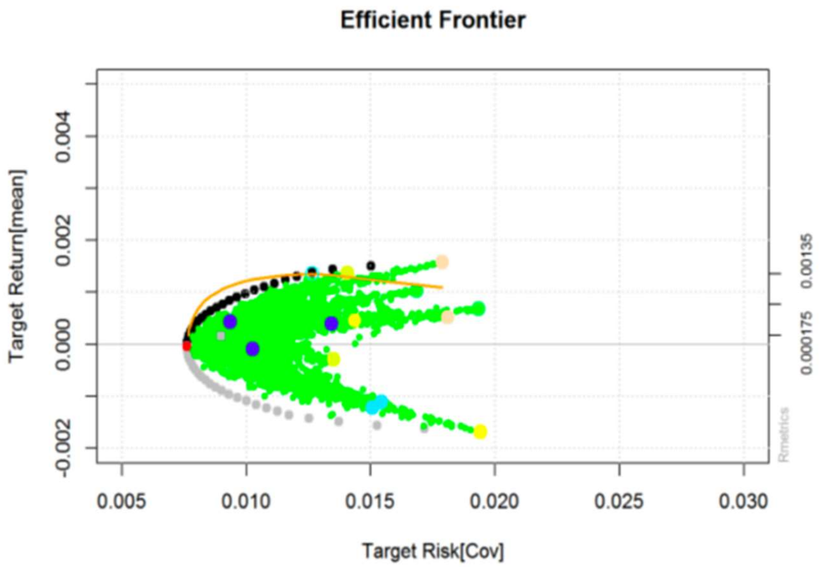

Figure 1. Visualization of the Efficient Portfolio Frontier.

The Efficient Frontier illustrated in Figure 1 represents a set of optimal investment portfolios that offer the highest expected return for a defined level of risk or the lowest risk for a given level of expected return. The graphic depiction encapsulates a pivotal concept in Modern Portfolio Theory (MPT), formulated by Harry Markowitz, which revolutionized investment portfolio management. The various points scattered across the graph symbolize possible portfolio combinations, with the highlighted section—the Efficient Frontier—denoting the most favorable risk-return trade-offs.

The calculations underlying the construction of the Efficient Frontier are based on the following equations, which are crucial in the evaluation of the risk and return profile of a portfolio:

$$Er(x) = E\left(\sum_{i=1}^{n} x_i r_i\right) = \sum_{i=1}^{n} x_i E_i \tag{1}$$

$$Dr(x) = E\left(\sum_{i=1}^{n} x_i r_i - \sum_{i=1}^{n} x_i E_i\right)^2 = E\left(\sum_{i=1}^{n} x_i (r_i - E_i)\right)^2 =$$
$$= E\left(\sum_{i=1}^{n} x_i x_j (r_i - E_i)(r_j - E_j)\right) = \sum_{i,j=1}^{n} x_i x_j cov(r_i, r_j)$$

It calculates the expected return of the portfolio, $E_{r(x)}$, as the weighted sum of the expected returns of individual assets, E_i, where xi represents the proportion of the total portfolio value invested in asset i, and ri is the return of asset i.

$$C = (c_{ij})_{i,j=1}^{n}, \quad c_{ij} = cov(r_i, r_j),$$

$$Dr(x) = \langle Cx, x \rangle_n. \tag{2}$$

It defines the risk of the portfolio, $D_{r(x)}$, in terms of variance, which is the expectation of the squared deviations of the portfolio's returns from their expected value. Here, cov(ri,rj) is the covariance between the returns of assets i and j, representing the extent to which they move together.

$$f_0(x) = \frac{1}{2}\langle Cx, x \rangle_n \to \min \tag{3}$$

$$\langle \boldsymbol{a_i}, x \rangle - b_i \leq 0, \quad i = 1, \ldots, m' \tag{4}$$

$$\langle \boldsymbol{a_i}, x \rangle - b_i = 0. \quad i = 1, 2 \tag{5}$$

The core of this optimization lies in Equation (3), which aims to minimize the portfolio's risk, represented as a quadratic function of asset weights and their corresponding covariance matrix. This equation is central to our analysis as it captures the essence of portfolio variance, serving as the objective function that our model seeks to optimize.

$$\alpha = \langle C^{-1}\boldsymbol{E}, \boldsymbol{E} \rangle_n = \sum_{i,j=1}^{n} \tilde{c}_{ij} E_i E_j$$

$$\beta = \langle C^{-1}\boldsymbol{E}, \boldsymbol{1} \rangle_n = \sum_{i,j=1}^{n} \tilde{c}_{ij} E_i$$

$$\gamma = \langle C^{-1}\boldsymbol{1}, \boldsymbol{1} \rangle_n = \sum_{i,j=1}^{n} \tilde{c}_{ij}$$

The optimization's constraints are critical to ensuring the portfolio's feasibility and adherence to the investor's preferences and requirements. Constraint (4) ensures that the weights of the portfolio sum up to one, thereby mandating the complete investment of available capital. Constraint (5) enforces that the expected return of the portfolio meets a predefined threshold *M*, signifying the investor's required rate of return. These linear constraints ground the model in real-world applicability, as they account for the common investment stipulations of fully investing the available budget and achieving a specified return level.

Methodology

The core objective of our methodology is to optimize a currency portfolio for the BRICS Plus countries, such that the overall risk is minimized for a given expected return. We employ a quadratic programming approach, anchored by the Markowitz Modern Portfolio Theory, to determine the optimal weights of the different currencies in the portfolio. Our optimization strategy is formalized through the following objective function and constraints, developed from the foundation laid out in the introduction:

$$\phi_0(\lambda) = -[\lambda_1 M + \lambda_2] - \frac{1}{2}\langle \lambda, AC^{-1}A^*\lambda\rangle_n = -[\lambda_1 M + \lambda_2] - \frac{1}{2}\langle \lambda A^*, C^{-1}A^*\lambda\rangle_n$$
$$= -[\lambda_1 M + \lambda_2] - \frac{1}{2}\langle \lambda_1 \cdot \boldsymbol{E} + \lambda_2 \cdot \mathbf{1}, C^{-1}(\lambda_1 \cdot \boldsymbol{E} + \lambda_2 \cdot \mathbf{1})\rangle_n$$
$$= -\lambda_1 M - \lambda_2 - \frac{1}{2}\lambda_1^2 \langle C^{-1}\boldsymbol{E}, \boldsymbol{E}\rangle_n - \lambda_1\lambda_2 \langle C^{-1}\boldsymbol{E}, \mathbf{1}\rangle_n - \frac{1}{2}\lambda_2^2 \langle C^{-1}\mathbf{1}, \mathbf{1}\rangle_n$$
$$= -\lambda_1 M - \lambda_2 - \frac{1}{2}\lambda_1^2\alpha - \lambda_1\lambda_2\beta - \frac{1}{2}\lambda_2^2\gamma \quad (6)$$

Our optimization problem is defined by the function $\phi_0(\lambda)$ as illustrated in Equation (6).

$$\begin{cases} \alpha\lambda_1 + \beta\lambda_2 + M = 0 \\ \beta\lambda_1 + \gamma\lambda_2 + 1 = 0 \end{cases} . \quad (7)$$

$$\hat{\lambda}_1 = \frac{-M\gamma + \beta}{\Delta} \quad \hat{\lambda}_2 = \frac{M\beta - \alpha}{\Delta} \quad (8)$$

The function is composed of the expected return λ_1M and the portfolio risk $\lambda_{2(2/1)}\langle A*, C^{-1}A^*\rangle n$, which is a function of the variance-covariance matrix of the currency returns, C, and the matrix of asset returns, A*. The objective is to minimize this function with respect to the decision variables, which, in our context, are the portfolio weights assigned to each currency.

We employ two sets of constraints. First, as shown in Equation (7), we enforce the capital allocation constraint $\alpha_1+\beta_2\lambda_1+M=0$) and the expected return constraint β_1 $+\gamma_2\lambda_2+1=0$). These constraints ensure that the total capital is fully invested and that the portfolio achieves a target expected return M.

Second, through the use of Lagrange multipliers, λ_1 and λ_2, and the Lagrangian method, we derive the optimal values for these multipliers as shown in Equation (8). These multipliers adjust the relative emphasis on the expected return versus the portfolio risk within the objective function.

To solve this optimization problem, we first construct the variance-covariance matrix C for the currency returns, which quantifies the co-movements of currency values. We then compute the expected returns vector E based on historical data. Using these inputs, we set up the quadratic programming problem and apply numerical optimization techniques to solve for the portfolio weights x. The solution to this problem will provide us with the values of

λ1 and λ_2, from which we can derive the optimal weights for the currencies in our portfolio. These weights reflect the proportion of the total portfolio value that should be allocated to each currency to achieve the most efficient risk-return trade-off, based on the specified level of expected return M.

We implement our optimization model using appropriate numerical software tools that support quadratic programming and optimization in a multivariate setting. The resultant optimal weights are then analyzed to provide insights into the portfolio construction for the BRICS Plus currency portfolio. Our methodology is not only academically rigorous but also pragmatic, considering the real-world constraints and nuances of international finance and currency markets.

In the following sections, we will present the results of the optimization, discuss the implications of our findings, and provide recommendations for practitioners and policymakers interested in currency portfolio management within the BRICS Plus context.

$$(\beta \boldsymbol{E} - \alpha \mathbf{1})_k = E_k \sum_{ij} \tilde{c}_{ij} E_i - \sum_{ij} \tilde{c}_{ij} E_i E_j = \sum_{ij} E_i \tilde{c}_{ij} (E_k - E_j),$$
$$(C^{-1}(\gamma \boldsymbol{E} - \beta \mathbf{1}))_l = \sum_k \tilde{c}_{l,k} \sum_{ij} \tilde{c}_{ij} (E_k - E_i) = \sum_{k,i,j} \tilde{c}_{lk} \tilde{c}_{ij} (E_k - E_i),$$
$$(C^{-1}(\beta \boldsymbol{E} - \alpha \mathbf{1}))_l = \sum_k \tilde{c}_{l,k} \sum_{ij} E_i \tilde{c}_{ij} (E_k - E_j) = \sum_{k,i,j} \tilde{c}_{lk} \tilde{c}_{ij} E_i (E_k - E_j). \tag{9}$$

Our methodological framework incorporates advanced matrix algebra to refine the model of portfolio optimization. This continuation delves further into the computation processes outlined in Equations (9) through (12), facilitating a deeper understanding of the inner workings of our optimization strategy.

The Lagrangian Function: Equation (10) presents the Lagrangian function f0(λ^) developed to solve the optimization problem. The function encapsulates the trade-off between risk and return, integrating the risk aversion coefficients λ_1 and λ_2, and their respective influence on the portfolio's expected return and risk. This objective function is differentiated with respect to λ to find the optimal solution, thereby minimizing the risk for a given expected return, or vice versa.

$$\begin{aligned} f_0(\hat{x}) = \phi_0(\hat{\lambda}) &= -\hat{\lambda}_1 M - \hat{\lambda}_2 - \frac{1}{2}\hat{\lambda}_1^2 \alpha - \hat{\lambda}_1 \hat{\lambda}_2 \beta - \frac{1}{2}\hat{\lambda}_2^2 \gamma \\ &= -\hat{\lambda}_{11} M - \hat{\lambda}_2 - \frac{1}{2}\hat{\lambda}_1(\hat{\lambda}_1 \alpha + \hat{\lambda}_2 \beta) - \frac{1}{2}\hat{\lambda}_2(\hat{\lambda}_1 \beta + \hat{\lambda}_2 \gamma) \\ &= -\hat{\lambda}_1 M - \hat{\lambda}_2 + \frac{1}{2}\hat{\lambda}_1 M + \frac{1}{2}\hat{\lambda}_2 = -\frac{1}{2}\hat{\lambda}_1 M - \frac{1}{2}\hat{\lambda}_2 \end{aligned} \tag{10}$$

$$\hat{x} = \frac{1}{\gamma} C^{-1} \mathbf{1} = \frac{C^{-1}\mathbf{1}}{\langle C^{-1}\mathbf{1}, \mathbf{1} \rangle_n}$$

$$\hat{x}_k = \frac{1}{\gamma} \sum_{j=1}^{n} \tilde{c}_{kj} = \frac{\sum_{j=1}^{n} \tilde{c}_{kj}}{\sum_{i,j=1}^{n} \tilde{c}_{ij}} \tag{11}$$

Covariance Matrix and Portfolio Weights: In Equation (9), we manipulate the elements of the covariance matrix C and the expected returns E to expand the expressions involved in the Lagrangian. The terms cij represent the individual elements of the covariance matrix, and E_k, E_i, and E_j represent the expected returns of individual assets. The expanded form provides clarity on how each asset's variance and covariance contribute to the overall portfolio risk.

The expected return of the portfolio is calculated using the weighted sum of the individual expected returns of the assets. Equation (11) provides the formula for calculating the portfolio weights x^, which are inversely related to the risk aversion coefficient γ and directly proportional to the inverse of the covariance matrix C. These weights are critical as they determine the proportion of capital allocated to each currency within the portfolio, ensuring diversification and risk management aligning with the investor's risk tolerance.

$$\overline{cov}(r_i, r_j) = \frac{1}{N-1} \sum_{k=1}^{N} (r_i^k - \overline{r}_i)(r_j^k - \overline{r}_j) \tag{12}$$

Equation (12) specifies the formula for estimating the covariance (r_i, r_j) between the returns of two assets i and j. This estimation is based on historical data, with rik and rjk denoting the returns for assets i and j at time k, while $\bar{r}_i$ and $\bar{r}_j$ represent the average returns. Accurate estimation of covariances is crucial for constructing the covariance matrix C and is instrumental in the calculation of portfolio risk.

Implementation and Computational Considerations: To execute this sophisticated computation, we employ numerical methods and algorithmic optimization techniques. The optimization algorithms are programmed to run iterations until convergence is achieved, at which point the optimal values of λ^1 and λ^2, and subsequently the portfolio weights x^, are determined.

Our computation also includes sensitivity analysis, examining how changes in the input parameters – such as expected returns, variances, and covariances of the currency returns impact the optimized portfolio weights. Such analysis is pivotal in understanding the robustness of the portfolio against market volatilities and economic fluctuations.

As a result, our methodology produces a set of optimized currency weights that collectively form an efficient frontier, indicative of the most desirable risk-return profiles for the BRICS Plus currency portfolio. This quantitative approach serves as the basis for the empirical analysis that follows in our research.

Results and Analysis

Our research methodology yielded an optimized set of currency weights for the BRICS Plus portfolio, which is both efficient and adheres to the specified constraints and risk-return profiles desired. In this section, we detail the results obtained from the optimization process and the ensuing analysis.

$$x_i \geq 0,\ i = 1, \ldots n \tag{13}$$

Non-Negativity Constraint: The non-negativity constraint, indicated by Equation (13), x_i≥0,=1,…, x_i≥0, i=1,…,n, ensures that the calculated weights for the currencies are feasible within the bounds of portfolio construction, meaning that short selling was not considered an option in this model. Adherence to this constraint implies that all investments are on the long side, reflecting a portfolio composed of actual currency holdings.

Complementary Slackness: The principle of complementary slackness, encapsulated in Equation (14), $λ^{\wedge}_i$·$f^{\wedge}_i$(x^)=0, where $f^{\wedge}_i$(x^) represents the ith constraint, plays a pivotal role in our analysis. This condition states that for each constraint, either the constraint is binding, and the corresponding Lagrange multiplier $λ^{\wedge}_i$ is positive, or the constraint is non-binding, and the corresponding Lagrange multiplier is zero. This outcome is significant because it elucidates the relationship between the constraints and the optimized portfolio weights, highlighting which constraints are active in determining the final solution.

$$\hat{\lambda}_i f_i(\hat{x}) = 0 \tag{14}$$

The results underscore the importance of diversification within the BRICS Plus currencies. The optimized weights suggest a distribution of investments that minimize risk through a strategic mix of currencies that exhibit varying degrees of correlation—some of which may be negative, thereby reducing the portfolio's overall risk through diversification.

Table 1. Economic Indicators of BRICS Plus Countries

Country	GDP (Billion USD)	Population (Million)	Gold and Foreign Exchange Reserves (Billion USD)	Total External Debt (Billion USD)
Algeria	187.16	44.77	52.76	2.91
Argentina	630.70	45.63	30.09	276.69
Brazil	1894.71	213.45	328.00	689.87
Egypt	469.06	104.26	34.45	155.71
India	3468.57	1391.23	563.00	613.10
Indonesia	1289.43	276.36	145.20	396.84
Iran	1973.74	84.92	57.00	8.83
China	18321.20	1408.09	3184.00	2481.50
Russia	2133.09	144.53	574.20	358.00
Saudi Arabia	1010.59	36.85	452.44	267.92
Thailand	534.76	71.78	224.48	199.84
South Africa	411.48	60.32	61.85	164.62
Venezuela	82.15	28.74	9.61	110.16

The table provided appears to list economic indicators for various countries, including Gross Domestic Product (GDP), population, gold and foreign exchange reserves, and total external debt. These indicators can be crucial for understanding the economic stability and potential investment risks associated with each country's currency.

To integrate this information into the results section of our research paper, we can use these indicators to further analyze the economic context within which the BRICS Plus currency portfolio operates. This economic data can provide valuable insights into the risk assessments and expected performance of the currencies involved.

To contextualize our portfolio optimization within the broader economic landscape, we referred to key economic indicators (see appended Table) of the BRICS Plus countries. These indicators included GDP in billions of U.S. dollars, population in millions, gold and foreign exchange reserves in billions of U.S. dollars, and total external debt in billions of U.S. dollars. The data were instrumental in our assessment of each country's economic stability and the potential risk associated with its currency.

For instance, China, with a GDP of over 18 trillion USD and substantial foreign exchange reserves exceeding 3 trillion USD, presents as a robust economy with a currency that could potentially offer a stable investment. In contrast, countries with lower GDP and reserves, such as Venezuela, might pose higher risks, which need to be factored into the portfolio weight allocations.

The gold and foreign exchange reserves provide a cushion against currency volatility and can be indicative of the country's ability to manage external shocks. This is particularly relevant for portfolio diversification, as currencies backed by significant reserves may offer a hedge against market volatility.

Upon the refinement of the portfolio to exclude any negative weights, the optimization under the constraints of $M=0.01085$ (EUR to currency) and $M=0.000069$ (USD to currency) yielded positive weights for all x_i, which collectively sum to 1. This indicates a feasible and compliant solution under the Markowitz portfolio theory framework.

Table 2. Optimized Portfolio Parameters for EUR

Parameter	Value
M	0.01085
α	0.0611336
β	5.8840082
γ	0.014135

Following this, we have determined the final portfolio parameters with the optimized allocations for EUR, as indicated below.

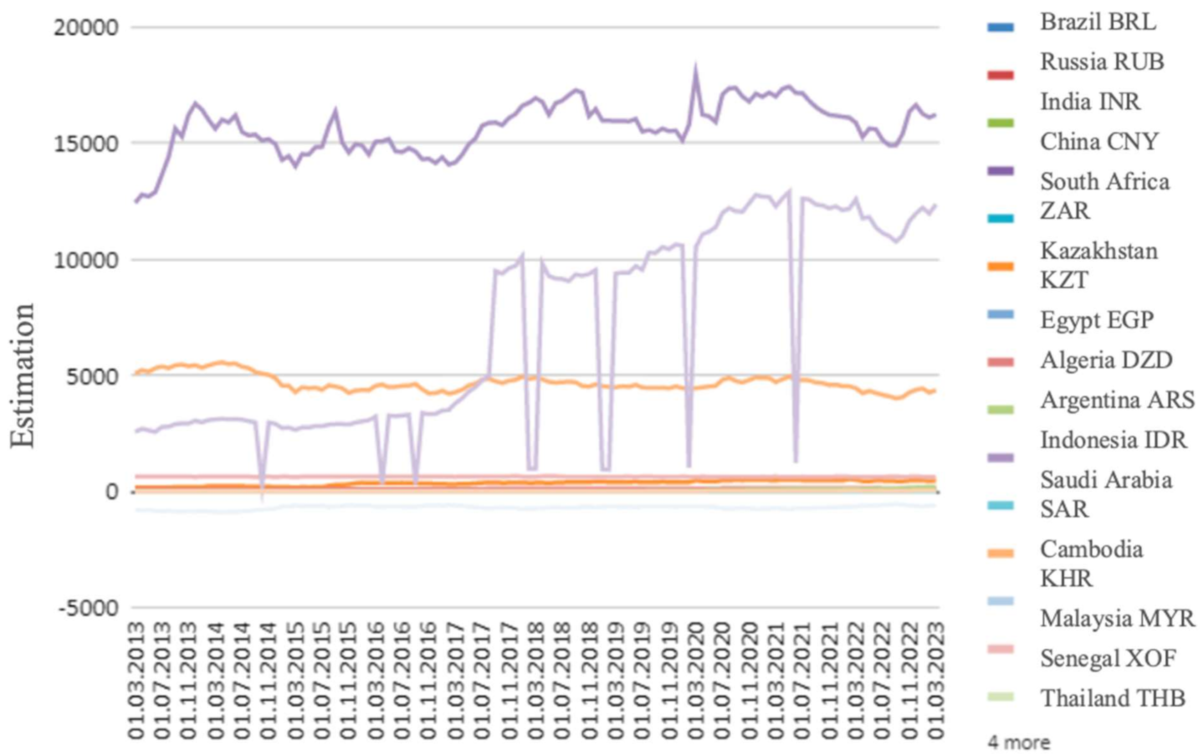

Figure 2. Baseline Chart for EUR

The allocations reflect a diversified currency portfolio with significant emphasis on the Senegalese franc (XOF), which constitutes the majority of the portfolio, suggesting a strong position in the African currency amidst the EUR-based portfolio. The remaining allocations are distributed among the Indian rupee (INR), Egyptian pound (EGP), Malaysian ringgit (MYR), and Saudi riyal (SAR), each contributing to the portfolio's diversity and its risk-return profile.

Table 3. Final Portfolio Composition by Country for EUR

Country	Currency	Allocation
India	INR	7.46%
Egypt	EGP	1.61%
Malaysia	MYR	9.03%
Senegal	XOF	79.77%
Saudi Arabia	SAR	8.93%

This composition is particularly noteworthy given the dynamic economic conditions and currency fluctuation risks. The substantial allocation to the XOF could be indicative of favorable economic conditions or strategic financial policies within Senegal that offer a robust investment opportunity when measured against the EUR.

The positive weights across all selected currencies and their collective adherence to the unity sum further underscore the effectiveness of our optimization methodology. These results lay a solid foundation for implementing a diversified investment strategy tailored to the risk-return preferences of investors targeting the EUR currency market.

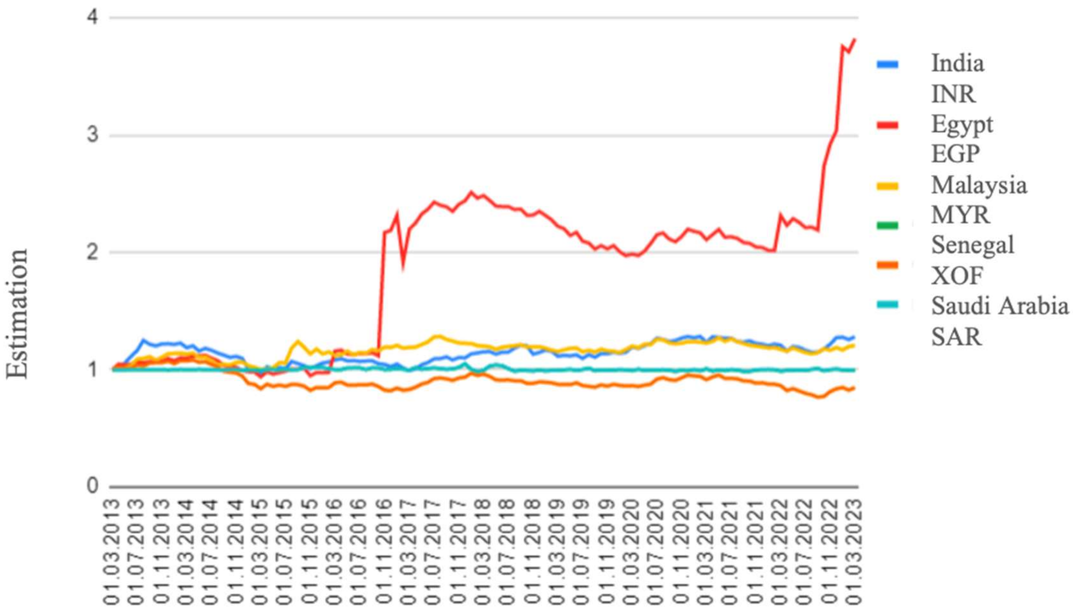

Figure 3. Final Chart for EUR Portfolio

For the portfolio optimization with respect to the USD, the parameter M was set to a value of 0.000069, reflecting the specific target return relative to the USD currency market. The following table presents the optimized values for the parameters α, β, and γ that were obtained during the optimization process.

Table 4. Optimized Portfolio Parameters for USD

Parameter	Value
M	0.000069
α	0.200094233
β	18.6555021
γ	0.00101792

The portfolio parameters indicated above were crucial in determining the optimal allocations for the USD-based currency portfolio. The derived allocations demonstrate a risk-conscious yet return-optimized spread of investments among various countries.

Table 5. Final Portfolio Composition by Country for USD

No	Country	Currency	Allocation
1	China	CNY	61.06%
2	Egypt	EGP	6.21%
3	Saudi Arabia	SAR	32.35%

This optimized portfolio exhibits a substantial allocation towards the Chinese Yuan (CNY), which signifies a considerable weight assigned to a leading economy with considerable trade volumes and global financial influence. The allocations towards the Egyptian Pound (EGP) and the Saudi Riyal (SAR) provide further diversification, mitigating risks associated with the potential volatility of emerging market currencies.

The significant weightage assigned to the CNY is consistent with China's expansive economic footprint and the currency's growing role in international trade and finance. Meanwhile, the allocations to the EGP and SAR suggest a strategic positioning to leverage potential regional economic growth and the stability offered by Saudi Arabia's oil-backed financial system.

The calculated weights, all being positive and summing up to 100%, validate the model's ability to generate a diversified portfolio within the constraints of full capital allocation. Each currency's allocation in the portfolio has been optimized to provide a balance between the investor's requirement for risk minimization and the pursuit of returns in the context of USD currency exposure. These results reinforce the applicability of the optimization model in constructing a strategic currency portfolio with a focus on USD-based investments.

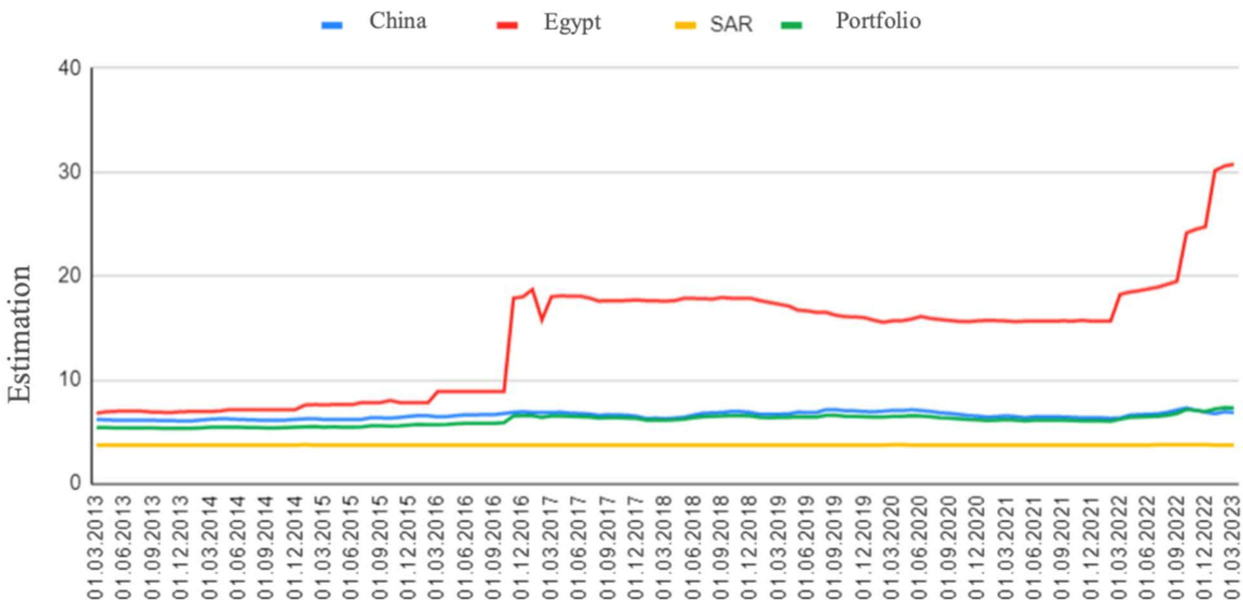

Figure 4. Final Graph for USD Portfolio

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CONCLUSION

The aim of this research was to explore the application of contemporary portfolio theories to the context of a diversified currency set from the 18 BRICS Plus countries, introducing a model of contracts based on a currency system independent of the euro and dollar. Throughout the course of the study, a portfolio construction procedure was developed for long-term investment purposes.

An optimization model for tracking was formulated, and portfolios were presented that exhibit efficient traits (TE), closely paralleling the characteristics of the Markowitz Portfolio (MV). Furthermore, the efficient portfolio (TE) is derived from an extension of the Markowitz portfolio (MV) through continuous adjustment of the portfolio weights. This adjustment is independent of the portfolio's target mean return but responds to changes in index indicators and asset return parameters. Consequently, at lower risk thresholds, the TE portfolios offer better diversification than the MV portfolios.

A comparative analysis of the standard deviations (σ) of different portfolios yielded two significant insights: firstly, given the same correlation coefficients between the returns of the portfolio's assets, different σ values are observed, indicating that changes in the asset mix of a portfolio also alter its risk profile. Secondly, for any given portfolio, a decrease in the correlation coefficient of the assets results in a reduced risk of the portfolio. From a practical perspective, the findings clearly demonstrate that in times of currency inflation, the value of the portfolio also increases.

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Literature

AZƏRBAYCAN ORDUSU 44 GÜNLÜK MÜHARİBƏDƏ TARİXİ QƏLƏBƏ ƏLDƏ ETDİ

AZERBAIJAN ARMY ACHIEVED A HISTORIC VICTORY IN THE 44-DAY WAR

Əsgərova Qənirə Əli qızı
Azərbaycan Dövlət Pedaqoji Universiteti nəzdində, Azərbaycan Dövlət Pedaqoji Kolleci, müəllim. ORCİD İD:0000-0003-4752-5587

The article talks about the Patriotic War that started in September 2020 and ended in November. The author talks about the heroism of the Azerbaijani army and people during the 44-Day War, the political and diplomatic activities of the President of the Republic of Azerbaijan, the Victorious Commander-in-Chief Ilham Aliyev. It is said that the military operations carried out by the Azerbaijani army in the war opened a new page in the world military history.

Keywords: *Azerbaijan, Karabakh, the Patriotic War, military operations, heroism*

Əsrlər boyu Azərbaycana qarşı ərazi iddiaları ilə çıxış edən ermənilər yaranmış tarixi şəraitdən istifadə edərək XX əsrin son onilliyində ölkəmizin dilbər guşələrindən olan Qarabağ və ətrafındakı yeddi rayonumuzu işğal etdi. Lakin Azərbaycan xalqı bu işğalla heç vaxt barışmadı. Hərbi-iqtisadi baxımdan gücünün zirvəsinə çatan Azərbaycan nəhayət 2020-ci ilin sentyabr-noyabr aylarında 44 gün ərzində apardığı misli görülməmiş hərbi əməliyyatlarla torpaqlarımızı azad etdi. Azərbaycan Ordusunun sentyabrın 27-də işğalçı Ermənistan silahlı qüvvələrinə qarşı başladığı əks-hücum əməliyyatında əldə etdiyi möhtəşəm qələbələr haqqında bundan sonra kitablar yazılacaq, filmlər çəkiləcək. Amma indidən tam əminliklə deyə bilərik ki, cəbhə uğurlarımızın ən başlıca səbəbi Prezident, Ali Baş Komandan İlham Əliyevin son 17 ildə həyata keçirdiyi güclü dövlət, güclü ordu strategiyası, milli birlik və döyüşçülərimizin ruh yüksəkliyi idi.

Silahlı Qüvvələrimizdən söz düşmüşkən, bir məqamı xüsusi vurğulamaq istərdik. Belə ki, Azərbaycan döyüşlərdə hərb tarixinə yenilik kimi düşən strategiyanın tətbiqi ilə ən müasir silahlardan istifadəyə xüsusi önəm verdi. Nəticədə həm sürətlə irəlilədi, işğal altındakı ərazilərimizi yağılardan təmizlədi, həm də düşmənin bütün hərbi texnikasını darmadağın etdi, canlı qüvvəsinə ciddi zərbə vurdu. Bununla da beynəlxalq təşkilatların 30 il ərzində edə bilmədiklərini Azərbaycan Ordusu Müzəffər Ali Baş Komandanın rəhbərliyi ilə qısa müddətdə gerçəkləşdirdi (1).

Ordumuz əks-həmlə əməliyyatları zamanı müasir texnoloji silahlarla düşmənin komanda-idarəetmə məntəqələrini, raket və artilleriya vasitələrini, döyüş texnikasını və təminatını sıradan çıxaraq onu faktiki olaraq iflic vəziyyətinə gətirdi. Müasir texnoloji silahlar Silahlı Qüvvələrimizin güc alətlərindən yalnız biri idi. Müharibənin taleyini müəyyənləşdirən başda Ali Baş Komandanımız olmaqla, döyüş meydanında əsl qəhrəmanlıq göstərən Azərbaycan əsgəri və onun cəsur komandirləri idi. Məhz onların səyi nəticəsində iflic vəziyyətə düşən Ermənistan ordusu arsenalında olan köhnə və istismar müddəti bitmiş silah sistemlərini də döyüşə cəlb etdi və nəticəsi rüsvayçı şəkildə uduzmaq oldu. Bununla da Silahlı Qüvvələrimiz “Ermənistan ordusunun nəğlubedilməzliyi” mifini darmadağın etdi. Beləliklə, Ali Baş Komandan İlham Əliyevin rəhbərliyi ilə sentyabrın 27-dən başlanan Vətən müharibəsi şanlı qələbə ilə sona çatdı, 44 gün davam edən hərbi əməliyyatlar çərçivəsində Azərbaycan Ordusu işğalçı Ermənistanın 30 il ərzində qurduğu silahlı qüvvələrini darmadağın edərək, böyük zəfərə imza atdı.

Ordumuzun sentyabrın 27-də Qarabağda başladığı uğurlu əks-həmlə əməliyyatları nəticəsində noyabrın 9-dək 5 şəhər, 4 qəsəbə və 286 kənd işğaldan azad edildi. Cəbrayıl şəhəri və rayonun 90 kəndi, Füzuli şəhəri və rayonun 53 kəndi, Zəngilan şəhəri, rayonun Mincivan, Ağbənd, Bartaz qəsəbələri və 52 kəndi, Xocavənd rayonunun Hadrut qəsəbəsi və 35 kəndi, Tərtər rayonunun 3 kəndi, Qubadlı şəhəri və rayonun 41 kəndi, Xocalı rayonunun 9 kəndi, Şuşa şəhəri, Laçın rayonunun 3 kəndi, həmçinin Ağdərə və Murovdağ istiqamətlərində bir neçə strateji yüksəklik, Zəngilanda isə Bartaz, Sığırt, Şükürataz yüksəkləri və daha 5 adsız yüksəklik yağılardan təmizləndi.

Azərbaycan Böyük Qələbənin ilk addım səslərini noyabrın 8-də Qarabağın ürəyi sayılan, incisi hesab olunan Şuşa şəhərinin işğaldan azad edildiyi ilk saatlarda eşitdi. Bəli, bu qədim yurd yerimizin xilası ilə tam qələbəmizə yol açıldı. Düşmənin ağ bayraq qaldırmaq və kapitulyasiya etməkdən başqa yolu qalmadı. Döyüşlərdə bütün dünya Azərbaycan xalqının əzmini, Azərbaycan Ordusunun döyüş qabiliyyətini aydın gördü. Vətənpərvər xalqımızın öz Prezidentini necə dəstəklədiyi, onun ətrafında sıx birləşdiyi bir daha təsdiqləndi. “Ali Baş Komandanın bircə əmrinə müntəzirik”,– deyən Azərbaycan əsgər və zabitləri öz sözlərinin sahibi olduqlarını döyüşdə sübuta yetirdilər.

Prezident İlham Əliyev xalqa müraciətlərinin birində deyib: “Düşmənin əlində Azərbaycan Silahlı Qüvvələrinə məxsus olan bir dənə də hərbi texnika yoxdur... Döyüşlərin obyektiv müşahidə mənzərəsi var və istənilən hərbi mütəxəssis görə bilər ki, bu gün Azərbaycan Ordusu döyüş meydanında qələbə əldə edibdir. Azərbaycan Ordusu öz üstünlüyünü göstərir, Azərbaycan əsgəri və zabiti yüksək mənəvi-psixoloji keyfiyyətlər göstərir, mənəvi ruh göstərir. Çünki biz öz torpağımızda vuruşuruq, öz torpaqlarımızı azad edirik. Ermənistanın əsgərləri işğalçılardır. Döyüş gedən torpaq onların torpağı deyil” (1).

Ona görə də döyüş əməliyyatlarında erməni əsgəri mövqelərini qoyub qaçır, Azərbaycan əsgəri isə öz torpağı uğrunda baş qoyur, canından keçirdi.

Azərbaycan cəbhədə əldə etdiyi bu qələbələrin əsasını son 17 il ərzində qoyub. Ordumuzun güc-qüdrətinə mühüm önəm verilib, ən müasir döyüş texnikasının alınması gerçəkləşdirilib. Əsgər və zabitlərimizin sosial şəraitinin yaxşılaşdırılması daim diqqət mərkəzində saxlanılıb. Azərbaycan Prezidenti çıxışlarının birində bu barədə danışarkən, deyib: “Ordu quruculuğu mənim fəaliyyətimdə həmişə birinci yerdədir. Hərbçilər də, Azərbaycan xalqı da bunu bilir. Həmişə demişəm ki, ordumuz üçün nə lazımdırsa, biz onu da edəcəyik. Biz güclü, iradəli ordu yaratmışıq. Bizim bütün silahlı birləşmələrimiz müasir standartlara cavab verir və döyüş tapşırığını şərəflə, vicdanla, cəsarətlə yerinə yetirir. Bu gün əks-hücum əməliyyatında bizim müxtəlif silahlı birləşmələrimiz iştirak edir və vahid komandanın rəhbərliyi altında əks-hücum əməliyyatı uğurla gedir. Bütün silahlı birləşmələr arasında koordinasiya tam şəkildə təmin edilib. Əminəm ki, bu əks-hücum əməliyyatının bundan sonra da uğurlu nəticələri olacaqdır” (3).

Beləliklə, döyüşdə uduzan, məğlub olan Ermənistanın öz müqavimətini dayandırmaqdan, Azərbaycanın şərtlərini qeyd-şərtsiz qəbul etməkdən başqa əlacı qalmadı. Azərbaycan, Rusiya prezidentlərinin və Ermənistanın baş nazirinin birgə imzaladıqları bəyanat da məhz düşmən ölkənin kapitulyasiyasının ifadəsi idi. Müharibədə ağır itkilər verərək, məğlubiyyətin qaçılmazlığını anlayan, dərk edən işğalçı respublikanın rəhbərliyi Prezident İlham Əliyevin münaqişənin ilk günlərindən bəyan etdiyi şərtlərlə razılaşmağa məcbur oldu.

Azərbaycan Ordusunun yüksək peşəkarlıqla apardığı işğaldan azadetmə əməliyyatı dünya üzrə müharibələrin aparılması doktrinasında ciddi dəyişikliklərə səbəb olacaq. Yüksək dağlıq şəraitdə həyata keçirilən Şuşanın ermənilərdən təmizlənməsi əməliyyatı da, şübhəsiz ki, Azərbaycanın hərb tarixinə şərəfli, parlaq səhifə kimi yazılacaq.

Son dərəcə yüksək dəqiqliklə hədəfi vuran və qarşısıalınmaz zərbə gücünə malik silahlarla, düşmənin ağır texnikasını və canlı qüvvəsini darmadağın edən pilotsuz uçuş aparatları ilə ordumuzun tamamilə modernləşdirilməsi Azərbaycanda ordu quruculuğu istiqamətində görülən ciddi tədbirlərin kiçik bir hissəsidir. Məhz elə buna görə də Azərbaycan Silahlı Qüvvələrinin hazırda dünyanın ən güclü 50 ordusundan biri olması da bunun bariz ifadəsidir.

Son bir neçə ilin statistikasına əsasən, ölkəmiz müasir silahlanmaya görə, Avropada 2-ci, dünyada 3-cü yerdə qərar tutub. Şübhəsiz ki, bütün bu uğurlar dövlətimizin başçısının həyata keçirdiyi məqsədyönlü ordu quruculuğu siyasəti sayəsində mümkün olub.

Əgər belə olmasaydı, hazırda Azərbaycan Ordusu torpaqlarımızı işğaldan azad etmək üçün BMT Təhlükəsizlik Şurasının kağız üzərində qalan 4 qətnaməsini təkbaşına reallaşdıra, hərb meydanında düşmənə qalib gələ, cəbhə xəttinin bütün istiqamətlərində əməliyyat şəraitinə tam nəzarət edə bilməzdi.

Azərbaycan Ordusunun yüksək peşəkarlığı, döyüş əzmi haqqında qardaş Türkiyənin xarici işlər naziri Mövlud Çavuşoğlu dövlətimizin başçısını qələbə münasibətilə təbrik edərkən, deyib: “Sizin qələbəniz, bizim qələbəmizdir, – bu böyük zəfər münasibətilə təbrik edirik. Ali Baş Komandan olaraq, Sizin rəhbərliyinizlə qəhrəman Azərbaycan Ordusu nə edə bildiyini dosta, düşmənə nümayiş etdirdi, eyni zamanda, türkün gücünü də göstərdi. Bu prosesdə Sizin rəhbərliyinizlə qardaş Azərbaycan həm döyüş meydanında, həm də masada mövcudluğunu da göstərdi. Döyüş meydanında qələbələrinizə baxmayaraq, sülh yolu ilə, atəşkəs yolu ilə də bu münaqişənin həlli üçün böyük bir liderlik göstərdiniz.

Hərbi ekspert, “Nasionalnaya oborona” jurnalının baş redaktoru İqor Korotçenkonun “Pravda.ru” nəşrinə ordumuzun güc-qüdrəti ilə bağlı açıqlaması da diqqət çəkir. İ.Korotçenko birinci Qarabağ müharibəsindən danışaraq xatırladıb ki, Heydər Əliyevin hakimiyyətə qayıdışından sonra Azərbaycanda ordu quruculuğu diqqət mərkəzində saxlanıldı, bununla bağlı mühüm tədbirlər həyata keçirildi. Prezident İlham Əliyev 17 illik hakimiyyəti dövründə isə iri infrastruktur neft-qaz layihələrini həyata keçirdi və bundan əldə edilən böyük həcmli valyuta gəlirləri hesabına bütün Azərbaycan, eləcə də ordu sürətlə inkişaf etdi və regionun ən güclü silahlı qüvvəsinə çevrildi.

Burada maraqlı bir məqamı da qeyd etməyi zəruri bilirik. Ermənistanın müdafiə naziri David Tonoyan ölkəsinin imzaladığı bəyanatı xəyanət kimi qiymətləndirənlərə cavab verərək deyib: “Biz çox böyük bir qüvvəyə – super silahlı Azərbaycan Ordusuna qarşı vuruşduq. Məndən “bəs siz niyə silahlanmadınız?”,– deyə soruşa bilərsiniz. Biz də silahlı idik, ancaq kəmiyyət və resurslar baxımından imkanlar qeyri-mütənasib idi”.

Bəli, necə deyərlər, əlavə şərhə ehtiyac yoxdur. Düşmən ölkənin müdafiə nazirinin dediyi kimi, Azərbaycan Ordusunun kəmiyyət və resurslar baxımından güclü, əsgər və zabitlərimizin isə yüksək peşəkarlığı, mübarizə əzmi işğalçının geri çəkilməsinə, döyüşdə təslim olmasına gətirib çıxardı.

Məqaləmizdə Azərbaycan ordusunun 44 günlük müharibə dövründə əldə etdiyi uğurlardan qısaca olaraq bəhs etdik. Bu mövzu olduqca maraqlı və əhatəlidir. Mövzu ilə bağlı müxtəlif istiqamətlərdə onlarla tədqiqat əsəri yazmaq da, şübhə yox ki, mümkündür.

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Geographic Sciences

ПРИМЕНЕНИЕ ПРОГРАММЫ MIKE-HYDRO ДЛЯ МОДЕЛИРОВАНИЯ НАВОДНЕНИЯ УЧАСТКА БАССЕЙНА РЕКИ ЖАБАЙ

Медеу Нәдира Нүсүпқызы
PhD докторант, Казахский Национальный Университет им. аль-Фараби, Республика Казахстан
Бейсенбаева Сания Жайнаковна
PhD докторант, Сатбаев Университет, Республика Казахстан

Ключевые слова: НАВОДНЕНИЕ, ПОЛОВОДЬЕ, ПАВОДОК, МАКСИМАЛЬНЫЙ СТОК, МОДЕЛИРОВАНИЕ, ПРЕДУПРЕЖДЕНИЕ, УЩЕРБ, РИСК.

Введение. В Республике Казахстан к территориям, подверженным наводнениям, относятся все ее регионы, в т.ч. не менее 75 сельских районов и 850 населенных пунктов с общим числом жителей свыше 3 млн чел. Катастрофические и опасные наводнения в том или ином речном бассейне с различными масштабами отмечаются почти ежегодно [2]. С повторяемостью 1 раз в 50-100 лет на отдельных, а иногда на многих реках Казахстана возникают разрушительные наводнения с подъемом уровня воды до 10 и более метров, расходами воды в несколько тысяч м^3/с и затоплениями местности в десятки и даже сотни км^2, сопровождающиеся гибелью людей и значительными экономическими и экологическими ущербами. Согласно «Базовому исследованию» МОМ РК (2016), основанному на данных КЧС МВД РК, в Казахстане, начиная с 1991 г. произошло около 600 крупных наводнений и паводков, при которых пострадали десятки тысяч человек, а общий ущерб составил более $1 млрд. Также дано заключение, что частота наводнений и паводков в республике будет возрастать в связи с глобальным и локальными изменениями климата.

По экспертной оценке МЧС РК наводнения в Профиле рисков бедствий Республики Казахстан занимают второе место по наносимому ущербу после землетрясений. Из всех регионов страны Акмолинская область наиболее часто оказывалась под воздействием опасных экстремальных гидрологических явлений, многие из них имели катастрофические последствия [1].

Жабай — река в Казахстане, правый приток Есиля. Длина реки — 196 км. Площадь водосборного бассейна — 8800 км². Река протекает по территории Сандыктауского и Атбасарского районов, имеет 14 притоков. Берёт начало на склоне горы Малиновой. Высота устья — 266 м над уровнем моря.

В бассейне реки Жабай основными причинами экстремально высоких поступлений воды в русловую сеть водосборов являются талые воды, образующиеся при интенсивном весеннем снеготаянии при глубоком слое промерзания почвогрунтов, или при прорывных паводках, возникающих при разрушениях плотин водохранилищ или размывах берегоукрепительных дамб.

Город Атбасар, расположенный на правом берегу реки Жабай, за последние несколько лет регулярно подвергается наводнениям. Были крупные наводнения в Атбасаре в 2009, 2014, 2017 годах.

Методы. Эмпирической базой исследования являются гидрологические ежегодники РГП «Казгидромет» [3] и данные KazEOSat-1. Для моделирования наводнения применялась демонстрационная версия профессиональной инженерной программы Mike Hydro River. Гидродинамический модуль Mike Hydro River основан на решении интегральных уравнений неразрывности и сохранения энергии (уравнений Сен-Венана). Mike Hydro River – это профессиональная инженерная программа для моделирования течения, качества воды и переноса частиц в реках, эстуариях, водохранилищах, ирригационных системах, каналах и других водных объектов.

Применение MIKE HYDRO RIVER: прогноз затоплений, моделирование прорыва плотин и иных ГТС, разработка противопаводковых мероприятий, эксплуатация ирригационных систем и систем поверхностного дренажа; проектирование речных систем и каналов, моделирование приливных и штормовых волн в реках и эстуариях, управление ГТС, экологическое и прогнозное моделирование [4].

Бассейн реки Жабай

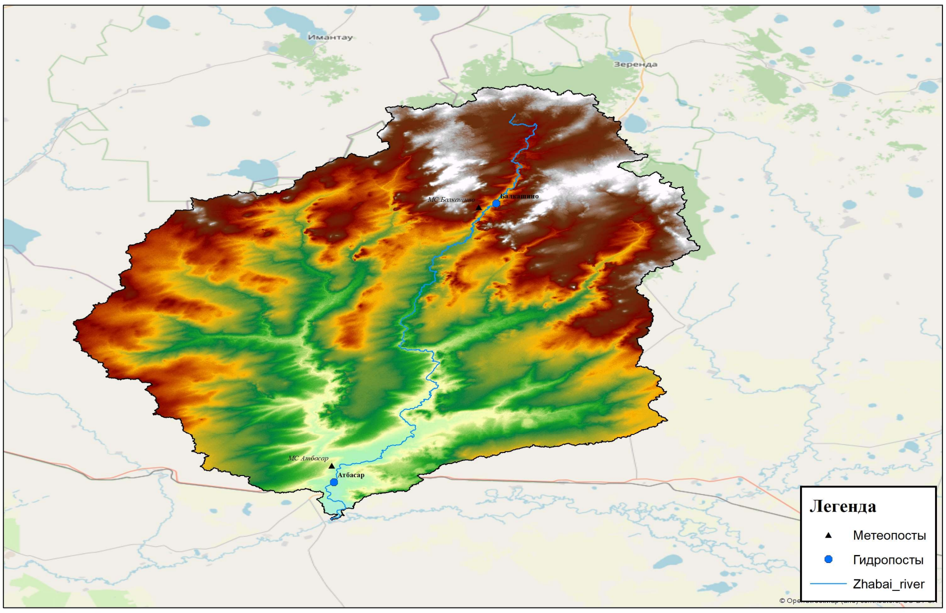

Рисунок 1. Цифровая модель рельефа бассейна реки Жабай, созданная по данным KazEOSat-1.

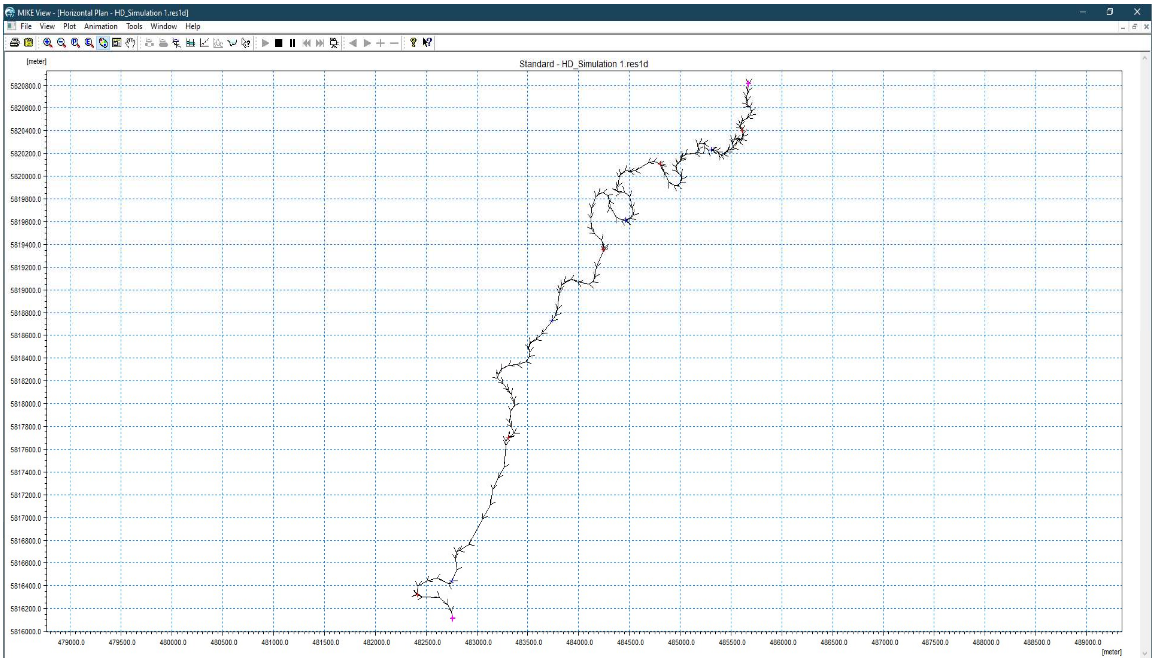

Рисунок 2. Река Жабай – с. Балкашино. Период моделирования с 01.04.20-30.04.20. По оси ОХ –уровень в высотных отметках, по оси ОУ – уровни по ширине русла.

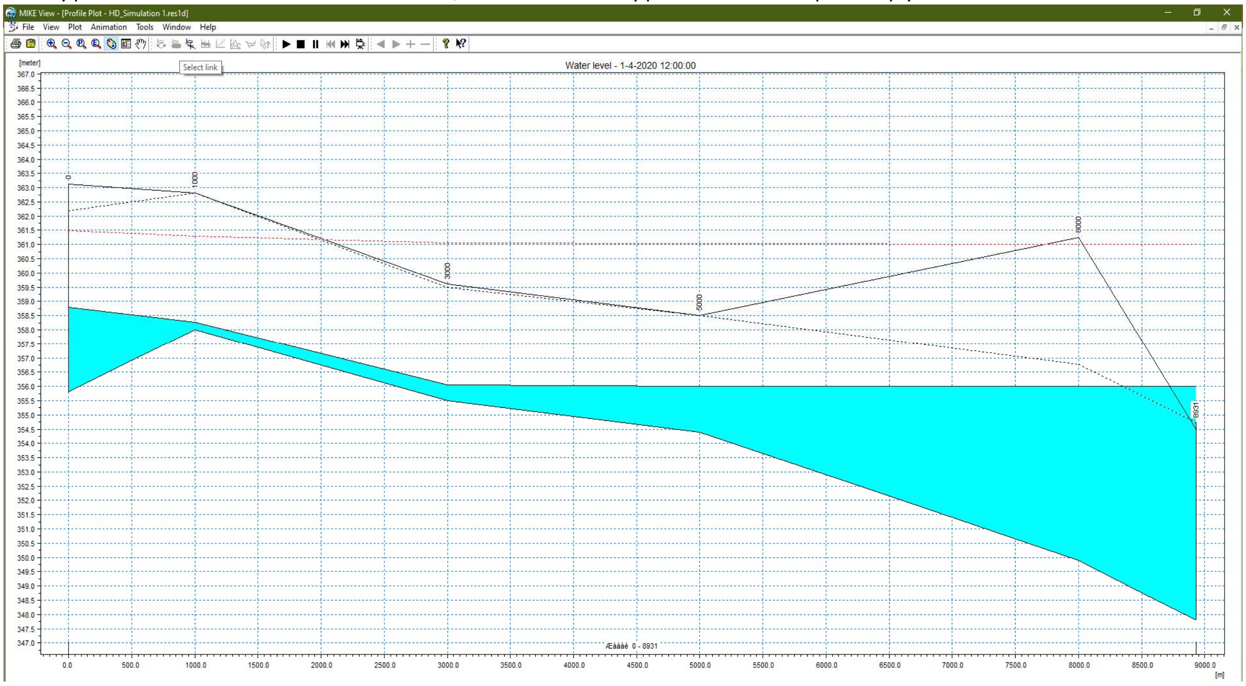

Рисунок 3. Продольный профиль реки Жабай- с. Балкашино. Максимальный уровень воды (красный пунктир), зеленый пунктир – минимальный уровень.

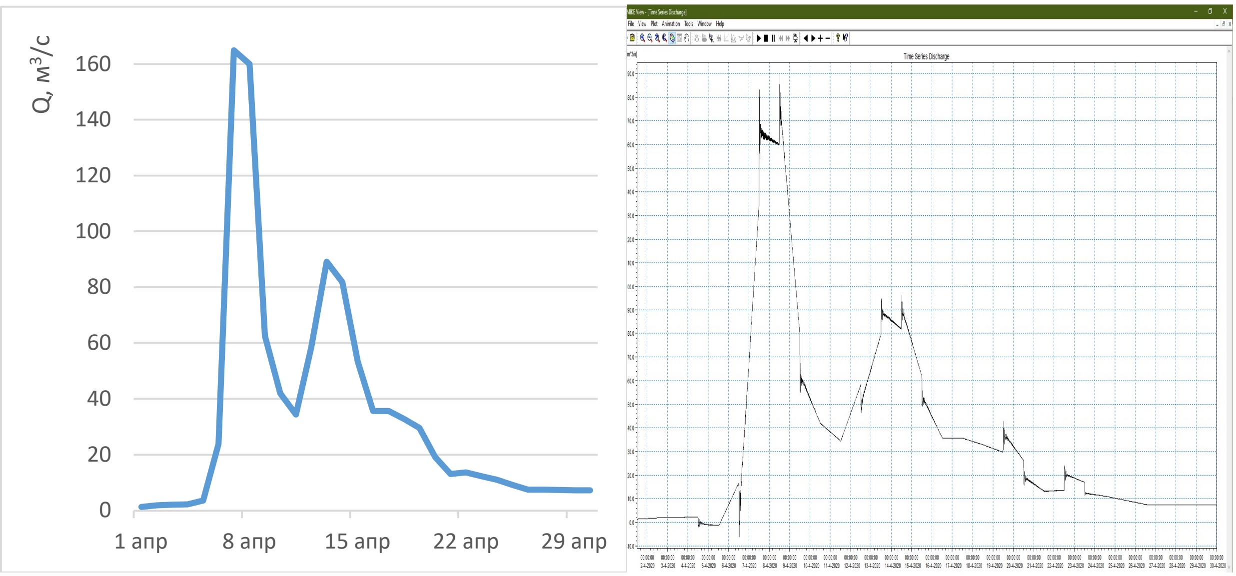

Рисунок 4. Графики расходов воды реки Жабай – с. Балкашино (слева – фактические данные, справа – смодулированные).

Таблица 1. Точность фактических и смодулированных расчетов р.Жабай -с. Балкашино (апрель 2020 г.).

Характеристика половодья р. Жабай –с. Балкашино (апрель 2020 г.)	Фактические значения	Смодулированные значения	Точность, %
V стока	89467200 м^3	88350278 м^3	99
Q_{max}	165 м^3/с	205 м^3/с	124
H_{max}	361 м	361 м	100

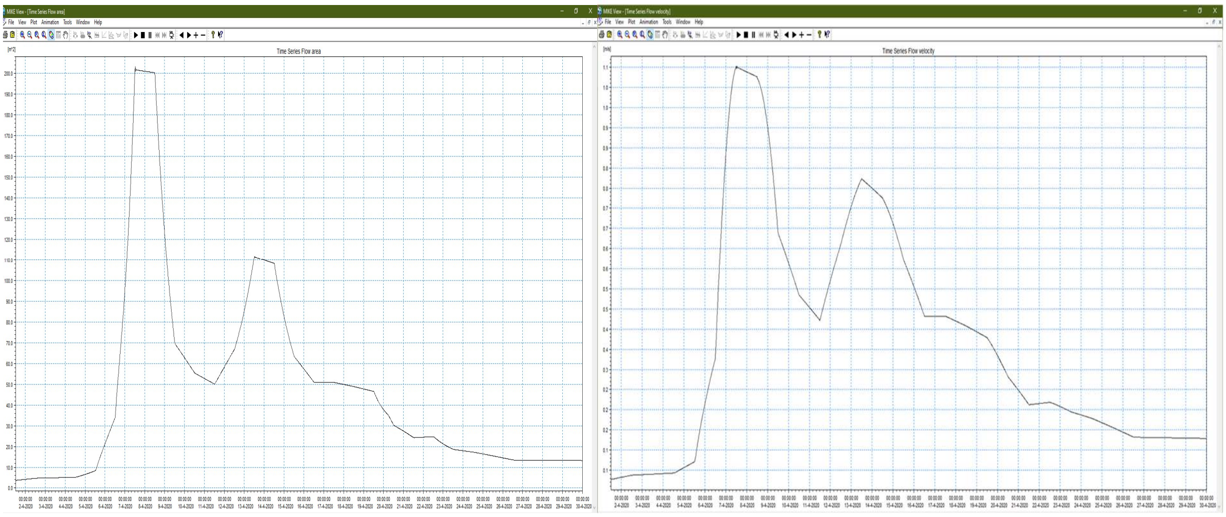

Рисунок 5. Графики площади (слева) и скорости потока (справа) р. Жабай – с. Балкашино

Результаты. Модель реки Жабай была упрощена до размеров, позволяющих работать в демонстрационной версии программы. На участке реки проведена оцифровка от верхнего к нижнему течению - 8931 м. Ограничение в демонстрационной версии программы Mike Hydro River на количество точек трассы реки – 50. Также, по участку реки равномерно были построены 6 поперечных сечений.

В результате работы был смоделирован участок реки Жабай – с. Балкашино за период 01.04.20-30.04.20. Были построены графики хода уровней и расходов воды, графики площади, скорости потока за указанный период, продольный профиль реки и цифровая модель рельефа бассейна реки Жабай.

В таблице 1 показаны результаты точности фактических и смодулированных гидрологических характеристик половодья на реке Жабай – с. Балкашино.

Результаты моделирования необходимы для анализа прошедших паводков и оценки ситуации возможных паводков, и своевременное реагирование и предупреждение.

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Geospatial problems of the development of the transport infrastructure of the city of Ternopil

Rudakevych Ivan Romanovych
Ph.D. in Geography, Associate Professor of the Department of Geography of Ukraine and Tourism, Ternopil Volodymyr Hnatiuk National Pedagogical University

Summary

The article describes the current problems of the development of transport infrastructure in the city of Ternopil, which is located in the west of Ukraine. The city is located at the crossroads of international highways and transport corridors, which improves its transport and logistics position. Ternopil is also a railway hub, has a developed city bus and electric transport. The city has significant potential for the development of logistics and transit transport

Keywords: road, city, Ternopil, transport, transport infrastructure.

The city of Ternopil is located in the western part of Ukraine, about 200 km from the borders with the EU countries. The distance to the nearest border checkpoints is 200 km (border with Poland, Krakowec), 220 km (border with Romania, Porubne). Ternopil is located in the center of Western Ukraine, 120-180 km away from neighboring administrative centers. The distance to Kyiv, the capital of Ukraine, is about 500 kilometers. The area of the city is 60 km², the population of the city is 220 thousand inhabitants. Ternopil is the administrative center of the region of the same name in Ukraine.

With the beginning of the war, Ternopil became an important transit hub on the way from Central and Eastern Ukraine to EU countries. Due to the closed airports and ports, almost all freight flows in Ukraine are carried out by roads and railways. Important international road and railway routes pass through the city of Ternopil. International roads (Ukrainian classification) M-09 (Rava-Ruska – Ternopil), M-19 (Brest – Lutsk – Chernivtsi), M-30 (Stryj – Dnipro – Izvaryne) pass through the territory of the city. In fact, these roads lead from the city of Ternopil to the borders of Ukraine with EU countries. The city is also approached by two regional roads of local importance, forming a hub of road transport routes.

The trunk railway Kyiv - Zhmerynka - Lviv passes through Ternopil, which is part of the pan-European transport corridor (railway branch) No. 3. Tracks also go from the city of Ternopil to other railway nodes - Shepetivka, Khodoriv, Kolomyia, Chernivtsi. Accordingly, Ternopil is also an important railway hub in Western Ukraine.

Two pan-European transport corridors No. 3 (Berlin – Lviv – Kyiv) and No. 5 (Trieste – Budapest – Lviv) pass near the city of Ternopil. The distance to these corridors by road is 80-120 km. The Caucasus-Europe and TRACECA (Central Europe-Caucasus Transport Corridor) also pass through the city.

The basis of the transport system of the city of Ternopil is the network of city streets and roads. The city is a junction of important international roads M-09, M-19 and M-30 (according to Ukrainian numbering). Roads M-19 and M-30 pass through the city on the southern ring of the existing ring road. This leads to significant problems in the redistribution of traffic flows, since transit transport is actually superimposed on internal city traffic. For example, city bus and trolley lines often pass through heavy vehicle lanes, creating traffic delays and more frequent traffic jams.

The total length of city streets and roads in the city of Ternopil is 209 km. In general, the street and road network of the city has a radial-ring shape. However, significant traffic flows pass through transit highways, as well as through urban highways in the directions North - South, West - East. Most of the city's passenger transport goes along these main streets, which causes traffic to slow down and cause traffic jams. More than 70% of the city streets have an asphalt surface. Several city streets, mainly in the city center, are still paved with natural stone. There are more than ten cobbled streets on the outskirts of the city. However, all public streets and roads in the city are paved. There are 16 bridges and overpasses on city roads, of which 9 are over highways and railways.

According to approximate estimates, there are about 50,000 cars in Ternopil. A significant problem is the insufficient number of parking lots and parking spaces in the city. Many car owners park their cars on the side of the roads, in the right lanes of the streets, which significantly reduces their traffic capacity.

There are 34 bus routes in Ternopil. About 170 buses ply the streets of the city every day. In recent years, the number of large and medium-sized buses with a low floor level has been increasing, which improves passenger transportation. The route bus network runs mainly along main streets. Most city bus routes pass near the central market, bus station and railway station, which causes frequent traffic delays and traffic jams.

A trolleybus network has been operating in Ternopil since 1975. As of today, there are 9 trolleybus routes in the city, on which about 50 trolleybuses depart daily. Over the past 12 years, the trolleybus network in the city has increased by 16 kilometers, although the number of rolling stock has not changed significantly. Many lines have long intervals in traffic. The rolling stock is quite outdated, as the average age of a trolleybus in Ternopil is more than 20 years. Electric transport (trolley buses, electric buses) have good chances for development in the future due to the developed network, infrastructure, environmental friendliness, energy efficiency and high carrying capacity.

Ternopil is a railway hub, so the railway is also a traditional form of transport for the city. The main hub for passenger transportation is the railway station, and for cargo - the Ternopil freight station. From the auxiliary infrastructure, there is a division for track maintenance, a power supply department, a locomotive (thermal locomotive) and wagon depot, and wagon repair workshops. 27 pairs of passenger and high-speed trains and 10 pairs of suburban trains pass through the Ternopil station every day. The railway station has an average daily capacity of 17,000 passengers. An average of 65,000 tons of cargo passes through the Ternopil freight station [2].

Ternopil International Airport is located 3 kilometers east of the city. Due to various circumstances, since 2011, this airport does not function regularly. The airport can accommodate aircraft of most classes, except for heavy ones, for both passenger and cargo transportation.

River transport also operates on the main reservoir of the city - Ternopil Pond. There are 3 boats operating here, which are used mainly for recreational purposes, but also for passenger transportation.

Ternopil has significant transit potential, as the city is located at the intersection of international highways and important railways. However, the logistics potential of the city is not fully used. Over the past 10-15 years, several automobile cargo terminals have been built in the city and in its surroundings. For example, logistics terminals of the companies Eridon (agrochemicals), Nova Poshta (postal and forwarding services), Western Container Terminal. Several terminals for storage and transshipment of agricultural products, mainly grain, also operate near the city. The largest such elevators operate near the Ternopil railway station and in the industrial zone of the suburban village of Ostriv.

One of the important factors that slows down the development of logistics in the city and its surroundings is the small supply of land plots suitable for such needs. The reasons for this are the significant density of construction and settlement of suburban areas, fragmentation of the local terrain, relatively high prices for land plots and their rent.

As a result of the increase in the income of the population and the decrease in the price of imported cars, the number of cars in the city has increased significantly. Moreover, the capacity of the street and road network has mostly not changed in recent years. The consequences of this were long traffic jams, accelerated destruction of road infrastructure, deterioration of traffic safety and other negative phenomena. A similar situation has also been observed in the city of Ternopil in recent years, where these negative trends are exacerbated by the radial layout of the street network, which contributes to traffic congestion in its central part. In 2013, 2015, 2017, students of the Ternopil National Pedagogical University conducted studies of the city's traffic flows, the results of which are displayed on maps. In general, these maps show a high intensity of traffic on the bypass road and main streets leading to the city limits [3].

The highways that pass through the city are also busy. Motorways M-09, M-19, M-30 are already reaching their capacity limit (10,000 cars per day on two lanes). Within the city limits, all international highways have been expanded to 4 lanes, but intra-city transport is already imposed. The solution to this situation is the construction of a bypass road away from the city, as well as expansion (increase of traffic lanes) on international highways.

The project of such a road was approved back in 2018. The construction of the road was planned in four stages. The first stage of construction of the bypass road was supposed to begin in 2022, but all plans were changed by the Russian-Ukrainian war. The necessary expenses were to be financed by the European Investment Bank. The probable results of the implementation of such a project would be doubling the capacity of the bypass road, speeding up the movement of cars.

In the first days of the Russian invasion in February 2022, all highways in the East-West direction (M-09, M-30, R-43) were loaded with cars of refugees from areas where active hostilities were ongoing. It also had a negative impact on the movement in the opposite direction - from EU countries, where military and humanitarian aid was sent. After the destruction of Ukraine's oil refining facilities, significant flows of automobile transportation of oil products began to pass through the main roads of Western Ukraine. Due to the closure of the Black Sea ports, trucks with agricultural export products began to go through Ternopil in the direction of EU countries.

The number of trucks, especially with dangerous goods (oil products, chemicals, military equipment), has increased significantly on the transit roads of the city. This often causes traffic to slow down and create traffic jams, especially on the southern part of the ring road, which actually goes through the city. Since the beginning of the war, the transport and energy infrastructure of the city has suffered only one missile attack with minor damage to the objects. On the other hand, neighboring large cities suffered more blows, and important infrastructure facilities were significantly damaged.

Most of the world's countries are introducing and spreading environmentally friendly technologies in transport. In Ternopil, the trolleybus has been operating as an ecological form of urban electric transport for almost 50 years. In 2022, the length of the city's trolleybus network was 86 km. In fact, trolleybus lines have been laid to most areas of the city. However, there is an insufficient number of rolling stock for such a developed electric transport system. At present, the city serves 50 serviceable trolleybuses, which is not enough for the proper intervals of traffic on the routes. It is necessary to update most of the outdated trolleybuses, as well as purchase new ones. For this, the city participates in competitive projects of the European Investment Bank, EBRD and other organizations.

More than 1,100 electric cars are registered in the Ternopil region, although there are more than 48,000 of them in all of Ukraine. The number of electric cars has been actively growing in the last 5-6 years due to low customs payments and cheap electricity. ELEEK, a manufacturer of electric bicycles and mopeds, is successfully operating in Ternopil, so the number of their electric vehicles is also increasing. So far, the problem is the insufficient development of the infrastructure of small electric transport. There is a lack of charging stations and special parking lots for electric cars and other electric vehicles. Such problems must be solved as soon as possible, because the number of electric vehicles is actively increasing.

Another way to improve the transit potential of the city of Ternopil is to increase the carrying capacity and electrification of railways. This especially applies to the sections Ternopil - Khodoriv and Ternopil - Shepetivka, which are backups for the strategic line Lviv - Zhmerynka - Kyiv.

A significant problem for the development of the transit potential of the city and its investment attractiveness is the lack of an operational airport. In Ternopil, the local airport has not been operating for more than 10 years. The airport has the necessary infrastructure for its operation and development: a runway for small and medium-sized aircraft, a spacious terminal, warehouses and hangars, convenient access to the international highway. However, due to low passenger and cargo flows, significant competition in the air transportation market, and partial inaction of the local authorities, the relatively new resort is not working.

In general, the city of Ternopil has a developed transit transport infrastructure. Three international highways and two international transport corridors pass through the territory of the city. In Ternopil, a developed street and road network and a system of urban passenger transport were formed. The city is also a hub of railways, served by five directions. Communal (trolley bus) and private (electric cars, electric bicycles) electric transport is developing in Ternopil. There is an airport on the outskirts of the city, which mostly does not work due to economic and administrative problems. Ternopil has good prerequisites for the development of logistics terminals, but so far there are not many of them operating here.

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Medical Sciences

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REGIONAL EPIDEMIOLOGICAL FEATURES, METHODS AND RESULTS OF SCREENING FOR EARLY DETECTION OF COLORECTAL CANCER IN THE REPUBLIC OF KAZAKHSTAN

Arman Khozhayev
Professor of the Department of Oncology named after S.N. Nugmanov, Asfendiyarov Kazakh National Medical University, Almaty, Republic of Kazakhstan
Ayaulym Kenzhebayeva
Intern General Practitioner, Asfendiyarov Kazakh National Medical University, Almaty, Republic of Kazakhstan
Ilminur Razieva
Intern General Practitioner, Asfendiyarov Kazakh National Medical University, Almaty, Republic of Kazakhstan
Tamilla Pelenichenko
Intern General Practitioner, Asfendiyarov Kazakh National Medical University, Almaty, Republic of Kazakhstan
Sultan Zhandossov
Intern General Practitioner, Asfendiyarov Kazakh National Medical University, Almaty, Republic of Kazakhstan
Bernar Zhali
Intern General Practitioner, Asfendiyarov Kazakh National Medical University, Almaty, Republic of Kazakhstan
Zamira Ibragimova
Intern General Practitioner, Asfendiyarov Kazakh National Medical University, Almaty, Republic of Kazakhstan
Abylkhair Sattarov
Intern General Practitioner, Asfendiyarov Kazakh National Medical University, Almaty, Republic of Kazakhstan

Annotation: This scientific and analytical work presents regional rates of morbidity and mortality from colorectal cancer, as well as a detailed methodology and results of screening for this pathology in our country. Clinical and organizational aspects of early diagnosis based on the method of active detection of this type of cancer in clinically asymptomatic patients are presented.

The technology of two-stage screening and the subsequent routing of examined patients depending on the results of this type of preventive examination of the population are described in detail.

Key words: colorectal cancer, epidemiology, morbidity, mortality, screening, hemocult test, fecal occult blood test - FOBT, total colonoscopy.

History knows many examples when the originally formulated postulates in a particular area continue to be relevant to this day. These postulates, which follow from one of the main tasks of the oncological service, include the early diagnosis of malignant tumors. Colorectal cancer (CRC) occupies one of the leading positions in terms of morbidity and mortality, and early symptoms are very poor, which leads to a high neglect of this disease at the time of diagnosis. In this regard, two-stage colorectal screening is one of the most important areas to improve the early diagnosis of this cancer localization. At the same time, the main conditions for screening are the availability of trained personnel and a standard approach to identifying the trait under study and evaluating the results. The applied methods should be quite simple, reliable and reproducible [1,2].

Colon cancer with a share of 5.2% (2020 - 5.5%) in the structure of oncopathology of both sexes of the population and women (4.9%) remained in 6th place in 2021, in men it fell from 5th to 6th place (5.5%). The incidence rate per 100 thousand of the population with cancer of this localization in the country in 2021 increased from 8.7 to 8.8 [3].

Above the average republican level, the incidence of colon cancer was noted in 11 regions: Kostanay - 15.9, Pavlodar - 15.3, Karaganda - 15.0, East Kazakhstan - 13.4, North Kazakhstan - 12.7, Akmola - 10, 2, West Kazakhstan - 10.1, Aktobe - 9.0 regions and years. Almaty - 12.1 and Nur-Sultan - 9.0. Least of all, colon cancer was noted in Turkestan - 2.7 per 100 thousand population, Kyzylorda - 4.6, Almaty - 4.7, Mangystau - 4.9, Zhambyl - 5.8 regions and Shymkent - 4.0.

Rectal cancer in the structure of malignant tumors of both sexes retains the 7th place in terms of rank with a specific gravity of 4.9% (2020 - 5.0%), but in men it has risen from 6th to 4th place, in women it is stable at 9th place. The incidence rate increased from 7.8 to 8.4 per 100,000 population. At the same time, a high incidence rate was registered in Pavlodar - 18.1 per 100 thousand population, Kostanay - 16.2, North Kazakhstan - 15.1, East Kazakhstan - 13.9, Akmola - 13.1, Karaganda - 11, 7, West Kazakhstan - 9.8 regions. Traditionally, a low incidence of rectal cancer is observed in Turkestan - 2.7, Mangystau - 2.8, Zhambyl - 5.1, Kyzylorda - 5.3, Almaty - 5.6, Atyrau - 6.3 regions and Shymkent - 5.0 per 100 thousand population [3].

Colon cancer in the structure of causes of death from malignant neoplasms of the population of both sexes in 2021 dropped from 5th place to 6th, with a share of 5.0% (2020 - 5.4%). At the same time, the mortality rate in the country decreased from 4.1 to 3.6 per 100,000 population. Above the national average, mortality rates were noted in 9 regions: Zhambyl - 3.7, Akmola - 3.8, West Kazakhstan - 4.4, North Kazakhstan - 5.0, East Kazakhstan - 5.1, Karaganda - 5 .6, Kostanay - 5.6, Pavlodar - 6.0 - the maximum result, regions and Almaty - 5.3 per 100 thousand population. Low rates of mortality from colon cancer were found in Turkestan - 1.7 (the best result), Almaty - 1.8, Atyrau - 1.8, Aktobe - 2.5, Mangistau - 2.6, Kyzylorda - 2.7 regions and gg. Shymkent - 2.4 and Nur-Sultan - 2.7 per 100 thousand population.

Rectal cancer in the structure of causes of death in the population of both sexes in 2021 rose from 6th to 5th place with a share of 5.4% (2020 - 5.22%). In general, the death rate from this form of cancer in the republic was 3.9 per 100,000 people. A high mortality rate was recorded in East Kazakhstan - 8.6 (maximum level), Pavlodar - 7.6, Akmola - 5.3, Karaganda - 5.2, Kostanay - 4.9, North Kazakhstan - 4.3 regions and Almaty city - 4.3 per 100 thousand population. Below the average republican level, mortality rates from this pathology were ascertained per 100 thousand of the population in Mangistau - 1.2 (the lowest indicator), Turkestan - 1.6, Kyzylorda - 2.1, Almaty - 2.6, Zhambyl - 2.7, Atyrau - 3.4 regions and Shymkent - 2.1 [3].

Screening of CRC screening is the systematic use of screening studies in an asymptomatic population. The purpose of screening is to identify people with abnormalities suggestive of CRC. These persons in the future need additional examination to clarify the diagnosis. Opportunistic screening is the non-systematic use of screening tests in routine medical practice. A screening program is much more challenging than an early detection program. At the same time, the success of the screening program is largely determined by the awareness of the population and medical workers about the possibilities of early diagnosis of CRC. The feasibility of a screening program is determined by several factors that relate to the disease being screened, the screening test, the characteristics of the population, and the characteristics of the healthcare system.

The first factor is that the disease must be well understood, common enough in the target population to justify screening, have a recognizable early stage; treatment of the disease at an early stage should be more effective than at a later stage.

The second is that the test should be characterized by sufficient sensitivity, i.e. the ability to detect cancer among people with the disease; sufficient specificity - the probability that among people who do not have a disease, the test result will be negative; have a high positive predictive value (positive predictive value) or, in other words, the likelihood that people with a positive test result have the disease; have a high predictive value of a negative result (negative predictive value), i.e. the likelihood that people with a negative test result do not have the disease; security; low cost; and acceptability - the likelihood that people for whom this test is intended will agree to the examination (which to some extent depends on the awareness of the population about the possibilities and importance of early diagnosis).

The third factor is that the healthcare system should be ready for maximum screening test coverage of the target group, have the resources to confirm the diagnosis, appropriate treatment and follow-up of people with positive test results, and regularly conduct screening tests at regular intervals. At the same time, the benefits of screening must outweigh the potential physical and psychological harm and justify the financial costs of its implementation [4].

The factors most significant for the development of CRC are:

- the presence of chronic inflammatory bowel diseases, adenomatous polyps, cancer of other localization, etc.;

- family history (presence of one or two first-degree relatives with CRC or familial diffuse intestinal polyposis);

- the age of men and women over 50 years old, taking into account the fact that more than 90% of patients with colorectal cancer are people of this age (medium risk).

Age, regardless of gender, is an important risk factor for CRC. After the age of 50, the incidence of CRC increases from 8 to 160 per 100,000 population. Thus, people who have reached the age of 50, even in the absence of symptoms, constitute a moderate risk group for CRC.

The second category of increased risk of CRC (20%) is made up of persons with a genetic and family predisposition, suffering from chronic inflammatory bowel diseases, diffuse familial polyposis.

The high-risk CRC group is determined by the so-called Amsterdam criteria (the presence of malignant tumors in two generations, the presence of cancer in a first-line relative under the age of 50 years), in this case, CRC screening should be carried out after the age of 30 years [5].

The degree of individual risk of developing CRC is determined before screening to select the scope of studies and the frequency of their conduct.

The interval for oncological colorectal screening is 1 time in 2 years, target group: men and women aged 50-70 years, with the exception of persons registered at the dispensary for CRC and colon polyposis. At the same time, when forming the target group, one should take into account the absence of severe concomitant diseases, such as the presence of a common malignant neoplasm, cerebrovascular diseases in the stage of decompensation, chronic obstructive pulmonary disease with respiratory failure, cirrhosis of the liver, myocardial infarction with congestive heart failure, diabetes mellitus with vascular complications. and others, which are highly likely to lead to death in the next 10 years.

The first step in screening for CRC is the fecal occult blood test (FOBT). Traditionally, such methods include a benzidine test for occult blood in the feces. This is a biochemical method based on the assessment of pseudoperoxidase activity of hemoglobin. There is ample evidence that invitation to guaiac FOBT screening (gFOBT) reduces CRC mortality by approximately 15% in age-matched average-risk populations.

To ensure the effectiveness of screening with gFOBT, the interval for screening under the national screening program should not exceed two years. To date, there is an immunochemical FOBT method - iFOBT, which is superior in efficiency to gFOBT in terms of the probability of detecting adenoma and cancer. iFOBT has improved analysis performance compared to gFOBT.

Immunochemical (immunochromatographic) examination of feces for occult blood - iFOBT or hemocult test is carried out for all men and women of the target group using an express method, which allows you to get a result within 3-5 minutes, without the participation of a medical worker. However, the evaluation of the test is carried out only by a medical worker in the PHC preventive department.

With a positive analysis of feces for occult blood, the second stage of colorectal screening is performed, which consists in endoscopic examination of the colon - total colonoscopy [6]. At the same time, in this case, this medical manipulation is of a therapeutic and diagnostic nature, since it allows one-stage removal of adenomatous polyps, which, according to various authors, occur in every third subject after 50 years of age. At the same time, women have 20% fewer polyps than men, but they have more right-sided lesions, which are more difficult to detect using fecal blood tests, because they are less traumatic [6,7].

Now, regarding the results of CRC screening. In 2021, despite the difficult epidemiological situation in the country, 920,640 men and women of the target group from 50 to 70 years old were examined during colorectal screening (971,450 in 2020) [3].

According to the results of colorectal screening, 211 cases of colon and rectal cancer were detected in 2021, which is 24 cases more than in the previous year - 187 cases. The detection rate increased from 0.19 to 0.23 per 1000 examined patients.

The low detection rate of CRC was noted mainly in regions with a low level of basic incidence - in Turkestan, Zhambyl, Atyrau, Kyzylorda, Mangystau regions, Shymkent - from 0.01 to 0.20 per 1000 examined, as well as in West Kazakhstan, Akmola regions, Nur-Sultan - regions with an average and high incidence of CRC.

Compared to 2020, screening showed a decrease in the detection rate of CRC in the Mangistau region (from 1.04 to 0.20), Almaty (from 0.36 to 0.26), and Akmola (from 0.26 to 0.13), Karaganda (from 0.29 to 0.22) and Turkestan (from 0.06 to 0.01 per 1000 examined).

Colon precancer (adenoma detection rate) was detected in 22.8% of patients who underwent colonoscopy (2020 - 19%). Below the national average, the detection rate of colorectal precancer was noted in Akmola, Aktobe, Almaty, Atyrau, Zhambyl, Kyzylorda and Mangystau regions.

It should be noted that the indicator of detection of precancer of the colon for 2021, according to the Comprehensive Plan for the Control of Cancer, was 21.0% and was achieved. At the same time, in 2021, the proportion of patients with CRC identified during screening studies with early stages (0-I, II stages) was 89.1% (in 2020 - 89.3%).

The proportion of stage 0-I CRC was 27.5% (2020 - 33.7%); Stage II - 61.6% and 55.6% - respectively. High early detection of CRC (above 30%) was noted in the following regions: Akmola, Zhambyl, Kostanay, North Kazakhstan, Turkestan, East Kazakhstan regions, the cities of Almaty and Shymkent. Cases of cancer in stages III-IV detected during screening were registered in Almaty, West Kazakhstan, Karaganda, Kostanay, Pavlodar, East Kazakhstan regions, Almaty city. A total of 18 cases of CRC in stage III and 5 cases in stage IV were identified [3].

Summarizing the above, it can be stated that satisfactory results of colorectal screening can only be achieved with its proper organization, high quality of conduct, active participation in population screening, the use of highly sensitive tests and instrumental methods of preventive examination, accurate subsequent diagnosis of detected tumors and timely treatment. High-quality colorectal screening leads to early diagnosis of colon neoplasms, both benign in the form of polyps, and CRC in the early stages, which, in turn, improves the effectiveness of treatment and improves the prognosis of the disease. Target groups surveyed, who for one reason or another do not participate in this screening, should be informed that there are no other screening methods that could also effectively reduce mortality from CRC.

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CONCEPT OF QUALITY OF LIFE IN PALLIATIVE ONCOLOGY

Arman Khozhayev
Professor, Doctor of Medical Sciences, Oncologist, Almaty, Kazakhstan
Aigul Nametkulova
Head of the District Service Department, City Clinical Hospital №7, Almaty, Kazakhstan
Guldana Sadir
General practice physician, Policlinic of participants of Great Patriotic War, Almaty, Kazakhstan
Asiya Piraliyeva
General practice physician, City Clinical Hospital №7, Almaty, Kazakhstan
Gulmira Makhmudova
Oncologist-mammologist, City polyclinic №5, Uralsk, Kazakhstan

Annotation: This work highlights modern approaches to the study of quality of life in palliative oncology. The basic principles for assessing clinical symptoms in cancer patients with advanced forms of malignant tumors and their impact on the quality of life of these patients are presented. Aspects of studying quality of life in clinical research and clinical practice are described. It has been shown that the method of assessing the quality of life, being a simple and reliable way to determine the impact of the disease on the patient’s condition, can increase the effectiveness of palliative treatment.

Key words: palliative oncology, quality of life, questionnaire.

Palliative medicine is a system of comprehensive care for incurable patients, the main goal of which is to achieve the best quality of life for patients, control pain and other symptoms that aggravate their condition, as well as solve psychological and social problems. Dynamic monitoring of quality of life allows for full monitoring of the condition of an oncology patient and adequate correction of symptomatic and supportive therapy programs [1,2].

Today, the problem of high morbidity and mortality from cancer is a worldwide problem. At the same time, it is known that the main burden of therapeutic and moral responsibility for patients with advanced forms of malignant neoplasms, who make up clinical group IV and for whom only supportive (palliative) treatment is carried out primarily at diagnosis or in the process of treatment as the disease progresses, lies with district oncologists, general practitioners, general practitioners at local clinics and doctors at palliative care centers (hospice). At the same time, it is often difficult to adequately assess the patient’s true condition, which is associated with many objective and subjective factors (such as, for example, individual pain threshold, etc.).

The characteristics and degree of influence of various symptoms on the quality of life in modern palliative care practice are based on the patient’s perception and are carried out using special tools. The main requirements for questionnaires used in palliative medicine are fully applicable to questionnaires for assessing symptoms. At the same time, accurate assessment and measurement of symptom intensity in clinical trials allows us to study the mechanisms of symptom formation and compare the effectiveness of treatment methods. Assessment of quality of life is widely used in clinical practice, because here, as in clinical studies, an accurate and adequate assessment of the patient’s condition, his response to treatment, palliative care programs and symptomatic therapy is necessary. In clinical practice, this method makes it possible to monitor the dynamics of symptoms, investigate the cause and mechanisms of their occurrence, develop an adequate treatment plan, and also determine the effectiveness of the treatment measures taken. Symptom assessment tools include both questionnaires for assessing individual and main symptoms, and single scales (verbal rating scales, visual analogue and digital rating scales). The most commonly used symptom assessment questionnaire in palliative care is the Edmonton Symptom Assessment System - ESAS, which allows assessing the manifestation of 9 leading symptoms found in cancer patients: fatigue, pain, nausea, depression, anxiety, loss of appetite, drowsiness, shortness of breath and general impairment. well-being [3,4].

Assessing quality of life in palliative medicine in general and in palliative oncology in particular has its own characteristics. First of all, this concerns the choice of an instrument for assessing quality of life. Such questionnaires are developed taking into account the following characteristics: the presence of problems associated with the symptoms of the disease, the characteristics of the physical and psychological status of patients and the patients' limited ability to concentrate. In this regard, tools for assessing quality of life in palliative medicine should be simple, concise and easy to fill out. The patient fills out the questionnaire himself (self-assessment) and only if this is not possible - with the help of relatives or medical personnel (proxy assessment). But it must be taken into account that the latter option for assessing symptoms has low reliability. The most common and frequently used questionnaires in palliative oncology include the EORTC QLQ-C15-PAL (European Organization for Research and Treatment of Cancer Palliative Care Questionnaire) [5,6] and FACT (Functional Assessment of Cancer Therapy) [7,8].

The great potential of the method for assessing the quality of life lies both in determining the severity of pathological symptoms and in the method of individual monitoring of the condition of an oncological patient (assessment of the overall quality of life and various functional indicators over a long period of observation). At the same time, the basic principles for assessing leading symptoms are as follows: 1) assessment of the symptom(s) obtained with the help of the patient; 2) use of special tools for assessing symptoms (scales and questionnaires); 3) assessment of the symptom(s) over time; 4) documenting all stages of symptom assessment.

The method of assessing the quality of life in clinical practice allows for timely correction of palliative treatment in order to increase its effectiveness, thereby ensuring adequate psychological and social assistance and the highest possible level of quality of life for the doomed patient during the entire observation period.

It should be especially noted that quality of life indicators have independent prognostic significance in determining the possible response to palliative treatment and patient survival. There is indicative data on the relationship between quality of life and survival of cancer patients. At the same time, it has been proven that high quality of life indicators lead to improved survival rates for cancer patients who undergo maintenance therapy. The resulting quality of life indicators can be used to determine an individual prognosis for a particular patient for various nosological forms of malignant tumors. When developing rehabilitation programs for psychological and social support, the parameters of the quality of life of cancer patients must be taken into account.

Thus, assessing quality of life in palliative oncology is a simple and reliable method for determining the impact of the disease on the patient's condition, including his physical, psychological and emotional status. This comprehensive approach to assessing the patient's condition makes it possible to develop individual palliative care programs that make it possible to maximally cover the required amount of medical and social support for each patient with cancer.

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Chemical Sciences

ОӘЖ 665.775.4

БИТУМДЫ ТОТЫҚТЫРУДА ПОЛИМЕРЛІ ҚАЛДЫҚТАРДЫ ПАЙДАЛАНУ

Кабылбекова А.Т.
М.Х.Дулати атындағы Тараз өңірлік университеті, Тараз қ., Қазақстан
Тілеуберді Е.
Абай атындағы Қазақ Ұлттық педагогикалық университеті, Алматы қ., Қазақстан
Акбаров Х.И.
Мирзо Ұлықбек атындағы Өзбекстан ұлттық университеті, Ташкент қ., Өзбекстан Республикасы

В научной статье рассмотрены особенности использования полимерных отходов при окислении битума. Известен способ получения битума путем окисления воздухом асфальта деасфальтизации гудрона пропаном (в смеси с той или иной добавкой) с последующим смешиванием (компаундированием) с гудроном. Битум окисляется под действием кислорода, выделяемого в нефтяную фазу из воздуха.

The scientific article discusses the features of the use of polymer waste in the oxidation of bitumen. A method is known for obtaining bitumen by air oxidation of asphalt by de-asphalting tar with propane (mixed with one or another additive), followed by mixing (compounding) with tar. Bitumen is oxidized by the action of oxygen released into the oil phase from the air.

Қазақстан Республикасында мұнайдың қалдықтарын пайдалану өзекті мәселелердің бірі болып отыр. Өйткені, олардан мұнай битумдарын алуға болады. Битум құрылыста, өнеркәсіпте, ауыл шаруашылығында, реактивті техникада, реактивті сәулелерден қорғануда қолданылады. Қазақстанда мұнай битумдарын шығаратын зауыт Ақтауда, Павлодарда және басқа қалаларда бар.

Битумдар жоғары молекулалы көмірсутектердің қоспасынан және олардың оттекті, азотты, күкіртті туындыларынан тұратын қара түсті органикалық заттар. Бөлме температурасында битумдар қатты, тұтқыр және тұтқырлы сұйық болады, олар органикалық еріткіштерде (ыстық бензолда, хлороформада, күкіртті көміртекте және т.б.) жақсы ериді, қыздырғанда жеңіл жылжымалы сұйықтыққа айналады, ал салқындатқанда қайтадан қолданады; олардың нақты тығыздығы ~ 1 г/см^3. Битумдар табиғи түрде кездеседі, сонымен қатар, мұнайды, торфты, көмірді, сланецты тотықтырып алынады.

Табиғи битумдар геологиялық және климаттық факторлар әрекетінен мұнайдан құрылған, яғни мұнайдың жеңіл фракциялары жер қыртысының сызаттары арқылы жоғары қабатқа көтеріледі, күннің қызуынан буланады, полимерленеді және ауадағы оттегімен тотығады. Табиғи битум әктастарды, құмдақтарды, доломиттерді және басқа тау жыныстарын сіңіреді және олардың мөлшері 5–20% құрайды. Табиғи битумдар жер қыртысының жоғарғы қатпарларында көл түрінде жиналады, оларды битуминозды немесе асфальтты жыныстар деп атайды. Битуминозды жыныстардан битумды бөліп алудың екі тәсілі бар. Бірінші тәсіл бойынша асфальтты жынысты 6-10 мм бөлшектерге ұнтақтайды, қазанға салып, оған су қосады. Суға битумдағы минералды бөлшектерді бөліп алуды жақсарту үшін тұз қышқылын қосады. Қышқыл су мен жыныстың қоспасын тұрақты араластыра отырып қайнатады, осы кезде битум балқып, қоспаның бетіне жиналады. Оны судан және минералды бөлшектерден бөліп алады. Кейбір жағдайда битумды ауамен тотықтырады, яғни оның тұтқырлығын қажетті мағынаға дейін көбейтеді. Екінші тәсіл бойынша битумды жыныстарды ұнтақтайды, арнайы сыйымдылықтарға тиеп, органикалық еріткіштер құяды және араластырады. Битум еріткіште ериді, сонан соң еріткішті буландыру жолымен битумды алады. Екіншісіне қарағанда, табиғи битумдарды алудың бірінші тәсілі үнемді.

Битумды тотықтыруда полимерлі қалдықтарды пайдаланудың маңызы өте зор. Пластмасса кәдімгі асфальтқа қарағанда берік, қоршаған ортаға қауіпсіз және битумды үнемдеуге мүмкіндік береді.

Үндістан- «пластикалық» жолдарды құру технологиясы бойынша әлем бойынша көшбасшы болып саналады. Дүниежүзілік экономикалық форумның 2015 жылғы есебіне сәйкес, Үндістанда 33 796 шақырымнан астам жол салынды. Алайда, кейінгі ғылыми мәліметтер бойынша Үндістан өндірісінің инновациялық технологиясын қолдана отырып, үнді жолдарының нақты ұзындығы 100 мың км-ден асатыны айтылған (2017 жылдың қазан айындағы жағдай бойынша).

Жол салу үшін қайта өңделген пластикті пайдалану қоқысты азайтуға көмектесіп қана қоймайды, сонымен қатар жол төсеумен айналысатын мыңдаған адамдар үшін жұмыс орындарын жасайды.

Жаңа зерттеулерге сәйкес, Үндістандағы «пластикалық жолдар» экологиялық таза ғана емес, сонымен қатар берік, олар аз күтімді қажет етеді және әдеттегі жабынмен салыстырғанда 3-5 есе берік.

Пластикалық қалдықтардың барлық дерлік түрлері жол жамылғысы үшін шикізат ретінде пайдаланылады, бірақ олар негізінен су бөтелкелері. Алдымен олар сұрыпталады, содан кейін тазартылады, кептіріледі және ұсақталады. Ұсақталған пластик араластырылып, шамамен 170 °С температурада балқытылады, содан кейін балқытылған пластикке ыстық битум қосылады. Араластырғаннан кейін қоспасы кәдімгі асфальт сияқты төселеді. Мәселен, кәдімгі бір жолақты жолдың әр шақырымына 1 тонна полимерқұрамды тұрмыстық қалдықтар, яғни су бөтелкелері қолданылады.

Тұрмыстық полимерқұрамды қалдықтардан немесе пластмассадан жол жасау технологиясы-бұл жолдарды төсеу үшін қайта пайдалану арқылы пластикалық қалдықтарды қайта өңдеуге арналған инновациялық, ғылыми, экологиялық таза, қолжетімді шешімдердің бірі.

Пластикалық бөтелкелер негізгі шикізат болғанымен, пластикалық қалдықтар кәмпит орамдарынан бастап полиэтилен пакеттерге дейін барлығын қамтуы мүмкін. Қоспа қажетті битум мөлшерін 8-10% - ға азайтады.

Тұтқыр жол мұнай битумдары жол жабындарын салу және жөндеу кезінде тұтқыр материалдар ретінде қолданылады. Мұндай жабындар беріктікті, қауіпсіздікті қамтамасыз етеді және бетонға қарағанда 2-2,5 есе арзан.

25 °С температурада иненің ену тереңдігіне байланысты ГОСТ 22245-90 бойынша өндірілетін жол тұтқыр мұнай битумдары битумдардың тоғыз маркасын өндіруді көздейді: БНД 200/300, БНД 130/200, БНД 90/130, БНД 60/90, БНД 40/60, БН 200/300, БН 130/200, БН 90/130, БН60/90.

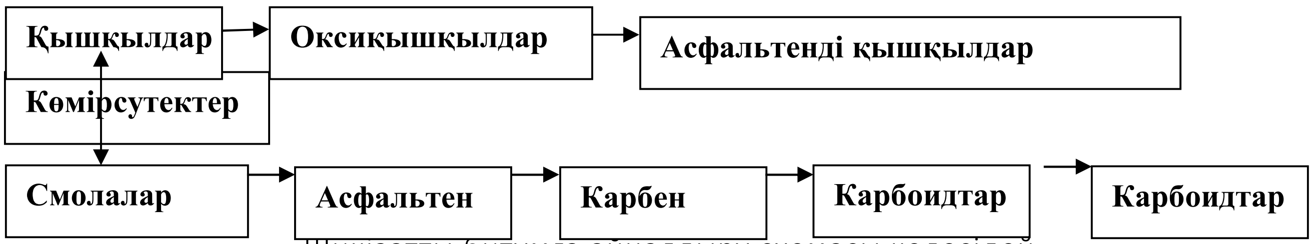
Тотыққан битумдарды алудың заманауи технологиясы-мұнай қалдықтарын катализаторсыз ауаның оттегімен тотықтыру. Өнеркәсіптік жағдайдағы температура аралығы 230 ÷ 270 ^{o}С; ауа шығыны – 2,8 ÷5,5 м^3/(м^2 *мин); ұзақтығы – баған диаметрі 3,2 ÷3,4 м және биіктігі 14 ÷15 м болатын 12 сағатқа дейін [1].

Жүйедегі вакуумның арқасында ауа қысыммен реакторға берілуі немесе 500 мм сын.бағ. дейін сорылуы мүмкін, айдау және жоғалту мөлшері шикізаттағы ұшпа заттардың құрамына, тотығу тереңдігіне байланысты және 0,5 ÷10% шегінде болады. Су буы мен көмірқышқыл газы жүйеден шығарылады. Экзотермиялық тотығу реакциясы реакция аймағындағы температураны жоғарылатады.

Тотығу кезінде көптеген реакциялар жүреді: тотықтырғыш дегидрлеу, деалкилдену, тотығу полимеризациясы, поликонденсация, крекинг, содан кейін оның өнімдері тығыздалады.

Ауа оттегінің негізгі бөлігі су мен көмірқышқыл газының түзілуіне, аз бөлігі құрамында оттегі бар органикалық заттардың түзілуіне кетеді.

Мұнай көмірсутектері бір уақытта екі бағытта тотығады [2]:



Шикізатты битумға айналдыру схемасы келесідей:

Түзілген радикалдардың жаңа көмірсутек молекуласымен әрекеттесуі тұрақты өнімдерге әкеледі:

$$R\bullet + RR'H \rightarrow \bullet RR'H$$

$$\bullet RR'H + R''H \rightarrow \bullet RR'H\ R''H$$ – диспропорционалдану.

Көмірсутек радикалдарының салыстырмалы түрде төмен концентрациясына байланысты олардың рекомбинациясы екіталай және радикалдардың оттегімен әрекеттесуі бастапқы заттың молекулаларына қарағанда аз дәрежеде жүреді:

$$R\bullet + O_2 \rightarrow ROO\bullet$$

$$ROO\bullet + R'H \rightarrow ROOH + R'$$

$$ROOH \rightarrow RO\bullet + \bullet OH$$

$$R''H + \bullet OH \rightarrow R''\bullet + H_2O$$

Тізбекті жалғастыру:

$$RH + HOO\bullet \rightarrow R\bullet + H_2O_2$$

$$H_2O_2 \rightarrow 2OH\bullet$$

$$R'H + \bullet OH \rightarrow R'\bullet + H_2O$$

Алайда, бұл схеманы толық деп санауға болмайды. Бұл шикізаттың битумға тотығу процесінде жүретін күрделі түрлендірулердің нұсқалары мен байланыстарының бірін ғана білдіреді.

Битумдарды алу процесінің шарттары. Шетелде жол битумдарының негізгі саны араластыруды реттеу және түпкілікті өнімнің біртектілігіне қол жеткізу үшін диспенсерлермен жабдықталған мерзімді және үздіксіз жұмыс істейтін арнайы қондырғыларда тұтқырлығы төмен қалдықтармен және газойль фракцияларымен терең вакуумды айдау және деасфальтизация қалдықтарын біріктіру арқылы алынады. Компаундталған битумдарды алу саласындағы отандық әзірлемелер қажетті өнеркәсіптік жабдықтың болмауымен шектеледі. Кейбір елдерде тотыққан битумдардың үлесі барлық өндірілген битумдардың тек 12 ÷14% құрайды.

Мұнай қалдықтарын, негізінен гудронды, әр түрлі типтегі аппараттардағы ауамен тотықтыру процесінде алынған тотыққан битумдар (мерзімді әсер ететін текшелер, құбырлы катушкалар реакторлары және үздіксіз жұмыс істейтін қуыс колонналар) жол төсемдерінде кеңінен қолданылады.

Тотығу процесінің негізгі факторлары (дәлірек айтқанда, тотығу дегидроконденсациясы) температура, ауа ағыны және қысым болып табылады.

Өнеркәсіптік жағдайдағы температура аралығы 230 ÷ 270 ^{o}C, ауа шығыны 2,8 ÷ 5,5 м^{3} / (м^{2} – мин) баған диаметрі 3,2 ÷ 3,4 м және биіктігі 14 ÷ 15 м [1].

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Кабылбекова Айсулу Тенелхановна – докторант 3 курса образовательной программы «8D05311-Химия», Таразский региональный университет имени М.Х.Дулати.

Тілеуберді Ербол – PhD, Казахский Национальный педагогический университет имени Абая.

Акбаров Хамдам Икрамович – доктор химических наук, профессор кафедры «Физической и коллоидной химии», Национальный университет Узбекистана имени Мирзо Улугбека.

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editor@publisher.agency

https://publisher.agency

University Brussel

Rue Sainte-Marie 6

Brussels

1140 Belgium