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USING FINANCIAL INNOVATIONS IN CORPORATE FINANCE

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ABSTRACT

Purpose of research. To identify the reasons for the rapid development of financial technologies in modern conditions of the Republic of Kazakhstan and show the most promising innovative products in the modern financial market.

Research methodology. The author used the historical-logical method, the visualization method, statistical and formal-logical methods.

Originality /value of research. The article describes key financial technologies, basic financial products and services. The author also presented financial technologies as a certain type of access to various financial instruments, the classification of which is visually presented. The analysis of the distribution of investments in the fintech industry in 2022-2023 is carried out depending on the sphere of activity of companies in the Republic of Kazakhstan.

Research results. During the study, the author revealed big data as the most popular financial technology and blockchain technology as the least popular financial technology on the Kazakhstan market.

Findings. Emphasis is placed on the importance for Kazakhstan of investing in innovative financial projects, the essence of such a desire to develop this sphere is revealed.

Keywords: innovation, financial market, investment, fintech product, digital economy, digital transformation, digital technology.

Introduction

Innovations in the realm of financial technologies represent the advancement of the economic system amid actively evolving financial sectors. There's a rapid progression of technologies not only in the field of economics but also across various aspects of life. This has notably impacted the financial market with the emergence of the unique and forward-looking domain known as "fintech," or financial technologies. Presently, the market for financial technologies can be classified as one of the most progressive. Financial technologies, in light of today's reality, are indispensably applied in each segment of the financial market and are successfully utilized by market participants. The term "fintech," translated from English (financial technology), essentially denotes the same financial technology but in a modern interpretation, which confidently allows this definition to be used in the discourse of business industry representatives. According to the opinion of E.T. Mazitova, the concept of fintech essentially refers to new applications, processes, products, or business models in the sphere of financial services, most of which are conducted via the internet [1].

Various financial instruments (FIs) used to achieve diverse financial goals are an integral part of any financial market. Financial technologies serve as a specific conduit in the financial market by providing services to clients. Essentially, any financial technology represents a certain form of access to various financial instruments. Within the structure of the financial market, besides the traditional capital flows, quite specific directions emerge. For instance, apart from the "real" capital flow, there's what's termed as the "running" capital, or in other words, currency speculation. Such capital is typically redistributed in the currency market, where there's more maneuverability for conducting various speculative operations with short-term assets [2]. Considering the multitude of instruments circulating in the financial market and taking into account the calibration of financial operations for which they are used, we have distributed and classified financial instruments based on their inherent characteristics.

This classification allows for the examination of the primary features of financial instruments. Additionally, considering the distinctive characteristics of financial instruments, it's essential to note that each of the categories we've highlighted may contain several subcategories.

Maturity	Type of Financial Instrument	Primary Importance	Income Value	Risk Indicator
Short-term	No obligations	Primary	Fixed	No risk
Long-term	Debt	Secondary	Uncertain	Low
	Equity			Moderate
				High
				Very high

Figure 1- Classification of Financial Instruments Based on Various Characteristics

In this classification, you can observe the main features of financial instruments. Also, considering the distinctive characteristics of financial instruments, it's necessary to note that each of the categories we've highlighted may contain several subcategories.

The concept of financial technologies encompasses a wide range of directions: P2P lending, electronic wallets, cryptocurrency (in blockchain systems), mPOS acquiring, e-commerce, T-commerce, robo-advising, big data, artificial intelligence, mobile banks, etc. The conclusion that the fintech industry is undoubtedly developing and is a priority for most clients in the financial sector is evident. This sphere is not standing still; every year or even every quarter, you can observe the emergence of new fintech directions. Currently, the banking sector and the entire credit market are primarily influenced by fintech because lending and electronic payments are a priority direction for projects and investments. In order to retain their customer base and occupy leading positions in the market, first and second-tier banks are increasingly applying new financial technologies in conducting economic and financial operations.

The year 2020 was a pivotal moment in the digitalization of banking services both in Kazakhstan and globally, largely driven by the COVID-19 pandemic. The pandemic significantly accelerated the adoption of digital banking and financial services as people and businesses adapted to new restrictions and sought contactless financial solutions.

In Kazakhstan, the push towards digital banking was already underway, but the pandemic intensified these efforts. The necessity for remote access to financial services led to a surge in the use of digital platforms. For instance, mobile banking and online financial transactions became more prevalent as banks invested heavily in digital infrastructure to meet the growing demand. This period saw a dramatic increase in the adoption of mobile banking apps and other digital financial services (World Bank) (KPMG).

Globally, the impact was similarly profound. The World Bank reported a significant increase in digital payments and financial inclusion during the pandemic. By 2021, 76% of adults worldwide had an account at a financial institution or with a mobile money provider, up from 68% in 2017.

The surge was especially notable in developing economies, where digital payments became essential for maintaining economic activity during lockdowns and social distancing measures (World Bank) [3].

Moreover, the trend towards digitalization has continued post-pandemic, with many banks and financial institutions prioritizing digital transformation to remain competitive. Innovations such as AI-driven financial services, blockchain technology, and advanced analytics are now central to banking strategies worldwide (KPMG) [4].

An increasing number of bank clients expect banks to provide all services online without charging fees for their services. As a result, the number of organizations using fintech to offer their financial services in the form of mobile apps and internet technologies is increasing, thereby diminishing the role of banks as monopolists in providing services to the population. Such organizations are undoubtedly preferred by the population because they do not charge fees for financial transactions, and some of them even offer certain bonuses for using their services.

One of the exemplary banking-type organizations on the Kazakh financial market is Kaspi.kz. According to their financial performance report for 2023, nearly half of Kazakhstan's population, approximately 9 million users, actively use Kaspi.kz's mobile application. This is a significant increase from 5.4 million users in 2019, reflecting the rapid adoption and expansion of their digital services [5].

The bank's profitability has also shown notable improvement. The return on equity (ROE) increased from 30.8% in 2019 to 41.2% in 2023. This improvement highlights Kaspi.kz's enhanced efficiency and successful leveraging of financial innovations to boost profitability. The bank reported a net income growth of 42.5%, from KZT 134.8 billion in 2019 to KZT 192 billion in 2023. Additionally, total revenue saw an increase of 37%, reaching KZT 498 billion by the end of 2023 (KASE) [6].

Kaspi.kz's strategic implementation of fintech solutions, including their comprehensive mobile application and enhanced online banking services, has contributed significantly to their growth and operational efficiency. This demonstrates the critical role of financial innovations in enhancing service delivery and financial performance in the banking sector.

Therefore, it can be asserted that Kaspi confidently positions itself as a financial-innovative bank in Kazakhstan today. Through the example of Kaspi.kz, one can already observe the emergence of such new banking models formed as a result of collaboration between fintech and traditional banks. Examples of such global banking models include Tinkoff Bank in Russia and Revolut in the UK; they are characterized by the simplicity of their services, convenience for customers, and high operational efficiency. It should be noted that fintech has emerged not only in the credit sector of the financial market but has also become an integral part of the insurance, currency, and stock markets. Business accelerators currently closely collaborate with and co-finance various fintech startups from entirely new areas.

Among the primary fintech trends in emerging financial markets, several key directions stand out:

- Mobile Payments and Digital Wallets: The rise of mobile technology and internet accessibility is driving the development of mobile payment services and digital wallets, allowing users to conduct financial transactions through their mobile devices.
- Microfinance and P2P Lending: Fintech platforms provide access to microloans and peer-to-peer lending, enabling small businesses and individuals to access funding without the need to rely on traditional banks.
- Financial Inclusion: Fintech companies play a crucial role in promoting financial inclusion by providing access to financial services for those who were previously excluded from the financial system due to various reasons.

- Development of Blockchain and Cryptocurrencies: Blockchain technology and cryptocurrencies offer new opportunities for financial innovation, such as streamlined international payments, smart contracts, and decentralized financial services.
- Robotic Process Automation: The application of artificial intelligence, machine learning, and robotic process automation allows for the automation of many financial processes, improving operational efficiency and reducing costs.

These trends reflect the global drive towards innovation in the financial sector and the attractiveness of fintech solutions for emerging markets. The most promising directions for the development of fintech in the next 5-7 years are centered around several key areas that are expected to significantly shape the financial industry:

Artificial Intelligence (AI) and Machine Learning (ML):

AI and ML are anticipated to revolutionize various aspects of financial services, including fraud detection, credit scoring, personalized financial advice, and customer service automation through chatbots. These technologies enable the analysis of vast amounts of data to provide insights and improve decision-making processes (MDPI) (IBS Intelligence) [7] [9].

Blockchain and Distributed Ledger Technology (DLT):

Blockchain technology continues to hold great potential, particularly in enhancing the security, transparency, and efficiency of financial transactions. It is expected to play a critical role in areas such as cross-border payments, smart contracts, and digital identity verification (MDPI) (IBS Intelligence) [7] [9].

Digital Payments and Wallets:

The adoption of digital payment systems and mobile wallets is projected to grow substantially. These technologies provide convenience and speed, fostering a move towards cashless societies. Innovations in this space are likely to include enhanced security features and greater integration with other financial services (MDPI) [7] [9].

RegTech (Regulatory Technology):

As regulatory requirements become increasingly complex, RegTech solutions are essential for helping financial institutions comply with regulations more efficiently and effectively. These technologies utilize AI and blockchain to streamline compliance processes, reduce costs, and minimize the risk of regulatory breaches (MDPI).

Open Banking and API Integration:

Open banking initiatives, which allow third-party developers to build applications and services around financial institutions, are set to drive innovation. APIs enable seamless integration and interoperability between different financial systems, fostering a more collaborative and competitive financial ecosystem (IBS Intelligence)

Cybersecurity:

With the rise of digital financial services, cybersecurity remains a top priority. Innovations in this area focus on developing advanced security measures to protect against increasingly sophisticated cyber threats, ensuring the safety of financial data and transactions (MDPI).

Decentralized Finance (DeFi):

DeFi platforms, which utilize blockchain technology to offer financial instruments without traditional intermediaries, are gaining traction. These platforms provide services such as lending, borrowing, and trading with increased transparency and reduced costs, making financial services more accessible (IBS Intelligence).

Sustainability and Green Finance:

There is a growing emphasis on sustainable finance, with fintech playing a key role in promoting environmentally friendly and socially responsible investment practices. Innovations in this area include green bonds, carbon credit trading platforms, and sustainability-focused financial products (MDPI).

These trends indicate a dynamic future for fintech, characterized by continuous innovation and the potential to transform the financial landscape globally.

As of 2023, Kazakhstan's fintech sector has achieved remarkable growth, positioning it as the largest and one of the fastest-growing fintech markets in Central Asia. Kazakhstan's conducive business environment, strong banking infrastructure, supportive government policies, and a tech-savvy population have been key drivers of this development (The Astana Times) (Finextra) [8].

Investment and Startup Landscape

Investment Volume: The Kazakh fintech market has seen significant investment inflows, driven by both domestic and international investors. This growth is evidenced by the substantial increase in cashless transactions, which skyrocketed from $5 billion in 2017 to $158 billion in 2022 (Finextra) [8].

Number of Startups: The number of fintech startups in Kazakhstan has been increasing, with many focusing on B2B partnerships and innovative financial solutions. The success of companies like Kaspi.kz, which has over 12.6 million active users, highlights the potential and attractiveness of the Kazakh fintech ecosystem (Finextra) [8].

Global Ranking

Kazakhstan is emerging as a significant player in the global fintech landscape. While precise global rankings fluctuate, Kazakhstan is recognized for its rapid adoption of digital payments and fintech services, positioning it as a notable market in Asia and Central Asia (The Astana Times) (Finextra) [8].

Comparative Perspective

In comparison to other countries, Kazakhstan leads Central Asia in the adoption of digital payments and financial services. With high rates of account ownership and internet access, the country is ahead of its regional peers in integrating fintech solutions into daily life and business operations (The Astana Times).

In summary, Kazakhstan's fintech sector is growing rapidly, supported by substantial investments and a vibrant startup ecosystem. This growth, coupled with progressive regulatory measures, makes Kazakhstan a promising hub for fintech innovation and investment in the region [10].

As of recent data, Kazakhstan does not rank prominently in global fintech investments compared to leading countries like the United States, China, or the UK. According to the 2023 Global Fintech Rankings, Kazakhstan is making progress but remains relatively modest in the global landscape. Specifically, it ranks outside the top 20 in terms of both investment volume and the number of fintech startups.

In 2023, Kazakhstan has seen notable growth in its fintech sector, driven by supportive government policies and increasing digital adoption. Despite these advancements, the volume of fintech investments and the number of startups remain significantly lower compared to global fintech hubs. Kazakhstan’s fintech ecosystem is growing, with investments primarily focused on payment solutions, digital banking, and blockchain technologies.

The country’s improving business climate and strategic initiatives like the "Digital Kazakhstan" program have contributed to a more favorable environment for fintech development. However, challenges such as regulatory barriers, limited access to capital, and a relatively small domestic market size continue to constrain its potential on the global stage (FinTech Futures) (Lloyds Bank Trade) [11].

Prospects of Fintech in Kazakhstan

Kazakhstan has recognized the potential of fintech to drive innovation and economic growth. The government has implemented initiatives to support fintech development, including establishing regulatory sandboxes and providing funding opportunities. Several promising fintech startups have emerged in Kazakhstan, focusing on areas such as mobile payments, digital lending, and wealth management.

Specific Fintech Projects in Kazakhstan

1. Invest Online: This platform utilizes blockchain technology to facilitate secure and transparent transactions for investing in notes and securities issued by the National Bank of Kazakhstan.
2. Halyk Bank: Kazakhstan's largest bank has adopted AI and ML to enhance its customer service, risk management, and product development.
3. Kaspi.kz: This digital banking platform offers a range of fintech services, including mobile payments, money transfers, and investment products.

The fintech landscape in Kazakhstan is poised for significant growth, driven by government support, technological advancements, and increasing consumer demand for innovative financial solutions. Blockchain, big data, AI, and open banking are among the key technologies that will shape the future of fintech in Kazakhstan. By embracing these technologies, financial institutions and fintech startups can enhance financial inclusion, improve customer experiences, and contribute to the overall economic development of Kazakhstan.

Analyzing all the trends in the development of the global financial market, we can conclude that digital technologies are currently implemented in a huge number of areas in the modern financial sector. Summarizing, we can highlight the most relevant technologies that leading market players are engaged in at the moment: neural networks, big data, biometrics, and blockchain.

Let's take a closer look at the most global fintech projects and the prospects for prolonging their viability in the Republic of Kazakhstan.

1. Blockchain System

Blockchain technology represents the most necessary and important trend in fintech development. According to Karakozov S.D., blockchain, or alternatively, distributed ledger technology, is a database for storing information about the actions of two or more participants in the system [12].

In 2008, Satoshi Nakamoto created blockchain technology to support the operation of Bitcoin, but it became known six years later in 2014 when Bitcoin appeared on the market. Many startups are launched annually based on blockchain.

The transaction serves as the basic unit for storing information, a kind of conductor for introducing new information, modifying it, or deleting it. The transaction device includes various methods and uses different fields. However, the transaction time, as well as input and output data (reference to previous data and where they were sent), must be included in it. Only the information that is hidden by keys is encrypted; other data is stored openly.

Blocks, which group all transactions, contain a list of these transactions and their names. Since blocks contain references to previous blocks, they form chains, forming a blockchain of transactions. Blocks are formed by users called "miners" according to special rules; blocks can appear simultaneously, but during recalculations, side branches are cut off, and then the freed transactions cease to be considered confirmed and are included in new blocks [3].

Multiple users can create such blockchains simultaneously. Only a certain amount of information is encrypted, and to obtain it, a special key held by the owner of the object is required. Information in the public domain cannot be changed. Thus, the objects in this system become encrypted, while actions with them and their exact quantity remain in the public domain. A distinctive feature of this system is that all blockchain data is strictly stored in a computer system.

An advantage of the technology is the so-called "digital notary," which can identify a user in a short period of time online, meaning there is no need to search for personal data to recognize a participant. The information transmission process itself is quite simple because several users can interact with each other without intermediaries.

Currently, projects using blockchain technology are becoming more attractive. Some large corporations are transitioning their internal document flow to a blockchain system to increase their efficiency.

In Kazakhstan, since March 2018, the Invest Online system has been functioning, which is based on electronic money used for settlements in operations with securities issued by the National Bank of the Republic of Kazakhstan, as well as blockchain technology. By implementing this system, the National Bank enables investment in notes and operations with securities [12].

There are different types of blockchains with varying degrees of complexity, so the algorithms embedded in different tools always differ. However, the general principle remains the same: a decentralized group of machines capable of verifying transactions [13].

2. Another trend in fintech today is Big Data.

Not long ago, mobile operators began analyzing all data about their customers, such as how much time a customer spends communicating with others, who those people are, where they live, and so on. This allowed them to understand their customers more accurately to find an individual approach to each consumer. Undoubtedly, this has been a significant advantage for customers.

Soon, banking institutions also shifted their focus to personalized data collection. Information such as the credit history of their clients, payment scenarios, transfer amounts, and much more is available to banks. This information helps banks forecast the reliability of the client, their payments, the operational amount, and much more.

But the use of Big Data didn't stop there. Currently, Big Data technology forms the basis for further developments. For example, it is possible to teach a machine to analyze information by integrating investments of large data arrays and elements of artificial objects, and then make accurate forecasts and conclusions based on this analysis for making important financial decisions. Such technologies are called "robo-advisors." Robo-advisors offer significant advantages in online trading. Firstly, they provide one-click orders and real-time account opening, monitoring, up-to-date news, and processing of large volumes of transactions simultaneously. The spread of brokers on social networks makes investment knowledge more accessible and understandable, and communication with the client- simple and targeted. [14].

Conclusion

The fintech market is subject to constant changes: companies invent new technologies, their competitors subsequently make adjustments and add innovations to these technologies, startups collaborate with banks, creating partnerships into which large sums of money are invested, and so on. It is worth noting that against the backdrop of other markets, the fintech market is transforming very rapidly. Quarterly reports on fintech data analysis provided by analysts demonstrate significant changes, despite such a short period of time.

Considering the wide range of financial technologies in Kazakhstan, including predictive analytics, artificial intelligence, cluster analysis, biometric analysis, contactless payments, cloud technologies, and much more, the most promising of them, according to experts, are big data (94%), while the least demanded is blockchain technology (55%).

Business accelerators continue to work with startups focused on developing specific services and modern mobile applications based on big data analysis. They develop personalized offers, compile ratings, implement automatic filtering, create credit profiles for each client, fill out forms with data from open sources, conduct psychometric and graphical data analyses, and more.

Effective management of big data allows organizations to find an approach to each client with minimal time and financial costs for the organization itself. Additionally, creating individualized solutions helps increase customer loyalty, which is crucial for all participants in the financial market in the modern world [15].

In the current situation, it is worth quoting the words of Milton Erickson, which, in our opinion, can serve as a certain stimulus for self-improvement: "Changes are possible and inevitable." [16]

Innovations in the financial sector bring significant changes to the functioning of the entire financial market. At present, banks fear competition not from other banks, but from emerging startups offering consumers convenient advanced tools to meet their banking needs. Therefore, banks need to embrace all ongoing changes, adapt to them, and make every effort to interact with fintech.

REFERENCES

1. Maslennikov, V. V., Fedotova, M. A. and Sorokin, A. N. (2017), "Novye finansovye tehnologii menjajutnash mir", Finansy: Teorija i Praktika, No. 2, available at: https://cyberleninka.ru/article/n/novye-finansovyetehnologii-menyayut-nash-mir (accessed: January, 4, 2020) (in Russian).
2. Rjabova, A. V. "Analiz vlijanija novyh finansovyh tehnologij (FinTech) na finansovyj rynok", Magisterskaja dissertacija, Ministerstvo obrazovanija i nauki RF. Federal'noe gosudarstvennoe avtonomnoe obrazovatel'noe uchrezhdenie vysshego obrazovanija «Nacional'nyj issledovatel'skij tomskij politehnicheskij universitet», available at: http://www.new.pdfm.ru/35tehnicheskie/139183-1 - magisterskaya-dissertaciyatema-raboti-analiz-vliyaniya-novih-finansovih-tehnologiy-fintech-finansoviy.php (accessed: January, 4, 2020) (in Russian).
3. World Bank. (2021). Global Findex Database 2021: Financial Inclusion, Digital Payments, and Resilience in the Age of COVID-19. World Bank Report.
4. KPMG. (2022). Accelerating Digitalization in the Banking Sector. KPMG Switzerland.
5. Kaspi.kz. (2022). Annual Report 2022. Kazakhstan Stock Exchange. Available at: KASE.
6. Kaspi.kz. (2023). Financial Results for the Year 2023. Kazakhstan Stock Exchange. [Online] Available at: kase.kz
7. Business Insider. (2024). The Future of Fintech: Trends to Watch in 2024 and Beyond. Retrieved from Business Insider.
8. Finextra. (2023). Fintech Trends for 2023 and Beyond: What's Next? Retrieved from Finextra.
9. IBS Intelligence. (2023). FinTech Yatra to Offer $100m Capital to Start-ups with 25 VCs. Retrieved from IBS Intelligence.
10. "Kazakhstan- FinTech Futures," Fintech Futures, 2024. Retrieved from FinTech Futures.
11. "Foreign direct investment (FDI) in Kazakhstan- International Trade Portal," Lloyds Bank, 2023. Retrieved from Lloyds Bank Trade.
12. Karakozov, S. D. and Uvarov, A. Ju. (2018), "Vozmozhnosti ispol'zovanija tehnologij raspredelennogo reestra (cepochek blokov / blockchain) v sfere obrazovanija", Prepodavatel' XXI vek, No. 3-1, available at: https://cyberleninka.ru/ article/n/vozmozhnosti-ispolzovaniya-tehnologiy-raspredelennogo-reestra-tsepochekblokov-blockchain-v-sfere-obrazovaniya (accessed: January, 9, 2020) (in Russian).
13. "CB Kazahstana zapustil na blokchejne prilozhenie dlja torgovli cennymi bumagami" (2018), IKSMedia, available at: http://www.iksmedia.ru/news/5487909-CzB-Kazaxstana-zapustil-na-blokchej.html
(accessed: January, 17, 2020) (in Russian).
14. Margackaja, G. S. and Margackij, R. V. (2019), "Tehnologii blokchejn na fondovom rynke", Vestnik Universiteta «Turan», No. 1 (81), pp. 87–92 (in Russian).
15. "Iskusstvennyj intellekt v bankah" (2019), TAdviser, available at: http://www.tadviser.ru/index (accessed: January, 20, 2020) (in Russian).

16. "Sovremennye finansovye tehnologii kak instrument povyshenija konkurentosposobnosti predprijatij malogo biznesa" (2019), Evraziiskii soiuz uchenyh, available at: https://euroasia-science.ru/wp-content/uploads/2019/09/23-25-Mazitova-E.-Sovremennye-finansovye-texnologii-kak-instrument-povysheniyakonkurentosposobnosti-predpriyatij-malogo-biznesa.pdf (accessed: January, 25, 2020) (in Russian).
16. "Pjat' principov Miltona Jeriksona" (2018), Samorealizacia, available at: http://samorealisazia.ru/5-printsipov-preobrazovaniya-zhizni-po-miltonu-eriksonu/ (accessed: January, 20, 2020) (in Russian).

FIRMS' DECISION MAKING IN THE PROCESS OF IPO

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ABSTRACT

Purpose of research. The master's thesis aims to represent and analyze the decision-making process of firms regarding Initial Public Offerings (IPOs) within 2022. The thesis addresses the critical determinants of successful IPO performance, examining the relationship between pre-IPO financial metrics such as debt/equity ratio, return on equity (ROE), and net income margin (NIM) with the percentage change in stock price post-IPO.

Research methodology. The study used linear regression analysis to explore the factors influencing the success of companies after Initial Public Offering (IPO).

Originality /value of research. The study makes significant contributions by exploring the complexities of IPOs in both developed and developing economies. It offers insights into the essential financial characteristics that contribute to successful IPO performance. This research is particularly valuable for companies in the electronics, information technology, oil and gas, and commodity fuel sectors, providing them with strategic guidance for navigating the IPO process in emerging markets.

Research results. The study examined the pre-IPO financial metrics of companies in the electronics, information technology, oil and gas, and commodity fuels sectors. By comparing the stock price changes 30 days post-IPO, the study identified patterns and relationships between financial metrics and IPO success.

Findings. Based on the findings, the study provides several strategic recommendations for companies considering an IPO in emerging markets.

Introduction

An Initial Public Offering (IPO) represents a significant milestone for any company, marking its transition from a private entity to a publicly traded one. This step opens up financial markets, raises the company's profile, and generates opportunities for expansion. However, the process of going public comes with its own set of challenges and requires thorough preparation and strategic decision-making. Companies must balance the benefits of raising capital from the public against the costs, risks, and obligations of being listed on a public exchange.

The primary motivation for companies to pursue an IPO is to raise capital for expansion, research and development, or acquisitions. By offering shares to the public, companies can attract a diverse group of investors and secure substantial funding. Additionally, becoming a publicly traded company can enhance a firm's visibility and reputation, attracting more partners, clients, and skilled workers. A successful IPO can also provide liquidity for early investors, company founders, and employees, allowing them to profit from their investments.

However, the IPO process involves significant complexities. Companies need to prepare for stringent regulatory requirements, financial audits, and governance procedures. This preparation requires substantial time, resources, and expertise. The success or failure of an IPO can significantly impact a company's financial performance and future prospects. Therefore, it is crucial to understand the factors that contribute to successful IPO performance.

Research Objectives

The research aims to identify the critical determinants of successful IPO performance by examining the relationship between pre-IPO financial metrics and post-IPO stock price changes. Specifically, the study focuses on three financial metrics: debt/equity ratio, return on equity (ROE), and net income margin (NIM). By analyzing both successful and unsuccessful IPOs, the study seeks to provide insights and recommendations for companies considering going public in emerging markets.

The objectives include:

1. Analyzing successful and unsuccessful IPO examples to identify key financial metrics influencing outcomes.
2. Assessing the viability and attractiveness of IPOs in emerging markets.
3. Evaluating the relationship between pre-IPO debt/equity ratio, ROE, NIM, and post-IPO stock price changes.
4. Providing strategic advice to companies based on the findings.

Problem Statement

Understanding the factors influencing firm success in emerging markets post-IPO is essential. The main challenge is identifying the financial metrics that define post-IPO performance in industries such as electronics, information technology, and traditional sectors like oil and gas. This study aims to explore the relationship between pre-IPO debt/equity ratio, ROE, NIM, and the percentage change in stock price 30 days post-IPO.

Emerging markets present unique opportunities and challenges for companies going public. These markets are characterized by rapid growth, regulatory changes, and shifting investor sentiment. Companies need to navigate varying investor expectations, legal frameworks, and market maturity levels. By understanding these factors, companies can better position themselves for success post-IPO.

Challenges Faced by Companies After IPO

Post-IPO, companies face several challenges that can impact their long-term performance. One major challenge is managing investor expectations and maintaining steady performance to meet market demands. Companies need to balance the need for growth and innovation with operational cost management and profitability. This requires strategic decision-making and robust financial planning.

External factors such as market volatility, regulatory changes, and economic uncertainties can also affect a company's post-IPO journey. Companies need to be flexible and adaptable to mitigate risks and seize opportunities in a dynamic environment.

Hypotheses

The study tests three hypotheses to provide empirical evidence on the relationships between financial indicators and post-IPO success:

H1: The pre-IPO debt/equity ratio may not have a significant impact on the percentage change in stock price within 30 days of the IPO.

H2: There is no significant relationship between return on equity (ROE) and the percentage change in stock price within 30 days of the IPO.

H3: There is no significant relationship between net income margin (NIM) and the percentage change in stock price within 30 days of the IPO.

By testing these hypotheses, the study aims to identify the key factors contributing to successful IPO performance and provide valuable insights to companies considering going public in emerging markets.

Research Methodology

In our study we utilised linear regression analysis to explore the factors influencing the success of companies after Initial Public Offering (IPO). As we have mentioned before in the literature review part, there are numerous factors that can affect a company's stock performance after the company goes public, including financial ones and non-financial factors. Despite the variety of factors that may affect or in many cases lead to the success of the company in IPO, we conducted an analysis of the financial factors due to that we could quantify these metrics and measure their impact in the form of numeric and interpretable data.

For the part of our analysis that focused on examining the impact of company-specific financial indicators, the dependent variable is the percentage change in stock price after 30 days of IPO, while the independent variables are the pre-IPO debt/equity ratio, return on equity (ROE), and net income margin (NIM).

The 30-day period for the stock price change after IPO was used to measure the company's stock price performance after IPO due to the fact that such a period can provide a balance between capturing the initial market reaction and presenting a meaningful sample size for analysis. In the empirical study of price stabilisation and IPO underpricing written by Husnan et. al (2014), it was stated that the return distribution for the initial 30 trading days significantly deviates from a normal distribution, whereas the return distribution for days beyond the initial 30 trading days more closely approaches a normal distribution. Similarly, we made an assumption that the 30-day period after the IPO date is a reasonable time frame to assess the effect of pre-IPO financial metrics on the percentage change in stock price. This period allows for proper attribution of the initial market reaction to the company going IPO and provides a sufficient time to assess the company's financial performance and market acceptance.

Stock price data and percentage change in stock prices were sourced from Yahoo Finance, while financial indicators of the companies were obtained from S&P CapitalIQ. The methodology is outlined as follows:

Data Collection

Dependent Variable: Data on stock prices and percentage change in stock prices after 30 days of IPO were collected from Yahoo Finance.

Independent Variables:

- Pre-IPO Debt/Equity Ratio: Financial indicators such as the debt/equity ratio before IPO were obtained from S&P CapitalIQ.
- Return on Equity (ROE): ROE data were also sourced from S&P CapitalIQ.
- Net Income Margin (NIM): NIM data were collected from S&P CapitalIQ as well.

Selection Criteria: Companies that went IPO in 2022 were selected. From the pool of more than 200 companies, only those with a percentage change in stock price greater than 10% after IPO were included to properly attribute success in IPO.

Geographic Focus: This study did not focus on companies by geography but instead considered both developed and emerging markets.

Industry Focus: The study focused on the information technology and electronics sectors due to their recent surge in IPO activity. Additionally, the study investigates companies in the oil and gas, and commodity fuels sectors, building on similar research previously conducted for these industries.

Handling of Geographic Differences: Despite differences in countries, stock exchanges, and currencies where the IPO placements occurred, these variations were not expected to interfere with the study since the dependent and independent variables are stated in percentage terms, ensuring comparability across different contexts.

Data Preparation

Data Cleaning: Stock price data and financial indicators were cleaned to remove any inconsistencies or missing values.

Variable Transformation: If necessary, variables were transformed to meet the assumptions of linear regression.

Model Specification

The linear regression model is specified as follows:

Percentage Change in Stock Price = β0 + β1(Debt/Equity) + β2(ROE) + β3(NIM)+ ϵ Percentage Change in Stock Price =

$$\beta_0 + \beta_1 (\text{Debt/Equity Ratio}) + \beta_2 (\text{ROE}) + \beta_3 (\text{NIM}) + \epsilon$$

Where:

- β_0 is the intercept term.
- $\beta_1, \beta_2, \beta_3$ are the coefficients associated with each independent variable.
- ϵ represents the error term.

The following hypotheses were formulated to examine the relationship between the company success after going IPO termed by positive percentage change in stock price after 30 days and companies' financial indicators from pre-IPO financial statements:

- H0: There is no significant relationship between the pre-IPO debt/equity ratio and the percentage change in stock price after 30 days of IPO.
- H0: There is no significant relationship between the return on equity (ROE) and the percentage change in stock price after 30 days of IPO.
- H0: There is no significant relationship between the net income margin (NIM) and the percentage change in stock price after 30 days of IPO.
- H0: The combined effect of the independent variables (pre-IPO debt/equity ratio, ROE, NIM) on the percentage change in stock price after 30 days of IPO is not significant.

Model Estimation

Regression Analysis: Ordinary Least Squares (OLS) regression will be used to estimate the coefficients of the independent variables.

Model Evaluation

Statistical Significance: The statistical significance of the coefficients will be assessed to determine the relationship between the independent variables and the percentage change in stock price.

Model Fit: The overall fit of the model will be assessed using metrics such as R-squared to measure the proportion of variance explained by the independent variables.

The findings from this analysis will provide insights into the factors that contribute to the success of companies after IPO within the information technology and electronics, and oil and gas and commodities sectors in 2022. By focusing on companies with significant stock price increases post-IPO, the study aims to identify key financial indicators that drive successful IPO performance in these sectors.

Apart from examining the effect of companies' financial indicators, that are company-specific and internal by their nature such as ROE, debt/equity ratio, net income margin, we also expanded our study to assess the effect of such external factors as macroeconomic and political variables as country's real GDP growth rate, inflation rate, measures of political stability and investment freedom degree on the success after IPO, applying multiple regression analysis. Data on these external factors were sourced from the World Bank website and Global Economy.com. The methodology is outlined as follows:

Limitations

The date selection was based on stratified sampling. Sample was selected on the criterion of 10%+ growth in stock price, this could select certain companies as high risk category. Thus bias is not excluded but its effect should be minimal. The sampling was to obtain the maximum magnitude of change, which may cause the assumption of bias.

Model Specification

The multiple regression model is specified as follows:

Percentage Change in Stock Price =
B0 + β1(GDP Growth Rate) + β2(Inflation Rate) + β3(Political Stability) + β4(Investment Freedom) + ϵ Percentage Change in Stock Price =
B0 + β1 (GDP Growth Rate) + β2 (Inflation Rate) + β3 (Political Stability Index) + β4 (Investment Freedom Index) + ϵ

Where:

- *B0* is the intercept term.
- *B1, β2, β3* are the coefficients associated with each independent variable.
- ϵ represents the error term.

Hypotheses

Null Hypotheses (H0):

H0: There is no significant relationship between the country's real GDP growth rate and the percentage change in stock price after IPO.

H0: There is no significant relationship between the inflation rate and the percentage change in stock price after IPO.

H0: There is no significant relationship between the political stability index and the percentage change in stock price after IPO.

H0: There is no significant relationship between the investment freedom index and the percentage change in stock price after IPO.

H0: The combined effect of the external factors (real GDP growth rate, inflation rate, political stability index, and investment freedom index) on the percentage change in stock price after IPO is not significant.

This analysis aims to provide insights into how external economic and political factors influence the success of companies post-IPO, as measured by the percentage change in stock price after 30 days. By including external variables such as the real GDP growth rate, inflation rate, political stability index, and investment freedom index, the study seeks to identify broader economic and political determinants of IPO performance across different countries and markets. Thus, examining the effect of both company-related factors as their financial results and more broad, economic and political external factors, we made an attempt to take into account in the study the factors that affect the firms both on their internal level and external environment as well.

Analysis and findings

The results of the linear regression analysis provide valuable insights into the variables that influence the success of companies following an initial public offering (IPO) in the information technology and electronics sectors in 2022. Importantly, the study focused specifically on these

industries, where investor behaviours are often based on belief in ideas and future potential, rather than solely on data-driven actions as seen in more traditional industries.
Despite our initial hypotheses, the analysis found no significant relationship between pre-IPO financial performance - namely, debt-to-equity ratio, return on equity (ROE), and net income margin (NIM) - and the percentage change in share price 30 days after the IPO launch and its starting amount.

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.344
R Square	0.118
Adjusted R Square	0.024
Standard Error	0.451
Observations	32

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	3	0.76	0.25	1.25	0.31
Residual	28	5.69	0.20		
Total	31	6.46			

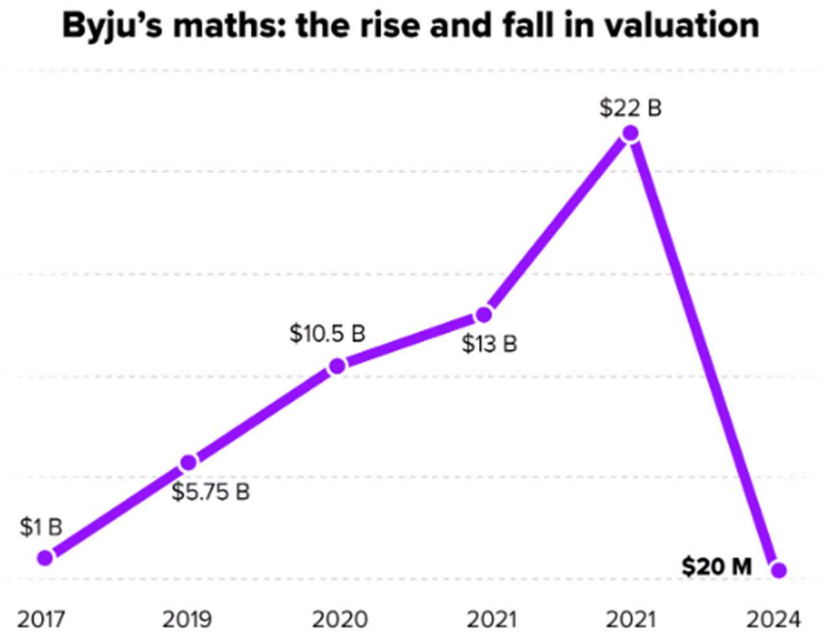
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95,0%*	*Upper 95,0%*
Intercept	0.38	0.11	3.41	0.00	0.15	0.61	0.15	0.61
Return on Equity % [CY 2021]	0.00	0.00	-1.20	0.24	-0.01	0.00	-0.01	0.00
Total Debt/Equity % [CY 2021]	0.00	0.00	0.36	0.72	0.00	0.00	0.00	0.00
Net Inc. Avail. for Common Margin % [CY 2021]	0.01	0.00	1.93	0.06	0.00	0.02	0.00	0.02

The unique nature of the technology sector, characterised by rapid innovation, disruptive business models, and high growth potential, may contribute to the observed findings. In this dynamic environment, investors often place greater emphasis on factors such as technological innovation, market disruption potential, and future growth prospects rather than traditional financial metrics alone.

Additionally, the selection of companies within the information technology and electronics sectors may have influenced the results. These sectors are known for their high-risk, high-reward nature, attracting investors who are willing to accept higher levels of risk in pursuit of substantial returns. Consequently, the market dynamics and investor sentiment within these sectors may differ significantly from those in more traditional industries, impacting the relationship between financial metrics and stock price performance post-IPO.

Furthermore, the 30-day timeframe used in this study to measure stock price performance after IPO may not fully capture the long-term growth potential of companies within the technology sector. Given the emphasis on future potentials and disruptive innovation, investors in these sectors may have longer investment horizons, leading to more extended evaluation periods before making investment decisions based on company performance.

The results of our analysis have a real set of cases in which investors valued companies multiple times more than current figures and assets indicate. For example, the Indian company Byju's, which the investor estimated at $ 22 billion in 2022. The company specialises in EdTech and has become popular thanks to its interactive approach to education. At this time, in 2024, according to the latest analysis by Blackrock, its estimate is even a stretch of $ 1 billion. The company does not have large assets and the only thing the investors believed in was the potential of the company. Because of this, they were ready to turn a blind eye to the multimillion-dollar losses of the company, the high debt burden, overdue loan repayments and, in general, chaos in the operating part. It took years and many billions of investor money to understand that the company's business was going very badly. This is the specifics of this sector, where investors believe in the idea and strategy. The company's largest investors included the Zuckerberg family investment company, which suggests that even experienced tech sector sharks find it difficult to assess how much their investments are actually fair.



In addition, macroeconomic indicators were analysed by assessing the relationship to the success of the IPO. The GDP growth of the company's country had a fairly positive impact, while the inflation rate, political stability index and investment freedom had little or no correlation in terms of growth. This is rather due to the fact that technology companies are not highly correlated with macroeconomic indicators compared to other companies from the traditional sector. The success of technology companies can have different reasons, such as niche trends like the development of AI can also greatly increase the attractiveness of the share price.

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.220
R Square	0.048
Adjusted R Square	-0.028
Standard Error	0.647
Observations	55

ANOVA

	df	*SS*	*MS*	*F*	*Значимость F*
Regression	4	1.06	0.27	0.63	0.64
Residual	50	20.93	0.42		
Total	54	21.99			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95,0%*	*Upper 95,0%*
Intercept	0.47	0.28	1.71	0.09	-0.08	1.03	-0.08	1.03
GDP growth rate, %	3.72	5.86	0.63	0.53	-8.06	15.50	-8.06	15.50
Inflation rate	0.39	0.79	0.49	0.62	-1.19	1.97	-1.19	1.97
Political stability	0.38	0.28	1.37	0.18	-0.18	0.94	-0.18	0.94
Investment freedom	0.00	0.01	-0.51	0.61	-0.01	0.01	-0.01	0.01

Last but not least, based on analyses conducted by the International Association of Energy Economists, it was revealed that petrochemical companies rely on expected market oil prices rather than on their current financial performance when making an IPO decision. Here it is possible to identify similarities with companies from the technology sector, since in both cases investors assess the situation by future potential, rather than actual historical data, which can often even be weak. Thus, analysing the company's pre-IPO indicators and their valuation, it is possible to correlate with the results that were revealed in the outputs of this study about the lack of relationship between variables. The market is unpredictable, it is very complicated to such levels that any forecasts at this time are complex, and cannot be limited only to several variables, albeit external and internal.

SUMMARY OUTPUT

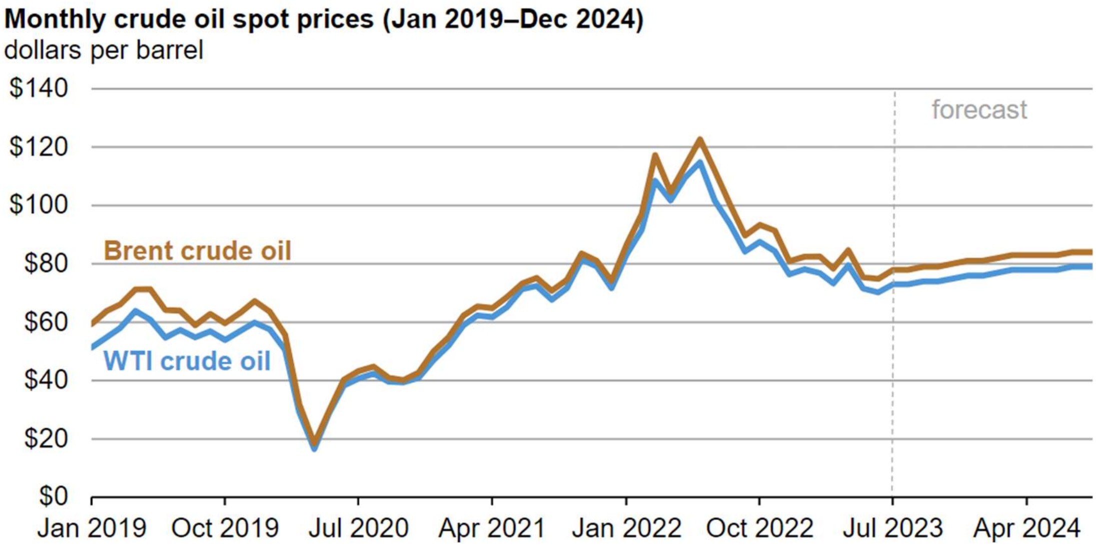
Regression Statistics	
Multiple R	0.165
R Square	0.027
Adjusted R Square	-0.119
Standard Error	86.938
Observations	32

ANOVA

	df	SS	MS	F	Significance F
Regression	3	4232.99	1411.0(	0.19	0.90
Residual	28	151164.03	7558.2(		
Total	31	155397.01			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95,0%	Upper 95,0%
Intercept	53.18	26.55	2.00	0.06	-2.20	108.55	-2.20	108.55
Return on Equity % [CY 2021]	-0.40	0.73	-0.55	0.59	-1.92	1.12	-1.92	1.12
Total Debt/Equity % [CY 2021]	-0.06	0.24	-0.26	0.80	-0.56	0.43	-0.56	0.43
Net Inc. Avail. for Common Margin % [CY 2021]	-0.27	0.74	-0.36	0.72	-1.81	1.27	-1.81	1.27

The Kazakh company KazMunayGas went public in December 2022. Oil prices were quite high during this period, though they had peaked at $120 per barrel in September of that year. One of the reasons for the IPO, and for its acceleration, was the high oil prices, which positively influenced the success of KMG's offering. Few analysts delved into the company's historical financial performance; instead, target investors were reassured by current trends in the oil industry, which was an advantage for the company.



Based on our findings, it may be assumed that companies in the technology sector should not emphasise much on financial performance in order to go public. Uber, Netflix, Snapchat, etc. are examples of companies that were very unprofitable, but thanks to the faith of investors, they were worth a very high capitalization all the time. And now they are already generating net profits, and are becoming mastodons of their sector, and are successful cash-generating business models.

In the case of investors, experienced investors go long on growth stocks, thus it should be important for them that the invested company has the right strategy, unit economics and a healthy vision. Great investors like Warren Buffett and Charlie Munger are examples of such investors, only patience, proper investment strategy and rational asset allocation can lead to successful investments. Rome was not built in a day, just as successful technology companies take time to

grow.
But the most important thing is that the Company is able to properly communicate everything to its investors. It is not enough to have the right vision, strategy and a brilliant idea, it is important to be able to present it all correctly and implement it in a way that is consistent with the strategy. Investing is based on trust, without it companies can go bankrupt in a day. Even if our previous example of EdTech company Baijus, the fact that they failed to communicate their problems to investors in time led to a huge drop in the value of the company, or the bankruptcy of the largest bank in Silicon Valley, in the heart of the technology sector, Silicon valley bank, it happened because of the loss of confidence of investors, who were mostly representatives of the technology sector, and led to the immediate bankruptcy of the bank, to prevent this the bank only had to communicate properly with its investors and depositors, and they did not.

Summary and Conclusions

In summary, the findings of this study indicate that within the information technology and electronics sectors as well as oil and gas, commodities fuels sectors in 2022, the pre-IPO debt/equity ratio, ROE, and NIM do not exhibit a significant relationship with the percentage change in stock price after 30 days of IPO. The unique characteristics of these sectors, including a focus on future potentials, technological innovation, and market disruption, may contribute to the observed results. The possible implications that we can draw from the study conducted are that focusing only on the financial indicators of the companies and ensuring that the companies reported growing financial results, enhanced return on equity, lower debt ratios, higher margins are not necessarily followed by the success after company become public and might not be reflected in growing stock prices and maximising shareholders' wealth. Thus, it is important to consider the effect of the financial factors not in separation and stand alone but in connection with other factors that were not initially taken into account.

These findings highlight the importance of considering industry-specific dynamics and investor sentiment when analysing IPO performance. Future research in this area could explore additional variables that better capture the unique characteristics of the technology sector and its influence on IPO success. Additionally, extending the evaluation period beyond the initial 30 days post-IPO may provide deeper insights into the long-term performance drivers within these dynamic and rapidly evolving sectors. Further investigations can be made in the direction of considering not only quantifiable factors but on conducting qualitative analysis as well, dragging focus on such methods as in-depth case studies, interviews and other qualitative measures.

Also, in future studies, it is important to gather a broader sample and perform more detailed segmentation. The technology sector can be significantly segmented internally by niche. Additionally, macroeconomic data can be analysed over a longer period to assess the favorability of the created conditions. Post-IPO internal metrics and macroeconomic factors should also be evaluated. Internal metrics can be assessed to determine how going public has impacted the financial stability of the company.

Appendixes:

Appendix №1: Main companies from technological industry

Company Name	Exchange: Ticker	Country/Region of Incorporation	Primary Industry	Exchanges [Primary Listing]	Filing Currency [LTM]	First Trade Date [1/1/2022-12/31/2022] [Primary Listing]	IPO stock price	Close price after one month	% change of stock price	P/LTM Diluted EPS Before Extra [Latest] (x)	Return on Equity % [CY 2021]	Total Debt/Equity % [CY 2021]	Net Inc. Avail. for Common Margin % [CY 2021]	Normalized Net Income Margin % [CY 2021]	Daily Value Traded [Latest - 3 Year(s)] ($USDmm, Historical rate)	Shares Outstanding [My Setting] [Latest - 3 Year(s)] (mm)	Net Working Capital / Revenue [LTM]	Implied Market Capitalization [My Setting] [12/31/2022] ($USDmm, Historical	Dividends per share [CY 2021] ($USD, Historical rate)	% Price Change [3 Years]	Diluted Net	GDP growth rate, %	Inflation rate	Political stability	Investment freedom
BIWIN	SHSE:6885	China	Semiconduct	Shanghai	Chinese	12/30/2022	15.4	22.8	48.15%	NM	7.99	29.2	4.47	2.72	-	-	-	-	0	-	18.4	2.99%	1.97%	-0.44	20
Suzhou	SHSE:6884	China	Semiconduct	Shanghai	Chinese	12/28/2022	8.5	11.2	32.12%	NM	8.73	95.8	8.51	2.69	-	-	-	-	0	-	9.3	2.99%	1.97%	-0.44	20
ELEMENTS, Inc.	TSE:5246	Japan	Systems Soft	The Tokyo Stock	Japanese Yen	12/27/2022	471.0	1000.0	112.31%	NM	(44.0)	86.7	(41.7)	(21.0)	-	-	(0.102)	-	0	-	(5,01)	0.96%	2.50%	1.07	60
JoulWatt	SHSE:6881	China	Semiconduct	Shanghai	Chinese	12/23/2022	44.6	53.8	20.70%	NM	20.2	4.41	13.6	8.28	-	-	-	-	0	-	22.3	2.99%	1.97%	-0.44	20
Capital	SHSE:6011	China	Investment B	Shanghai	Chinese	12/22/2022	11.2	18.7	66.52%	76.3	9.19	167.3	40.8	32.0	-	-	-	-	0	-	135.2	2.99%	1.97%	-0.44	20
Yuanjie Semiconduc	SHSE:6884 98	China	Semiconduct	Shanghai Stock	Chinese Renminbi	12/21/2022	83.6	99.5	18.97%	239.5	16.9	0.622	41.1	28.5	-	-	-	-	0	-	15.0	2.99%	1.97%	-0.44	20
Integrity	SHSE:6882	China	Application S	Shanghai	Chinese	10/19/2022	38.2	50.1	31.09%	74.6	9.87	2.59	14.7	9.91	-	-	-	-	0	-	7.41	2.99%	1.97%	-0.44	20
Transwarp	SHSE:6880	China	Application S	Shanghai	Chinese	10/18/2022	69.1	91.5	32.49%	NM	(35.3)	4.96	(74.0)	(50.2)	-	-	-	-	0	-	(38.5)	2.99%	1.97%	-0.44	20
Guizhou	SHSE:6884	China	Semiconduct	Shanghai	Chinese	08/26/2022	100.2	123.4	23.13%	22.4	43.0	41.9	35.2	25.9	-	-	1.36	-	0	-	27.9	2.99%	1.97%	-0.44	20
Empyrean	SZSE:3012	China	Systems Soft	Shenzhen	Chinese	07/29/2022	75.0	98.4	31.20%	170.9	15.0	24.2	24.0	6.88	-	-	0.015	-	0	-	21.9	2.99%	1.97%	-0.44	20
Guerrilla	OTCPK:GU	United States	Semiconduct	Pink Sheets	US Dollar	07/28/2022	9	10	14.09%	NM	(98.0)	5.98	(27.1)	(25.1)	-	-	0.12	-	0	-	(2.84)	1.94%	8.00%	-0.04	85
HOUSEI	TSE:5035	Japan	IT Consultin	The Tokyo	Japanese	07/28/2022	673.0	906.0	34.62%	23.0	12.6	33.4	6.61	4.33	-	-	0.35	-	0	-	2.35	0.96%	2.50%	1.07	60
Guobo	SHSE:6883	China	Semiconduct	Shanghai	Chinese	07/22/2022	94.0	113.5	20.74%	46.7	15.6	7.7	14.7	9.57	-	-	0.542	-	0	-	58.0	2.99%	1.97%	-0.44	20
PT Tera	IDX:AXIO	Indonesia	Technology I	Indonesia	Indonesian	07/20/2022	160.0	256.35	60.22%	9.21	66.1	59.7	9.19	7.55	-	-	0.225	-	0	-	9.38	5.31%	4.21%	-0.44	50
Shenzhen Techwinsem	SZSE:0013 09	China	Semiconduct	Shenzhen Stock	Chinese Renminbi	07/01/2022	22.75	46.64	105.01%	NM	19.6	56.4	9.09	5.97	-	-	1.28	-	0	-	15.5	2.99%	1.97%	-0.44	20
Zhejiang	SZSE:0012	China	Semiconduct	Shenzhen	Chinese	06/06/2022	18.59	66.6	258.26%	144.0	25.9	0.002	75.8	32.3	-	-	2.53	-	0	-	25.2	2.99%	1.97%	-0.44	20
Guanchips Co., Ltd.	KOSDAQ: A399720	South Korea	Semiconduct	KOSDAQ (KOSDAQ)	South Korean Won	05/20/2022	24,150.0	31,000.0	28.36%	172.5	37.8	6.3	19.2	12.8	-	-	0.108	-	0	-	5,12	2.61%	5.09%	0.56	60
Suzhou Novosense	SHSE:6880 52	China	Semiconduct	Shanghai Stock	Chinese Renminbi	04/22/2022	178.57	223.57	25.20%	NM	50.9	21.9	26.0	17.7	-	-	-	-	0.09	-	35.2	2.99%	1.97%	-0.44	20
Smart	IBSE:SMR	Turkey	Semiconduct	Borsa	Turkish Lira	03/24/2022	3.69	4.7	27.64%	41.9	61.4	88.6	9.46	6.61	-	-	0.142	-	0	-	6,06	5.53%	72.31%	-1.04	70
Elm	SASE:7203	Saudi Arabia	IT Consultin	Saudi	Saudi	02/16/2022	140.8	195.2	38.64%	53.9	22.5	6.45	14.8	10.2	-	-	0.003	-	0.799	-	151.1	7.49%	2.47%	-0.36	50
Suzhou	SHSE:6882	China	Semiconduct	Shanghai	Chinese	02/10/2022	99.86	135.79	35.98%	32.8	29.8	0.697	18.8	12.8	-	-	-	-	0.037	-	23,1	2.99%	1.97%	-0.44	20
Hangzhou	SHSE:6884	China	Electronic Fc	Shanghai	Chinese	12/28/2022	25.3	34.7	37.35%	42.1	38.9	30.8	10.6	6.36	-	-	(0.068)	-	0	-	268	2.99%	1.97%	-0.44	20
Colorlight Cloud Tech	SZSE:3013 91	China	Electronic Fc	Shenzhen Stock	Chinese Renminbi	12/01/2022	84.8	103.4	21.97%	34.1	25.6	8.52	18.5	10.8	-	-	0.561	-	0	-	70,9	2.99%	1.97%	-0.44	20
Suzhou K-Hirayama	SHSE:6030 52	China	Electronic Cc	Shanghai Stock	Chinese Renminbi	10/11/2022	35.6	43.6	22.47%	30.7	26.8	0.491	13.8	10.4	-	-	0.241	-	0.056	-	21.6	2.99%	1.97%	-0.44	20
SecureTech	OTCPK:SC	United States	Electronic Fc	Pink Sheets	US Dollar	09/30/2022	2.25	3.0	33.33%	NM	(56.3)	-	-	(214.3)	-	-	(1.4)	-	0	-	7.02	1.94%	8.00%	-0.04	85
Shenzhen	SZSE:3013	China	Electronic Fc	Shenzhen	Chinese	07/11/2022	57.99	103.3	78.10%	42.3	40.5	3.57	21.0	14.0	-	-	0.358	-	0	-	167	2.99%	1.97%	-0.44	20
Chengdu	SHSE:6880	China	Electronic M	Shanghai	Chinese	07/08/2022	53.80	70.3	30.67%	37.9	36.0	14.5	43.7	32.4	-	-	3.76	-	0	-	5.04	2.99%	1.97%	-0.44	20
Makim	IBSE:MAK	Turkey	Electronic Fc	Borsa	Turkish Lira	06/17/2022	4.84	7.4	51.96%	17.3	64.4	0.659	39.5	24.8	-	-	0.457	-	0	-	16.9	5.53%	72.31%	-1.04	70
LumenRadio AB (publ) (OM:LUMEN)	OM:LUME N	Sweden	Communicati	OMX Nordic Exchange Stockholm (OM)	Swedish Krona	12/08/2022	57.44	65.8	14.55%	30.3	51.7	14.7	19.2	10.6	-	-	0.037	-	0	-	2.71	2.66%	8.37%	0.9	85
Guangdong AVCiT Technology Holding Co., Ltd. (SZSE:001229)	SZSE:0012 29	China	Communicati	Shenzhen Stock Exchange (SZSE)	Chinese Renminbi (Yuan)	08/08/2022	26.05	31.4	20.61%	34.3	34.4	4.68	41.0	29.9	-	-	0.288	-	0	-	15.2	2.99%	1.97%	-0.44	20
PT Mora Telematika Indonesia Tbk (IDX:MORA)	IDX:MORA	Indonesia	Integrated Te	Indonesia Stock Exchange (IDX)	Indonesian Rupiah	08/08/2022	494.00	585.0	18.42%	19.1	17.3	173.2	13.9	9.8	-	-	0.384	-	0	-	40.6	5.31%	4.21%	-0.44	50

Appendix №2: Alternative companies from petrochemical industry

Company Name	Exchange: Ticker	Country/Region of Incorporation	Primary Industry	Exchanges (Primary Listing)	Filing Currency [LTM]	First Trade Date [1/1/2022-12/31/2022] [Primary Listing]	IPO stock price	Close price after one month	% change of stock price	P/LTM Diluted EPS Before Extra [Latest] (x)	Return on Equity % [CY 2021]	Total Debt/Equity % [CY 2021]	Net Inc. Avail. for Common Margin % [CY 2021]	Normalized Net Income Margin % [CY 2021]	Daily Value Traded [Latest - 3 Year(s)] ($USDmm, Historical rate)	Shares Outstanding [My Setting] [Latest - 3 Year(s)] (mm)	Net Working Capital / Revenue [LTM]	Implied Market Capitalization [My Setting] [12/31/2022] ($USDmm, Historical	Dividends per share [CY 2021] ($USD, Historical rate)	% Price Change [3 Years]	Diluted Net	GDP growth rate, %	Inflation rate	Political stability	Investment freedom
Saudi	SASE:2223	Saudi Arabia	Commodity (	Saudi	Saudi	12/28/2022	94.0	100.4	6.81%	17	37.8	55.8	17.0	12.0	-	-	0	-	0	-	400.2	7.49%	2.47%	-0.36	50
Ahlatci	IBSE:AHG	Turkey	Gas Utilities	Borsa	Turkish Lira	12/22/2022	5.8	7.0	19.97%	6.2	5.0	196.2	3.5	(1.6)	-	-	(0.24)	-	0	-	9.9	5.53%	72.31%	-1.04	70
Mapis	BIT:MGS	Italy	Specialty Ch	Borsa	Euro	12/22/2022	10.8	12.9	19.26%	7.8	23.0	147.1	5.2	4.41	-	-	0.2	-	0	-	4.16	3.99%	8.20%	0.41	80
Joint Stock	KAS:KMG	Kazakhstan	Oil and Gas I	Kazakhsta	KZT	12/08/2022	8406	9290	10.52%	8	10.0	38.1	14.7	12.3	-	-	0.032	-	1	-	2 189.9	3.30%	0.00%	-0.36	50
Technopack	BSE:54365	India	Metal, Glass	Mumbai	Indian	11/16/2022	85.6	98.7	15.30%	18.9	70.0	1.1	-	21.12	-	-	0.813	-	-	-	-	6.99%	6.70%	-0.57	40
Shaanxi	SZSE:0012	China	Gas Utilities	Shenzhen	-	10/31/2022	20.0	26.3	31.57%	20.0	16.1	0.42	21.2	15.0	-	-	(0.55)	-	0	-	16.0	2.99%	1.97%	-0.44	20
Zhejiang	SZSE:0012	China	Commodity (	Shenzhen	Chinese	09/30/2022	28.47	32.6	14.51%	31.5	24.3	26.5	19.9	12.3	-	-	0.816	-	0	-	12.0	2.99%	1.97%	-0.44	20
Dubond Technology	SHSE:6880 35	China	Commodity (	Shanghai Stock	Chinese Renminbi	09/19/2022	68.08	78.31	15.03%	43	15.4	12.5	13.0	7.85	-	-	0.46	-	0	-	11.9	2.99%	1.97%	-0.44	20
PT Black	IDX:COAL	Indonesia	Coal and Con	Indonesia	Indonesian	09/07/2022	244.00	468.0	91.80%	6.4	67.6	34.5	15.1	12.0	-	-	0.25	-	0	-	1.82	5.31%	4.21%	-0.44	50
Wolf Energy	OTCPK:W OFN	United States	Oil and Gas I	Pink Sheets LLC	US Dollar	09/07/2022	0.1	0.1	57.80%	NM	62.9	13.12	(66.0)	25.6	-	-	(0.065)	-	-	-	-	1.94%	8.00%	-0.04	85
Focus Hotmelt	SZSE:3012 83	China	Specialty Ch	Shenzhen Stock	Chinese Renminbi	09/02/2022	46.93	53.00	12.93%	22	15.8	24.9	5.2	3.6	-	-	0	-	0	-	8.62	2.99%	1.97%	-0.44	20
Waskahigan	CNSX:WO	Canada	Oil and Gas I	Canadian	-	07/28/2022	0.15	0.3	93.33%	-	4.5	285.1	(1.65)	-	-	-	-	-	-	-	-	3.82%	6.80%	0.77	80
Dalev	BSE:54354	India	Commodity (	Mumbai	Indian	07/26/2022	35.1	48.5	38.23%	15.5	6.1	59.77	-	-	-	-	0.145	-	-	-	-	6.99%	6.70%	-0.57	40
Botala	ASX:BTE	Australia	Oil and Gas I	Australian	Australian	07/15/2022	0.18	0.20	11.11%	NM	(7.5)	-	-	-	-	-	-	-	0	-	-144	3.81%	6.59%	0.93	80
Seng Fong	KLSE:SEN	Malaysia	Commodity (	Bursa	Malaysian	07/07/2022	0.7	0.7	8.82%	16.3	32.5	96.4	4.7	3.95	-	-	0.291	-	0	-	9.45	8.65%	3.38%	0.14	60
American Future Fuel	OTCPK:AF FC.F	Canada	Coal and Con	Pink Sheets LLC	Canadian Dollar	06/16/2022	0.1	0.5	411.00%	NM	(6.6)	-	-	-	-	-	-	-	0	-	-412	3.82%	6.80%	0.77	80
Seadrill Limited	NYSE:SDR L	Bermuda	Oil and Gas I	New York Stock	US Dollar	06/13/2022	26.0	31.9	22.85%	12.1	(36.6)	(2.05)	(68.1)	(16.8)	-	-	0.05	-	0	-	(570.0)	0.00%	0.00%	1.03	60
Sitio	NYSE:STR	United States	Oil and Gas I	New York	US Dollar	06/08/2022	29.52	34.1	15.45%	NM	5.8	13	39	24.9	-	-	0.18	4457	0	-	47.5	1.94%	8.00%	-0.04	85
ProFrac	NasdaqGS:	United States	Oil and Gas I	Nasdaq	US Dollar	05/13/2022	17.60	22.0	24.89%	NM	(0.7)	203.6	0	(2.4)	-	-	0.044	3908	0	-	-	1.94%	8.00%	-0.04	85
Zhejiang	SZSE:3012	China	Specialty Ch	Shenzhen	Chinese	04/19/2022	35.00	45.9	31.00%	21.2	22.7	10.2	10.6	7.4	-	-	0.04	-	0	-	13.9	2.99%	1.97%	-0.44	20
Odfjell	OB:OTL	Bermuda	Oil and Gas I	Oslo Bors	Norwegian	03/29/2022	46.63	52.2	12.01%	7.1	3.9	8.75	4.0	2.2	-	-	0.042	-	0	-	13.2	0.00%	0.00%	1.03	60
Shaanxi Huaqin Technology Industry Co.,Ltd. (SHSE:688281)	SHSE:6882 81	China	Specialty Ch	Shanghai Stock Exchange (SHSE)	Chinese Renminbi (Yuan)	03/07/2022	85.95	92.1	7.17%	51.7	55.6	13.0	45.6	27.3	-	-	0.687	-	0	-	36.7	2.99%	1.97%	-0.44	20
Constellation Energy Corporation (NasdaqGS: CEG)	NasdaqGS: CEG	United States	Electric Utili	Nasdaq Global Select (NasdaqGS)	US Dollar	01/19/2022	38.00	43.5	14.58%	36.1	(0.6)	77.3	(1.0)	4.8	-	-	0.138	-	0	-	(205.0)	1.94%	8.00%	-0.04	85
Dezhou United Petroleum Technology Co.,Ltd. (SZSE:301158)	SZSE:3011 58	China	Oil and Gas I	Shenzhen Stock Exchange (SZSE)	Chinese Renminbi (Yuan)	01/17/2022	26.10	28.5	9.20%	26.7	9.9	3.0	14.0	9.5	-	-	0.923	-	0	-	9.82	2.99%	1.97%	-0.44	20

Appendix №3: Analysis of external macroeconomic factors

Company Name	% change of stock price	Country/Region of incorporation	GDP growth rate, %	Inflation rate	Political stability	Investment freedom
BIWIN Storage Technology Co., Ltd. (SHSE:688525)	48.15%	China	2.99%	1.97%	0.44	20
Suzhou QingYue Optoelectronics Technology Co., Ltd. (SHSE:688496)	32.12%	China	2.99%	1.97%	0.44	20
ELEMENTS, Inc. (TSE:5246)	112.31%	Japan	0.96%	2.50%	1.07	60
JoulWatt Technology Co., Ltd. (SHSE:688141)	20.70%	China	2.99%	1.97%	0.44	20
Capital Securities Corporation Limited (SHSE:601136)	66.52%	China	2.99%	1.97%	0.44	20
Yuanjie Semiconductor Technology Co., Ltd. (SHSE:688498)	18.97%	China	2.99%	1.97%	0.44	20
Integrity Technology Group Inc. (SHSE:688244)	31.09%	China	2.99%	1.97%	0.44	20
Transwarp Technology (Shanghai) Co.,Ltd. (SHSE:688031)	32.49%	China	2.99%	1.97%	0.44	20
Guizhou Zhenhua Fengguang Semiconductor Co., Ltd. (SHSE:688439)	23.13%	China	2.99%	1.97%	0.44	20
Empyrean Technology Co., Ltd. (SZSE:301269)	31.20%	China	2.99%	1.97%	0.44	20
Guerrilla RF, Inc. (OTCPK:GUER)	14.09%	United States	1.94%	8.00%	0.04	85
HOUSEI Inc. (TSE:5035)	34.62%	Japan	0.96%	2.50%	1.07	60
Guobo Electronics Co., Ltd. (SHSE:688375)	20.74%	China	2.99%	1.97%	0.44	20
PT Tera Data Indonusa Tbk (IDX:AXIO)	60.22%	Indonesia	5.31%	4.21%	0.44	50
Shenzhen Techwinsemi Technology Co., Ltd. (SZSE:001309)	105.01%	China	2.99%	1.97%	0.44	20
Zhejiang Chengchang Technology Co., Ltd. (SZSE:001270)	258.26%	China	2.99%	1.97%	0.44	20
Gaonchips Co., Ltd. (KOSDAQ:A399720)	28.36%	South Korea	2.61%	5.09%	0.56	60
Suzhou Novosense Microelectronics Co., Ltd. (SHSE:688052)	25.20%	China	2.99%	1.97%	0.44	20
Smart Güneş Enerjisi Teknolojileri Arastirma ve Gelistirme Üretim Sanayi ve Ticaret A.S. (IBSE:SMRTG)	27.64%	Turkey	5.53%	72.31%	1.04	70
Elm Company (SASE:7203)	38.64%	Saudi Arabia	7.49%	2.47%	0.36	50
Suzhou Oriental Semiconductor	35.98%	China				

Жасыл қаржыландыру стандарттарының талаптарына сәйкес венчурлық инвестициялардың жалпы жағдайы

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Аннотация

«Венчурлік қаржыландыру» ұғымы аясында өте көп анықтамалар берілген, бірақ дегенмен де бұл анықтамалардың барлығы оның негізгі атқарымдық сипатын толық аша алмайды, нақты бір ақшалай қаражаттар сомасын ұсынып, орнына жарғылық капиталдағы үлеске немесе қандай да бір акциялар пакетіне айырбастау жолымен нақты бір бизнестің өсуіне ықпал ету.

Қазақстандағы венчурлық қаржыландыруды дамыту қызметінің алғышарты болып – 2003-ші жылдың 30 мамырындағы «Инновациялық қызмет туралы» ҚР Үкіметінің қаулысы танылған, және мемлекеттің қатысуымен құрылған «Ұлттық инновациялық қор» АҚ ең алғашқы венчурлық қызметті дамыту бастамасы саналады.

Қазіргі кездегі жасыл экономика талаптарына сай инновациялық қызметтердің қатысушы субъектілерімен, және қаржыландырушы инвесторлармен қарым қатынасты қалыптастыру, дамушы өзге де мемлекеттік институттарымен байланыстарды сәйкестендіру жұмыстарын дамыту өте өзекті.

Венчурлық қорлардың қызметінің негізгі бағыттары – венчурлық қорлар қызметін дамытуды толығымен қолға алу үшін халықаралық инновациялық қызметтерді талдау және Қазақстандық жасыл экономика талаптарына сай венчурлық инвесторлардың әлеуетіне бағалама жасау.

Сондай ақ венчурлық қаржыландырудың нысандары мен тетіктеріне, ұлттық инновациялық инфрақұрылымды құраушы элементтерінің әс-әрекетіне байланысты, ғылми-талдамалық зерттеулер, инновациялық қызметтердің қорытынды ережелерін жүйелендіруді қолға алу қажет.

Мақалада қәзіргі кездегі венчурлық қаржыландыруды дамыту бойынша зерттеулер жасалып, еліміздегі венчурлық қаржыландырудың кейбір шешімін таппаған проблмалары қарастырылған.

Түйін сөздер: Венчурлық қаржыландыру, инвестициялар, инвестицияның кезеңдері, инновация, инновациялық кәсіпорындар, салым, капитал, қаржы.

Мақаланың негізгі мазмұны

Жалпы экономикада тікелей жеке және венчурлық инвестициялар салу индустриясында компанияда инвестицияларды құю сатысы келесі кезеңдерден тұрады:

1.«Ең бастапқы кезден бастап» (Seed) — компанияның немесе кәсіпорынның ең басында құрылу сатысында, жоба немесе бизнес-тұжырымдама бар кезде ғана, кәсіпорындарды басқару шараларын ұйымдастыру барысы қолға алынады.

2 «Старттық» (Start-up) - Кәсіпорынның жақын аралықта құрылғанын, тәжірибе көрсетудегі сипаттары бар, өндірісті ұйымдастыруды қамсыздандырады мен өнімдерді нарыққа тездетіп шығаруды қамсыздандырады.

3 «Ерте өсу» (ерте кезеңде өсу) – кәсіпорын осы кезеңде дайын өнімдерді көптеп шығарады, коммерциялық тұрғыдан өткізуді жүзеге асырады, алайда әлі де пайда тұрақталмаған саналатын кезең.

4 «Ұлғайту, өсу, кеңейту» (expansion) - компанияның нарықтағы белгілі ұстанымдары бар, пайда алу барысы жоғарылайды, өнім өндіру мен өткізуді ұлғайтуды, қосымша маркетингтік зерттеулерді жүргізуді, негізгі қорларды, капитал саламдарын арттыру қажеттіліктері туындайды.

5.«Шығып кету» (Exit) — компанияның ең қарқынды дамыған кезі, осы кезең аралығында акцияларды стратегиялық тұрғыдан инвесторларға өткізу немесе қор рыногына алғашқы орналастыру жүзеге асырылады.

Ерекше маңызды мәселе венчурлық қаржыландырудың мерзімі мен кезеңдері, өйткені неғұрлым тәуекелді жобалар барынша күтуді қажетсінеді.

Яғни, «Дән себу, Ерте кезеңде өсу» (seed capital) және «Старт» (start-up capital) венчурлық капиталы бизнесті дамытудың неғұрлым жетілген кезеңдеріне өтіп, «Даму капиталы» (devalopment capital) және «кеңейту капиталы» (expansion capital) кезеңдеріне жетуі.

Ең алғашқы кезеңде инвесторлар үшін венчурлық қаржыландыруды талап ететін инновациялық фирманы іздеу және таңдау жасалады.

Венчурлық инвестордың қаржылық тәуекелдері, салынған капиталдың қайтымы орта деңгейден жоғары болуы деңгейі анықталады.

Салынған капитал қайтымдылығы (Internal Rate of Return-IRR) – сыйақыны өлшеудің жалпы көрсеткіші инвесторға да, инновациялық идея авторы үшінде негізгі көрсеткіш болып отыр.

Осы көрсеткіш Еуропалық және Британдық венчурлық капитал құрылымдарында инновациялық жобаның табысын бағалаудың стандартты үлгісі болып табылады.

Соңғы кездердегі технологиялық инновациялық қордың қызметін зерттеу нәтижелері көрсеткендей, венчурлік индустрияны дамытудың сәтті бағыттарының бірі Қазақстандық кәсіпорындар мемлекеттік бюджет есебінен ғана емес, жеке инвесторлардың, халықаралық ұйымдардың қаражаты есебінен де венчурлық қаржыландыруға қол жеткізуде де айтуға болады.

Жалпы 2022 жылы инновациялық сауалнамаға қатысқан ұйымның ішінде ұйымдардың саны 30 750 болды, инновациялық қызметпен барлығы 3390 адам айналысты.

Қазақстан кәсіпорындары 2022 жылдың желтоқсан - қаңтардағы тауарлар мен қызметтердің жалпы өнеркәсіптік өндірісінің 3,9% (2021 ж. – 3,4% құраған) жалпы 1 879,1 млрд.теңгеге инновациялық өнімдерін шығарды.

Өткен жылмен салыстырғанда өсім байқалады, жалпы инновациялық өнім өндіру 30%-дан астамға өсті, ал сатылған инновациялық өнімнің жалпы көлемі 739,8 млрд теңгені құрады, оның 286,3 млрд теңгесі экспортқа шығарылды.

Кәсіпорындағы инновациялардың жартысына жуығы (47,7%) меншікті қаражаттар арқылы жүзеге асырылды, 37,7% банк несиелері, 1,4% - шетел инвестициялары, негізінен (95,3%) Қызылорда облысы кәсіпорындарымен пайдаланылды.

Жалпы инновацияларға кәсіпорындардың жұмсаған шығындары жаңа немесе жетілдірілген өнімдерді енгізу 70,4%-ды құрады.

Мәселен, осылай айту үшін себептердің бірі – кәсіпорындарды қаржыландырудағы венчурлық қаражаттар көлеміндегі мемлекет үлесінің азаюы туралы көрсеткіштері.

Зерттеулер көрсеткендей Қазақстандағы венчурлік капитал шамасы әлі де аз-барлық венчурлік қорлардың жалпы капиталдандырылуы 110 миллион АҚШ доллары шамасын құрайды, ал Қазақстан үшін барлығы 10-15 ірі венчурлік қорларды құру аса ыңғайлы.

Барлық инновациялық шығындардың 65% жуығы машиналар, жабдықтар, бағдарламалық қамтамасыз ету және басқа активтер, 13% - бойынша ҒЗТКЖ жүргізу, қалған 22% - сыртқы білімді меңгеру үшін, үшін дизайн, маркетингтік зерттеулер, оқыту және т.б. сатып алуға жұмсалды.

Статистикалық мәліметтерге сәйкес, кәсіпорында жүргізілетін ҒЗТКЖ көмегімен инновациялар құрылды. Ал 2022 жылы 513 кәсіпорын инновацияларды құруды жүзеге асырды.

Берілген жасыл қаржыландыру талаптарына сай 1-ші кестеде табиғат қорғау қызметінің түрлері бойынша қоршаған ортаны қорғауға бағытталған қаржылар көлемінің өзгерістері туралы шамалар берілген (кесте 1).

Кесте 1 - Табиғат қорғау қызметінің түрлері бойынша қоршаған ортаны қорғауға бағытталған қаржылар (мың теңгемен)

Жылдары/ салалары	2013	2014	2015 ж.	2018	2019	2020	2021	2022
Қоршаған ортаны қорғау инвестициясы	77 500 390	103 492 239	82 883 241	111 161 429	198 721 626	173 618 612	171 165 359	159 660 892
оның ішінде:								
атмосфералық климатқа	26 814 662	27 055 689	24 936 285	10 333 129	11 008 007	15 426 845	8 046 476	38 098 797
ағынды суларды тазалауға	18 774 846	41 811 568	15 185 784	6 179 506	2 909 014	11 775 069	31 016 559	43 455 884
қалдықтармен жұмыс істеуге	8 026 180	16 941 313	14 130 750	7 541 510	9 069 412	11 151 011	14 408 303	8 719 731
топырақты, су қалпына келтіру	10 612 203	13 436 431	10 448 523	9 882 630	8 775 234	7 108 863	10 485 558	11 292 452
шуды және дірілді әсерді төмендетуге	5 151	125 984	-	16 584	x	-	x	-
биоалуантүрлілікті сақтауға	135 039	163 802	687 843	3 573 298	4 154 484	5 236 991	755 868	1 984 879
радиациялық қауіпсіздікке	196 557	71 315	192 253	90 958	x	34 392	149 142	260 287
ғылыми-зерттеу жұмыстарына	722 344	789 757	332 901	323 022	82 229	475 202	327 785	84 404
"Жасыл экономикаға" қатысы бар табиғат қорғау қызметіне	12 213 408	3 096 380	16 968 902	73 220 792	162 722 471	122 410 239	105 952 068	55 764 458
оның ішінде:								
жаңартылатын энергия көздеріне	9 042 494	490 287	7 487 656	70941 690	162 448 828	114 218 620	98 901 557	44 910 238
энергия тиімділігін арттыру	906 487	872 208	655 538	1793464	234 749	5 959 183	4 833 394	6 843 924
парниктік газдарға инвестициялар	-	413 199	1 115 434	105610	399 190	65 385	31 988	1 145 120
Жасыл экономика инвестициялары үлесі	1,3	1,6	1,2	1,0	1,6	1,4	1,3	1,0
Ескертпе - Ескертпе - ҚР статистика агентігінің жедел деректері негізінде жасалды								

1-ші кестедегі мәліметтерге сай, өкінішке орай жалпы инвестициялар құрылымындағы жасыл экономика инвестициялары үлесі барынша аз, 1,0-1,6 аралығында тұр.

Алайда «Жасыл экономикаға» қатысы бар табиғат қорғау қызметінің «жасыл экономикаға» қатысы бар табиғат қорғау қызметтеріне инвестициялар да аздап болса да жылдан-жылға артып отыр. Мысалы бұл көрсеткіш 12 213 408 мың.теңгені құраса, 2022-ші жылы 4,5 есеге дейін өсті.

Технологиялық жаңартуларға сай, негізгі капиталға салынған инвестициялардың жалпы көлемі 2013-ші жылы 6072687 млн. теңге көлемінде болса, 2022-ші жылы 15251104,1 млн. теңгені құрап, осы жылдар аралығындағы өсім 60 пайызды құраған.

Қазақстандағыдай бір венчурлік қорда 20 миллион доллардан басталғанын ескерсек, егер басқа елдерде венчурлік индустрияны дамытуды аламыз. Бірте-бірте олар салмақ қосып, капиталдандыруды 150 миллион долларға дейін арттырды.

Қазір Ұлттық инновациялық қор жеке инвесторларды жаңа венчурлық қорлар құруға ынталандыруда, қазіргі таңда Қазақстанда барлық 6 венчурлік қоры мемлекеттік даму институты — Ұлттық инновациялық қордың қатысуымен құрылған.

Бірақ, Қазақстанда Ұлттық инновациялық жүйені қалыптастыру және дамыту жөніндегі бағдарламаға сәйкес, бұл жағдайда инновациялық қордан венчурлік қорларға мемлекеттік үлестер көлемі жеке инвестициялардың өсуімен қатар біртіндеп төмендейтін болады.

Мысалы, 2006 жылдардың соңында 30 миллион АҚШ долларына дейін «Әрекет» венчурлық қорының жарғылық капиталы жай акциялардың қосымша санын шығару және орналастыру нәтижесінде ұлғайған.

Осылайша, егер бастапқы кезеңде қордағы ҒЗҚ үлесі 49% -. құраса, қазір Инновациялық қордың қатысуы 33,3% - ға дейін төмендеді.

Қазіргі кезде бірқатар инвестициялауы туралы құжаттар қол қою сатысында тұр, оның басқаруында 2 млрд. соңғы 25 жылда 16 елде жұмыс істейтін 300-ден астам компанияның бизнесін құруға көмектескен. Осылардан өзге, "Технологиялық даму жөніндегі Ұлттық агенттік" АҚ капиталдандырудың жалпы көлемі 544 млн. құрады.

Өнертапқыштық белсенділік коэффициенті бойынша инновациялық көрсеткіштер көлемінде, бұл көрсеткіш бойынша мынадай деректер бар: Корея Республикасында – 33,05, Жапонияда – 20,39, Швейцарияда – 10,35, АҚШ-та – 8,97, ресейде 2,05. Қазақстан көрсеткіштерінен төмен ОАР – 0,16, Мексика – 0,11.

Ал Қазақстанда берілген өнертабыстарға отандық патенттік өтінімдердің саны, 10 000 халыққа шаққанда) мынадай болды.

Келесі 2-ші кестеде Кәсіпорындардың инновацияны енгізуі бойынша көрсеткіші берілген.

Кесте 2- Кәсіпорындардың инновацияны енгізуі бойынша көрсеткіші

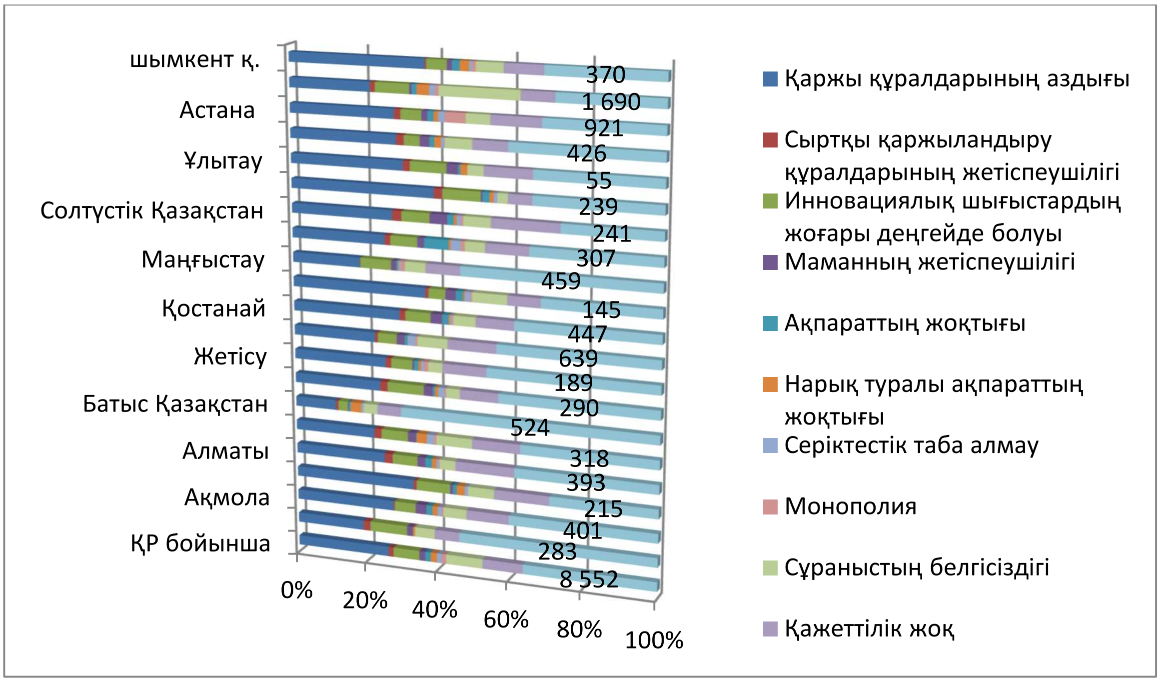
Кәсіпорындардың инновацияны енгізуі бойынша көрсеткіші								
	Инновацияларды енгізу есебінен табыстары көбейген кәсіпорындар саны				Инновацияларды енгізу есебінен шығыстары қысқарған кәсіпорындар саны			
	0%	1-24%	25-50%	51-100%	0%	1-24%	25-50%	51-100%
Қазақстан Республикасы	1 958	1 463	144	27	2 233	1 253	89	17
Абай	28	16	9	3	30	17	6	3
Ақмола	24	41	1	3	32	37	-	-
Ақтөбе	105	53	8	2	119	46	2	1
Алматы	16	75	7	1	32	59	8	-
Атырау	26	22	4	-	20	23	9	-
Батыс Қазақстан	11	20	4	-	15	18	2	-
Жамбыл	21	20	4	1	25	19	-	2
Жетісу	17	34	15	2	26	35	6	1
Қарағанды	146	148	10	3	201	102	3	1
Қостанай	20	102	1	1	23	95	5	1
Қызылорда	15	55	15	2	15	58	13	1
Маңғыстау	27	30	5	3	36	23	4	2
Павлодар	70	99	2	1	91	79	1	1
Солтүстік Қазақстан	24	72	4	1	42	55	4	-
Түркістан	42	37	12	2	47	33	11	2
Ұлытау	3	11	1	-	6	9	-	-
Шығыс Қазақстан	43	68	20	-	42	86	3	-
Астана қаласы	343	271	10	1	372	243	9	1
Алматы қаласы	958	214	10	-	1 039	141	2	-
Шымкент қаласы	19	75	2	1	20	75	1	1
Ескертпе –ҚР статистика агентігінің жедел деректері негізінде жасал								

2022 жылы инновациялық белсенді кәсіпорындардың үлесі сауалнамаға қатысқан ұйымдардың жалпы санынан инновациялық белсенділік 11,0%-ды құрады, бұл 0,5 пайыздық өткен жылғы деңгейден жоғары.

Олардың арасында мына субьектілер бар:

— Еуропалық технологиялық венчурлық қорының жарғылық капиталы 150 млн.еуроны құрайды, мұнда ҰИҚ қатысу сомасы 7,7 млн. еуроны құрайтын Wellington partners ventures III Technology Fund L. P: (Инвестициялар географиясы-Германия және Еуропаның басқа елдері) - Орталық Азия шағын кәсіпорындарды қолдау қоры (CASEF, Инвестициялар географиясы — Орталық Азия) жарғылық капиталы 4,2 млн., оның ішінде ҰИҚ қатысуымен 2,058 млн.

Берілген деректердің барлығы да инновациялық-технологиялық жобалардың деңгейін сипаттайды, алайда еліміздегі венчурлық қаржыландыру саласында шешімін таппаған бірқатар мәселелер бар. Ірі және орта кәсіпорындардың көпшілігі әлі де технологиялық инновациялық қызметтерін жүзеге асыра алмай отыр. Төмендегі 1-шы суретте ҚР өңірлері бойынша кәсіпорындарда инновациялық қызметтің жүзеге асырылмау себептері анықталды (сурет 1).



Сурет 1 - Кәсіпорындардың технологиялық венсурлық инновацияларды енгізу алмауының негізгі себептері

Жалпы, жасыл құрылыс - қоршаған ортаға әсері аз құрылыс түрі және ғимаратты пайдалануға беру.

Жасыл құрылыста орындалған жұмыстардың көлеміне жалпы энергетикалық тиімділік және энергия үнемдеудің (жаңа нысандар салу кезінде жаңа технологиялар қолдану, қолданыстағы ғимараттарды қайта жаңарту кезінде термо жаңғырту және экологиялық таза құрылыс материалдарын қолдану) құрылыс стандарттарына сәйкес орындалған құрылыс жұмыстарының көлемі біріктіріледі.

Венчурлық қаржыландыру шараларын зерттеудің тұжырымдамалық тәсілдерін теориялық талдау, венчурлық капиталдың экономиканың инновациялық үлгісін қалыптастырудың перспективалық бағыттары ретінде мынадай маңызды сипаттамаларын тұжырымдауға мүмкіндік берді:

- Инновациялық жобаларды жүзеге асыру үшін тек қаржы ресурстары ғана емес, сонымен қатар бизнес, қаржы, стратегиялар әзірлеу, маркетинг саласындағы белгілі бір білім талап етілетіндігіне байланысты қаржылық және идеялық, зияткерлік капиталды біріктіру;

— неғұрлым жоғары тәуекелмен ұштастыра отырып, жоғары пайда көзін қамтамасыз етуге бағытталу;

— инвестициялаудың ерекше түрі-акционерлік капиталға айналдыру не жай немесе артықшылықты акцияларды сатып алу; несиені сатып алу (содан кейін ол акцияларға айырбасталады);

— инновациялық кәсіпкерлік жобаларды қаржыландырудың бөлшектерін құру;

— ішкі немесе сыртқы венчурды пайдалану, арнайы құрылған венчурлық құрылымның болуын жүзеге асыру;

— венчурлық инвесторлардың қаржыландырылатын компанияның капиталынан шығуының және олардың табыс табуының ерекше жолдары-компанияны басқа фирмаға сіңіру, акцияларды сатып алу және оларды капиталды бастапқы орналастыру арқылы шығару арқылы;

— кепілмен қамтамасыз етудің және қаражаттың қайтарылуына кепілдіктердің болмауы.

Сонымен венчурлық қаржыландыру талаптарына сай, жасыл қаржыландыруды дамыту мәселелері қәзіргі кезде аса өзекті болып отыр.

ӘДЕБИЕТТЕР ТІЗІМІ

1.Құнды қағаздарды талдау/ Б. Грэхем, Д. Додд; ағылш.тілінен аударма. А. В. Назаренко, О. Л. Пелявско го. – 3-ші басылым. – Мәскеу: Вильямс, 2016 ж. – 878 б. – ISBN 878-5-8459-1552-8.

2.Аскинадзи В. М. Инвестициялық іс / В. М. Аскинадзи, В. Ф. Максимова. – Мәскеу: Университеттік кітап, 2012 ж. – 764 б. – ISBN 978-5-91304-245-3.

3.Балдин К. В. Инвестициялық талдау / К. В. Балдин, В. А. Ногай. – Мәскеу: Флинта ; МПСУ, 2021. – 304 с.

4.Берзон Н. И. Бағалы қағаздар нарығы: академиялық бакалавриат оқулығы / Н. И. Берзон және басқалары; жалпы ред. Н. И. Берзона. – Мәскеу: Юрайт, 2019. – 541 б.

5.Галанов В. А. Құнды қағаздар нарығы: оқулық / В. А. Галанов. – Москва : ИНФРА-М, 2016. – 379 б.

Comparative Analysis of Valuation Models: An In-depth Study of DCF, CCA, and Precedent Transactions Using Walmart Inc. as a Case Study

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Abstract

Three of the primary evaluation models: Discounted Cash Flow Model (DCF), Comparable Company Model (CCA), and Precedent Transaction Model According to the characters of financial decision-making, this research focuses on the efficiency of each model. Through a thorough analysis of Walmart Inc.`s data, this paper critically evaluates both the accuracy and applicability of these models under different market scenarios. It seeks to extend a hand to financiers and managers alike offering an understanding for what attributes together describe strengths and weaknesses in each of these modes of appraisal. In this way one may hope that appreciation will lead people towards more informed investments or business decisions than they might otherwise have chosen.

Introduction

The confluence of multiple valuation methods like Discounted Cash Flow (DCF), Comparable Company Analysis (CCA) and Precedent Transactions generates a scholarly conundrum that needs a detailed analysis through the fog of ambiguity. The basic dilemma is testing these methodologies as they become more relevant in the context of decisions in the financial market during periods of volatility. The complexities in business valuation methods such as DCF pawed for by (E. Sobczyk, 2022) arising from coal micro economies as elucidated by each coal mining operation, effectively stress the point. Moreover, as Divanov (2017) covered, the intrusion of statistical tools in the world of asset estimation obliges us to consideration a broadened methodological horizon in our proper assessments of these different ways. This study has been motivated to examine whether DCF, CCA, and Precedent Transactions have a relative advantage or disadvantage in the financial decision making.

History is crucial in understanding various financial valuation methodologies in making financial decisions. Classic methods for company valuation, such as DCF, CCA and Precedent Transaction techniques tap the natural value of the assets or entities where real data from the rest of the markets applies to valuations to ground truth. But these valuations can change due to complexities such as future cash flows being uncertain, discount rates vary and transaction datasets are unavailable. To fill the gap left by the lack of writing on this subject, take up the task of making financial decisions, and provide professionals with a wealth of insight to use in more general environments, it is essential that one develop a comprehensive understanding of the history, the method of implementation, strengths & weaknesses, and probably much more importantly the exceptions for this abundance of techniques.

As the landscape of financial decision-making changes and develops, these findings indicate the significance of correct valuations. Thus, the study is going to embark on the following objectives:

1. Investigate DCF, CCA, Precedent Transactions in detail
2. Illustrate practical applications using financial modeling.
3. To support value-based decision-making in complex financial systems through the comprehensive evaluation and integration of various valuation techniques.

Hypotheses

The researched literature has identified and analyzed each of the variations of valuation methods like DCF, CCA, Precedent Transactions, etc., in financial decision-making. The literature review provides a chronological overview of financial valuation methodologies and a summary of the advantages and limitations of their use in practice. The current study tries to combine the sound intrinsic value estimation properties of the DCF method with both the outlet-price based gained knowledge and existing empirical benchmarks in the field, from Precedent Transactions and Current Comparable Analysis (CCA). It does so in order to determine the comparative efficacy of each method in different contexts, leading to a more comprehensive discussion of the valuation practices.

According to the literature, and the aims of this study, following hypotheses are developed, we test the following hypothesis:

H1: The DCF method provides more accurate intrinsic value estimates in stable market conditions than the CCA or Precedent Transactions methods.

H2: The accuracy and precision of the DCF method decrease relative to CCA and Precedent Transactions as the market environment becomes more volatile or uncertain.

H3: Combining multiple valuation methodologies (DCF, CCA, and Precedent Transactions) yields a more comprehensive valuation than using individual methods alone.

H4: Market-oriented valuation methods, such as CCA and Precedent Transactions, are more susceptible to market volatility and provide more accurate valuations during periods of high market volatility.

Literature Review

The DCF method involves forecasting the future cash flows of a company and discounting them to their present value using a discount rate. This model is highly regarded for its theoretical soundness and its ability to incorporate detailed financial projections. According to Damodaran (2012), DCF is ideal for long-term valuations as it considers the time value of money and the intrinsic value of a business. However, its accuracy heavily relies on the assumptions made about future cash flows and discount rates, which can be speculative and uncertain (Penman, 2012).

CCA involves valuing a company by comparing it to similar companies with known market values. This method is appreciated for its simplicity and market orientation, as it reflects current market sentiments and investor perceptions (Rosenbaum & Pearl, 2009). However, the challenge lies in finding truly comparable companies and adjusting for differences in growth rates, profitability, and market conditions (Lundholm & Sloan, 2013).

The Precedent Transactions method uses historical transaction data to estimate a company's value. This method is particularly useful in mergers and acquisitions (M&A) as it reflects the actual prices paid in similar transactions, providing real-world benchmarks (Gaughan, 2015). However, the availability and relevance of transaction data can limit this method's applicability, especially in less active markets (Pratt, 2013).

Comparative Insights

As a result, the study of financial valuation methods through historical contexts and their use in modern scenarios offers a detailed looks into how valuation of businesses arise in the midst of uncertainties. Fabozzi et al. Anand et al (2011) reiterate the significance of using Discounted Cash Flow (DCF), Comparable Company Analysis (CCA) and Precedent Transactions together as building blocks conceptually before going in to the dealings of the models themselves In fact, an examination of the respective strengths and weaknesses of both will facilitate a better understanding of the numerous contextual scenarios likely to impact the valuation, aided in no small part by empirical as well as theoretical accounts (Fabozzi et al., 2011).

This literature review is highly significant for the financial valuation domain in several ways. Taken together, it provides a thorough overview of how valuation methodologies are being practiced at present, informing where future research ought to occur. Such synthesis is of particular importance in the backdrop of changing economic trends and emerging technologies as well. Specifically, the application of machine learning and artificial intelligence into finance modeling is one of the greatest achievements which entered in finance passing through a range of impact on prediction accuracy and valuation robustness (Alzubi, 2024).

In addition, these results highlight the importance of integrating a theoretical framework with empirical data to improve the accuracy and relevance of valuation models. Evaluation of risk and uncertainty in valuation necessitates an appreciation of important theoretical concepts such as the Capital Asset Pricing Model (CAPM) and real options analysis to provide the underpinning (Sharpe, 1964; Trigeorgis, 1996). Contrary to formal representation of CCA in the Indian service sector (Yadav, 2023)or use of DCF in the construction industry (Panayides, 2016), empirical studies validate the model through the practical application and case history in industry (Fang, 2023; Tiwari, 2014).

The review also notes that ESG factors are becoming an increasingly relevant component of valuation. There are increasing arguments that incorporating environmental, social, and governance (ESG) metrics into standard valuation models can help ensure a fuller view of both a company's long-term value and its sustainability, to in turn more effectively align financial analysis with broader economic and societal trends (Schoenmaker & Schramade 2019).

In an environment of high M&A activity, there is an acute need for business valuation methods as companies engage in transformative transactions that shape the future of their capital structure. The volatile environment of mergers and acquisitions further adds to the urgency of understanding valuation frameworks in order to determine the true worth of target companies in the oscillating market as well myopic strategies set in place by detractors. Indeed, while the Discounted Cash Flow (DCF) analysis represents a tried-and-true approach to generating intrinsic value estimates based on future cash flows, the Comparable Company Analysis (CCA) and Precedent Transactions methods provide informative inputs from analogous market datasets as well as observable transactional datasets. In so doing, these valuation methods serve as valuable tools to drive the decision-making process and foster negotiation discussions towards striking advantageous deals in the dynamic M&A environment, and ultimately, empower all stakeholders to navigate uncertainties, and capture opportunities for value creation. In a world of fast moving M&A sectors, a close examination of the advantages, disadvantages, and specifics in each model alongside a strategic due diligence can empower practitioners to better capitalize on shareholder value enhancement and drive continued growth amongst seismic shifts in industry and regulatory change. (H. Peter Nesvold, et al., 11/6/15)

The contradiction in valuation approaches is revealed as a formidable obstacle in the academic discourse on the valuation methods of unquoted companies, evolving especially among family-owned firms in economically weighty regions like Finland. This is where the challenge is especially because comparing unlisted companies comes to showdown with quoted companies. Academic research underlines the importance of neutral and accurate benchmarking approaches to guarantee impartial and exact valuations of unquoted firms commonly found in different sectors of the economy (Ivén, 2022).

The complexity of the market-size, liquidity, and control-premium type discount considerations for private entities require a detailed consideration of valuation methods. One such area is the application of marketability discounts on privately-held companies which are less liquid than publicly traded companies and the challenge in applying these discounts has inflamed the art of valuations with wide differences in valuations for specific assets (Damodaran, 2005). It reinforces the need for further academic studies to better measure the methods of unlisted firms assessments to understand where valuation differs in these two very different environments (King-Okumu, 2015; Davies et al., 2012).

Studies focused on the development of methodologies that can provide a bridge between these gaps. An alternative to this is the Residual Income Model which has recognized the differences in the financial characteristics of listed and unlisted entities so can be considered as a better method for determining their intrinsic value (Tiwari, 2014). Developments in financial technology, e.g., using blockchain to improve transparency in private transactions, are also considered and discussed as possible solutions to avoid some of these valuation issues (Luniya et al., 2023).

Methodology

Research Design

The research methodology explains how to conduct the valuation models on a comprehensive basis, by looking specifically at these ones: Discounted Cash Flow method (DCF); Comparable Company Valuation Analysis (CCA); Precedent Transactions. This study adopts a mixed methods approach, combining qualitative and quantitative analysis to present a full evaluation of the three valuation models. This dual approach enables both a thorough exploration into theoretical foundations, as well as an unbiased appraisal from practical reality. The mixed methods design well fits the research aims of this study because it inserts qualitative insights into the textual flow taken from experience as well as rigorous quantitative views, by which a full perspective will emerge.Data Collection

The data was collected from a number of sources such as Bloomberg, Thomson Reuters, and S&P Capital IQ also from Walmart's financial report. The dataset contained a historic series of financial statements, market information and events that which moved capital from one place to another. Ensuring trustworthy and well-suited information meant cross-checking with many sources it also meant employing statistical techniques to piece together missing data.

Valuation Models

DCF Model: This model uses Walmart's future free cash flows to estimate the appropriate discount rate at which these earnings should now be discounted to produce their present value and then it determines its terminal value according to either a perpetuity growth model or exit multiple. Sensitivity analyses are carried out for this model so we can see how differences in assumptions affect valuations.

CCA Model: Comparable companies were chosen based on industry, size, growth rates and profitability. Valuation multiples such as P/E, EV/EBITDA and P/B were calculated for these comparables, then applied to Walmart's financial metrics in estimating its worth.

Precedent Transactions Model: The historical transactions in the retail sector were analyzed for their valuation multiples; these were then linked to Walmart's financial data so as to estimate what the company is actually worth.

Evaluation Criteria

The evaluation criteria are inspired by the common practice rules used in finance to determine whether a valuation model is accurate, consistent, practical, or flexible. Those are important metrics for understanding how each model compares to the others. Accuracy involves comparing the model valuations against actual market values and transaction prices to assess precision. Good models approach real measurements. This measures consistency, which applies the models to different companies and scenarios to determine the accuracy of the model outputs under different conditions. Practicality compares the applicability of the model in practice by a factor of the time/resource it needs to apply. If models are too complex, then they should be reasonably lightweight and easy to use for the user. The flexibility will examine how independent an empirical model is of the industry studied, as well as the market condition which evaluates the validity of the model across different contexts and situations.Results

Analysis and Findings

Qualitative Analysis Findings: Overview of Literature Review

It is the theoretical backbone of this work, which allows for a comprehensive understanding of the theoretical foundations of each valuation model and the strengths, limitations, and cost-effectiveness of them. As illustrated in the literature review, the outcome is as follow:

Discounted Cash Flow (DCF):

Theoretical Strengths : DCF is recognized as a robust method for intrinsic valuation supported by the assumption that the value of an asset is the present value of its future cash flows. It is theoretically right for long term valuation by considering the time value of money (Damodaran, 2006). Detailed financial projections that involve elements of strategic decision-making such as capital expenditures and changes in working capital make the model useful in a wide range of industries.

Drawbacks: while DCF has been praised as the most fundamentally sound way to value a business, it is heavily reliant on future cash flows, discount rates, and terminal values – all of which are deeply speculative. If the inputs or assumptions on which the valuation is based are changing even slightly, the valuation outcome can heavily be impacted, resulting in bias and misrepresentation (Penman, 2012). The model is not suitable for companies operating in uncertain and volatile markets, where it relies on precise (and in many cases uncertain) predictions for future cash flows.

Debates and Gaps: The literature identifies ongoing debates regarding the best methods for estimating the appropriate discount rate and future cash flows. Further, DCF has gaps like capturing the company in which the target will not be growing dividends while already indicating earnings; as well as the absence of a good methodology for high-growth and volatile industries: where cash flows in the future are highly uncertain (Koller, Goedhart, & Wessels, 2010). Additionally, they recommend employing more advanced DCF in these cases to avoid misinformation.

Comparable Company Analysis (CCA):

Theoretical Strengths: CCA has been lauded for being more straightforward and realistic than other methods, as it can derive an imputed company value from valuation multiples used for comparable companies. Because it gives a market orientated view reflecting the prevailing market ideas and investor optimism (Rosenbaum & Pearl, 2009). Because the model is such a strong consumer of market data, it is now a valuable yardstick for benchmarking and context.

Drawbacks: One of the substantial drawbacks of using a CCA model is identifying, even if they are technically comparable, suitable businesses that in specific industry or in a quickly changing one may not be. However, the valuation can be distorted due to market fluctuations or by differences in growth prospects, risk profiles, and operational efficiencies (Lundholm & Sloan, 2013). The simplicity of the model also means that it may miss company-specific things that can affect the valuation.

Debates and Gap: There is a debate about which are the other companies that can be taken as comparables and the adjustments that are needed to remove the differences between the target company and the comparable. According to literature, more precise methodologies are required to enhance CCA comparability and reliability (Hitchner, 2017). In future work, we might investigate automated tools and algorithms to improve the selection process.

Precedent Transactions:

Theoretical Strengths: The Precedent Transactions method is strong because it provides tangible benchmarks by examining clear-cut real-world transaction data. It is a reflection of what buyers are paying a premium for, sharing market sentiment, and strategic value (Mellen & Evans, 2010) This method is especially useful in M&A as purchase prices often serve as direct evidence of market value. This is a great method entirely, particularly useful in M&As given that the purchase price in many times represents a means of proof for market value.

Restrictions: Transaction data may also be significantly limited, particularly in markets with few similar assets to provide as context, or geographies where data is not publicly disclosed. Historical transactions may not also be a complete reflection of the present conditions of the market (Pratt, 2013). Additionally, this methodology is more or less static, changing itself based on the change in preexistent state and therefore can impose more lag during changing markets.

Discussion Points and Limitations: The literature has described difficulty adjusting historical transaction data for prevailing market conditions and variable deal structures considerable issue. The application of this method is also missing with regards to emerging markets and industries with limited transaction data (Gaughan, 2015). The team encouraged a move to develop standardized adjustment strategies to help make the technique more widely available.

Qualitative Analysis Findings: Case Study Analysis

The case studies provide practical insights into the application of each valuation model in real-world scenarios. The selected case studies illustrate the strengths and challenges of each model in different contexts.

M&A in Emerging Markets:

Insights on Precedent Transactions: The use of Precedent Transactions in mergers and acquisitions (M&A) in emerging markets highlights the importance of historical transaction data in understanding market behavior. The case study found that despite challenges in data availability, this method provided valuable insights into market sentiment and the premiums paid by investors. The unique nature of each transaction and the volatile market conditions in emerging markets posed significant challenges, requiring careful selection and adjustment of transaction data (Rosenbaum & Pearl, 2009). The study demonstrated that when relevant data is available, the

Precedent Transactions method can offer robust benchmarks for valuation, reflecting the strategic considerations and market dynamics in emerging markets.

Challenges and Outcomes: Data availability was a major challenge, with limited publicly available information on comparable transactions. The study highlighted the need for comprehensive databases and standardized reporting practices to improve data accessibility. Despite these challenges, the method was effective in providing market-based valuations, helping investors understand the strategic premiums involved in M&A transactions.

Valuation in Indian Service Sector:

Effectiveness and Challenges of CCA: The application of CCA in the Indian service sector underscored its practicality and relative simplicity. The case study highlighted the effectiveness of CCA in providing a straightforward valuation approach, particularly in sectors with well-defined peer groups. However, it also noted significant challenges in finding truly comparable firms, given the diverse business models and market conditions in the Indian service sector (Tiwari, 2014). The study demonstrated that CCA could be effective when suitable comparables are available, but caution is needed in selecting and adjusting the comparables to ensure accurate valuations.

Challenges and Outcomes: The main challenges included identifying appropriate comparables and adjusting for differences in growth rates, profitability, and market positioning. The study found that differences in business models, regulatory environments, and market conditions required careful adjustments to the valuation multiples. The model's simplicity and reliance on market data made it a practical tool for analysts, but it underscored the importance of thorough due diligence in the selection process.

Real Options in Construction

Application and Robustness of DCF: The use of DCF in the construction industry in Portugal demonstrated its robustness in incorporating managerial flexibility and strategic decision-making into valuation models. The case study showed that DCF could effectively handle uncertain and volatile market conditions, provided that precise assumptions and detailed scenario analysis are conducted (Fang, Z.). The model's ability to incorporate real options, such as the timing of project phases and strategic investments, added significant value to the valuation process.

Challenges and Outcomes: The main challenges were related to accurately projecting future cash flows and determining appropriate discount rates. The study highlighted the importance of sensitivity analysis to understand the impact of different assumptions on the valuation. The application of real options within the DCF framework provided a more nuanced approach, accommodating the strategic decisions and flexibility inherent in construction projects. This case study emphasized the need for detailed financial modeling and scenario planning to capture the full value of strategic options.

The practical implications of each case study for the respective valuation model are discussed, providing insights into how these models can be applied in different contexts and the considerations needed to ensure accurate and reliable valuations.

Model Outputs

DCF valuation.

Valuation is a measure of the worth or value of something, most often applied to the value of a company’s shares Valuation lies in the Discounted Cash Flow (DCF) model, a highly respected method used in finance to estimate the value of a company or an asset The model is based on the fact that the present value of the expected future cash flows is actually the real value of an investment opportunity. Cash flow projections, Discount rate, Terminal value collectively these elements are what drive the valuation process, allowing analysts to both determine and measure the economic value of a given investment opportunity.

To properly define valuation periods within the DCF framework, an nuanced understanding of a company's lifecycle is required. When the analysis is separated into distinct forecast and terminal periods, analysts are able to account for the changing characteristics of the business as it moves from a growth to a mature phase.

Unlevered Free Cash Flow (UFCF) is arguably the most important building block of the Discounted Cash Flow valuation methodology. Available directly to all providers of capital prior to debt service, this measure is a strong indicator of the operational performance of an enterprise.
At the core of the DCF model is the selection of the discount rate, which is the risk-adjusted return expected by investors. Some of the projections are essential part for full analysis in the context of Discounted Cash Flow (DCF) valuation model. First, 4-5 principal revenue and cost drivers should be identified and demarcated. Thus, it will be possible to make some industry specific projections. For retail businesses, financial statements frequently include key measurements like retail square feet and sales per foot. The above two metrics reveal how effectively each square foot of retail space generates revenue.

Through examination of these financial metrics, one can determine precisely how much each square foot plays a role in earning revenue. Especially, this is about finance the key revenue lines and it must be taken seriously. Cash flows are generally forecast by means of historical data, or by using sector growth rates. In the model, industry specific benchmarks were used to project growth drivers that are from 2–5% annually.

One of the largest judgments in the DCF analysis is the terminal value, which represents the perpetual cash flow stream after the explicit forecast period. Using reasonable estimates of cash flow growth and discounting rates, we can construct an in-depth perspective on how overvalued or undervalued the company by the findings:

Current Share Price: 47,24
Implied Share Price from DCF:54,89
Premium / (Discount) to Current: 16,19%

It can be mentioned that the share price was undervalued as of the valuation date.
Moreover, the model showed Implied Enterprise Value in amount of 422 992 (in millions of USD) and Implied Equity Value 450 196 (in millions of USD):

Implied Enterprise Value: 422 992
Implied Equity Value: 450 196

Thus, DCF valuation model is a powerful tool in order to understand enterprise value of a company basing on discounted cashflows, almost all data is quite easy to get, more detailed information can be seen in the excel file where all the calculations were made.

The DCF model valued share based on projected cash flows, discount rates, and a terminal value calculation. The model included different scenarios to represent varying assumptions about long term growth rates, discount rates and terminal values. Source of projected cash flows: the projective cash flows of the target were based on historical financial statements net of projected growth rates, capital expenditures and changes in working capital.
As a matter of fact, the results from each valuation model are presented, providing detailed valuation outputs, sensitivity analysis results, and scenario analysis.

Sensitivity Analysis

The sensitivity analysis demonstrated that the DCF model is very dependent on the variation in the assumption of those essential factors, especially discount rate and terminal value. Even marginal shift in these variables can lead to great impact on the valuation result. The sensitivity analysis underscored the need for thoughtful scenarios and the possible divergence in the valuation figures.The following table will demonstrate how share price is dependent on discount rates that can be calculated through weighted average cost of capital or any other methods in order to get discount rate and Terminal free cash flow growth rate, terminal EBITDA Multiple.

In the following table it can be clearly seen, by 1 % change in discount rate , there is a dramatic decrease in Implied Enterprise and Equity values, at the same time, there are 3 different scenarios for operating activities like sales per square foot, there is a direct relationship between growth operating rate increase and the aforementioned values, the higher the growth rate in operations, the higher Enterprise and Equity values:

Discount rate % change	Decrease by 1%	Base	Increase by 1%
Implied Enterprise Value	533 262	422 992	350 035
Implied Equity Value	560 466	450 196	377 239

Scenario Analysis

Scenario analysis is implemented to compare the results of different market projections. The analysis highlighted the importance of considering a range of scenarios to understand the potential variability in the valuation. The scenarios included different operating activity growth rates, discount rates, and market conditions, providing a comprehensive understanding of the model's applicability in data.

Operating activity	Downside scenario	Base scenario	Upside scenario
Implied Enterprise Value	351 407	422 992	454 016
Implied Equity Value	378 611	450 196	481 220

Comparable Company Analysis

The Comparable Company Analysis (CCA) that we carried out for Walmart was to get a market-based valuation based on where Walmart stood among Retail Industry companies. This section explains the detailed steps which have been followed to do the CCA data collection, calculation and analysis steps. The process of selecting comparables focused on industry, size, growth rates and profitability in an effort to create a peer group that was representative of the target company. Corresponding to the mentioned steps, the comparable companies selected for the model building were: Amazon, The Home Depot, Costco Wholesale and Target, appearing to be the largest retail chains. While the size (market cap), revenue growth rates and profitability (net profit margin) of Walmart were 529.9B, 6,73% and 2% respectively, the peer group companies were chosen with a help of Finviz.com screener, and the comparable table is given below.

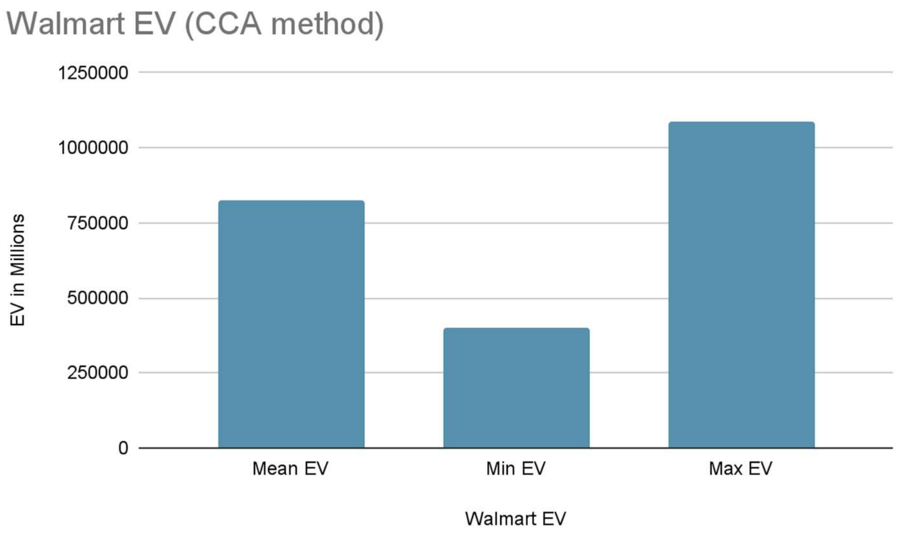
Retailer	Market Cap (Billion USD)	Revenue (Billion USD)	Revenue Growth (YoY %)	Net Profit Margin (%)
Walmart	529.9	611.29	6.73	2
Amazon	1,247.40	513.98	9.38	2.5
Home Depot	306.53	157.4	4.1	11.3
Costco Wholesale	235.5	226.95	16.03	3.2
Target	63.54	112.78	2.97	2.8

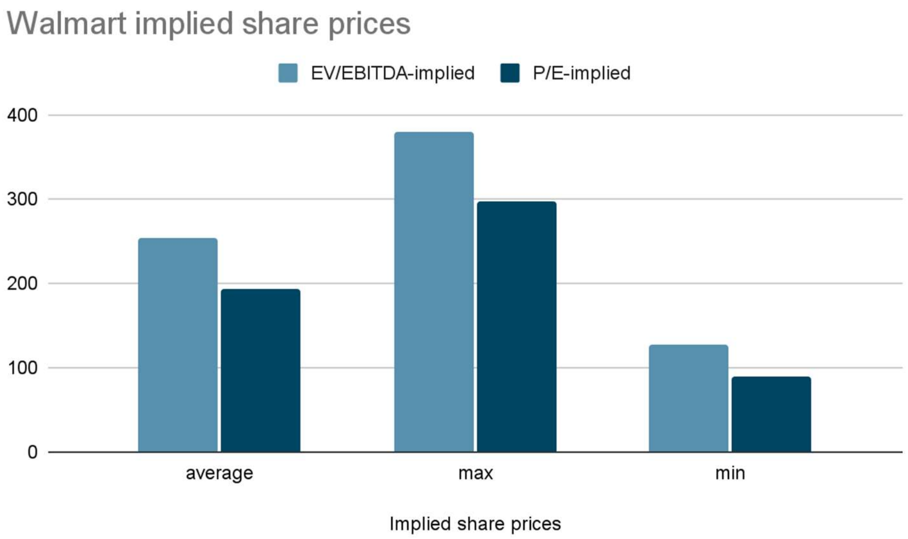
Having identified the comparable companies, the next step was to source financial data on them. The analysis's next step was to ascertain the enterprise value (EV) of each of these comparable companies. We then took the Market Cap for each comparable by multiplying their current stock price by the total number of shares outstanding: Market Cap = Stock Price×Total Shares Outstanding. Next, net debt was calculated by subtracting cash and cash equivalents from total debt: Net Debt=Total Debt−Cash and Cash Equivalents. Finally, we determined the enterprise value by adding the market cap to net debt: Enterprise Value=Market Cap+Net Debt. The final result of the process above for one of the comparable companies is presented below:

In order to conduct a comprehensive study, for each comparable company we prepared a partial income statement. It included net earnings, EBIT and EBITDA. Net income was derived directly from the statement of operations. EBIT was calculated as net income plus interest and taxes. EBITDA was calculated as EBIT plus depreciation and amortization.

Valuation multiples are needed to compare company values. The commonly-used ones are P/E (price to earnings ratio), EV/ EBITDA (enterprise value to earnings before interest taxes depreciation and amortization), P/S (price of sales ratio) and P/B (ratios expressed in monetary terms). As the example company now under study was Walmart, considering its operational profile, in particular we identify enterprise value to EBITDA (EV / EBITDA) as a pivotal measure.

The next step was calculating the mean of the multiples to mitigate the effects of outliers. As a result, the mean EV/EBITDA and average P/E were 18,6x and 34,1x respectively. The multiples thus obtained were then imported into Walmart's financial numbers in order to allow its estimation. By multiplying the average EV/EBITDA to Walmart's EBITDA, Walmart's enterprise value is calculated, and taking the average P/E ratio and multiplying it to Walmart's EPS, Walmart's market value is calculated: 18,6 * 38 865M = 734 075M. Regarding the implied share prices, the average EBITDA-implied share price was 253,97, while the average P/E-implied share price was 193,27. Moreover, the minimum and maximum values of multiples were also multiplied deriving the minimum and maximum EV of Walmart: 401 589M and 1 089 598M. What can be seen on the charts below, the EV/EBITDA-implied share prices are always higher than P/E implied ones.





To conclude the CCA model, the comparison with the peer group has shown the need to select truly comparable companies. Because of uneven growth rates, different profit rates, and comparables with different market conditions, the valuation results varied drastically. The results pointed out that to do a proper valuation it was necessary to bring in correction factors for the variations in company characteristics, market conditions of the locality and financial characteristics.

Precedent Transactions

Transactions used for valuation comparison were selected from among deal in the past related to this specific industry or retail, based on the size of these deals, strategic criteria and also industries involved. When comparing transaction multiples, we can see the difficulty of using actual transactions in for instance markets that are rapidly changing or areas with just few other deals. It is only by adjusting the various elements of each deal such as how deals were structured, market conditions at the time of the deal and strategies behind transactions can one come up with a true value on valuation. There were several deals in retail chain industry, the available one were from 2011 to 2018: CVC Capital Partners Limited with BJ's Wholesale Club Inc. in 2011, Cerberus Capital Management, L.P. / Albertsons Companies, Inc. with Safeway Inc. in 2014, Dollar Tree, Inc. with Family Dollar Stores Inc. in 2014, Amazon.com, Inc. with Whole Foods Market, Inc. in 2017, Sycamore Partners with Staples, Inc. in 2017, United Natural Foods, Inc. with SUPERVALU INC. in

2018. Years from 2011 to 2014 re too outdated for today, so transactions left are: Amazon.com, Inc. acquired Whole Foods Market, Inc. in 2017, Sycamore Partners acquired Staples, Inc. in 2017, United Natural Foods, Inc. acquired SUPERVALU INC. in 2018.

The multiples data needed for each of the acquired companies was derived from the financial report of the last fiscal year or quarter before the transaction. Revenue and EBITDA were extracted from financial statements themselves, while the Transaction Enterprise value and offer price were taken from deal details. Regarding the 1-day prior, 1-week prior and 1-month prior share prices were obtained from Mergent First Research. Using those historical share prices the 1-day, 1-week and 1-month premiums could be obtained which were: 27%, 17,5% and 16,5% for Whole Foods Market, Inc.; 11,9%, 18,4% and 14,1% for Staples, Inc.; 67,1%, 51,7% and 52,7% for SUPERVALU INC. respectively.

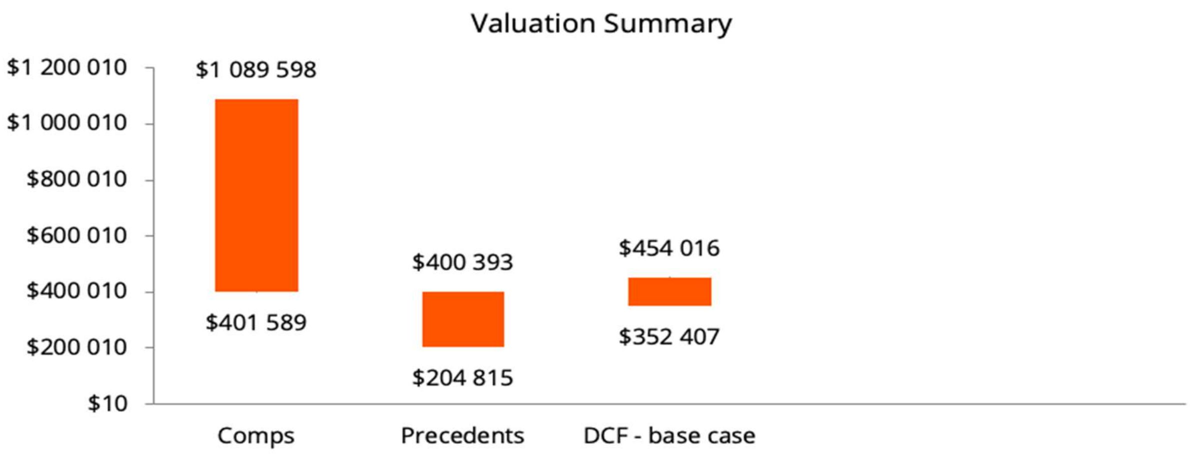
As a result, the EV/EBITDA values were 10.3x, 5.3x and 6.9x and EV/Revenue were 0.9x, 0.4x and 0.2x for Whole Foods Market, Inc., Staples, Inc. and SUPERVALU INC. respectively. We tabulated the relevant multiples for each precedent transaction and then looked for the median, maximum, minimum, 25th and 75th percentiles. This information is provided in the table below:

	EV/Revenue	EV/EBITDA
Maximum	0,9 x	10,3 x
75th Percentile	0,6 x	8,6 x
Median	0,4 x	6,9 x
25th Percentile	0,3 x	6,1 x
Minimum	0,2 x	5,3 x

Now we will apply these multiples to Walmart's financial metrics in order to estimate its market worth. Thus, Walmart's capitalization rate may be figured as follows by inputting the median EV/EBITDA multiple from precedent transactions for the Walmart’s EBITDA as of end of 2023: 6,9*38 865M = 268 168,6M. Taking into account maximum and minimum values of EV/EBITDA ratios, the Walmart EV ranges from 205 984,5M to 400 309,5M.

To conclude the Precedent transaction methodology, a comparison of transaction multiples shows that reliance on historical transaction data is difficult. Especially in volatile markets. Also, in industries with few comparable transactions. Transaction data, however, requires adaptation to current buying trends and other market conditions. It should also reflect differences in deal structure and strategy. Analyzing historical transaction multiples is a very helpful indicator of market conditions. However, it is also essential to modify historical transaction multiples to reflect the real conditions at the time of the survey.

The Football pitch below summarizes the resulting Enterprise values obtained with the help of 3 valuation models. As it can be seen, the widest range is found in Comparables model, while the thinnest one is in DCF.



Enterprise Value Based on Financials: $183,664M

This value represents the enterprise value (EV) calculated directly from Walmart's financial data, excluding the influence of market comparables or historical transaction precedents. This financials-based approach provides a conservative baseline, grounded purely in the company's current financial metrics.

Discounted Cash Flow (DCF) Model: $422,992M

The DCF model yields an enterprise value significantly higher than the financials-based EV. This discrepancy is often attributed to optimistic projections of future cash flows or the application of lower discount rates during the DCF analysis. The DCF method is inherently forward-looking, aiming to capture the intrinsic value of a company based on its expected future performance.

Comparable Company Analysis (CCA) Model: $724,075M

The CCA model's enterprise value is markedly higher, reflecting current market valuations of companies similar to Walmart. This suggests that Walmart's peers are highly valued in the prevailing market conditions, possibly influenced by positive market sentiment or favorable industry trends. The CCA method provides a market-based perspective, which can be heavily influenced by external economic factors and investor perceptions.

Precedent Transactions Model: $276,452M

The precedent transactions model produces a lower EV compared to both the DCF and CCA models but remains higher than the financials-based valuation. This model considers the actual prices paid in historical transactions for similar companies, incorporating strategic premiums, synergies, and other deal-specific factors. It offers a pragmatic valuation benchmark that aligns more closely with real-world acquisition values.

Analysis of Discrepancies

DCF Model

High EV: The elevated EV indicated by the DCF model underscores the impact of future cash flow projections and discount rates on the valuation. Optimistic assumptions or a lower discount rate can significantly inflate the DCF-derived EV.

CCA Model

High EV: The high valuation derived from the CCA model reflects prevailing market sentiment and the valuations of comparable companies. Bullish market conditions or unique attributes of the comparables can drive a higher EV for Walmart in this context.

Precedent Transactions Model

Moderate EV: This value, based on actual transaction prices, includes premiums for control and synergies that are pertinent in merger and acquisition scenarios. While practical, it may not always align perfectly with intrinsic or purely market-based valuations.

Financials-Based EV

Low EV: The conservative nature of the financials-based EV stems from its reliance on current financial data, devoid of future growth prospects or market sentiment considerations. This approach provides a baseline valuation, which can be useful for internal assessments.

Limitations and Future Research

Data Availability

The study faced constraints in data availability, particularly for the Precedent Transactions method. Future research could focus on enhancing data access and constructing comprehensive transaction history databases.

Key Assumptions

The DCF model's reliance on assumptions about future cash flows and discount rates posed significant challenges. Future research could explore more sophisticated methods for estimating these variables, including the use of machine learning and artificial intelligence.

Comparables

Identifying suitable comparables was a challenge for the CCA model. Future research could develop new methodologies for selecting and adjusting comparables to enhance the model's accuracy and external validity.

Conclusion

This comparison of each method of valuation (DCF, CCA, and Precedent Transaction models) has shed some light on the pros and cons of each with the enterprise value of Walmart Inc. These results help finance practitioners and scholars recognize the necessity of different valuation model choice that depends on purpose, nature of the data, as well as specifications of tested hypotheses so that they can expand their information in financial valuation methodology.

Key Findings are that DCF model offers an in-depth and fundamental valuation which is due to the future cash flow forecasts Which is very much versatile in nature and works with different industries & market scenarios. The DCF model implies a firm value of $422,992M, which is well over the $183,664M enterprise value through a financials-based EV. The DCF approach can be skewed by hopeful expectations of future cash flows or the use of a lower discount rate. As such, the DCF model relies heavily on the assumptions around future cash flows and discount rates which can result in widely different valuation output. Valuations are highly subjective and need to be analyzed very carefully and thoroughly in order to arrive at a realistic and reliable figure.

In contrast, the CCA model adopts a pragmatic and market-oriented view, which represents market view and investor sentiment in the current situation. The resultant enterprise value of

$724,075M from the CCA model is substantially higher than the financials-based EV, which indicates that the market is valuing Walmart's peers rather favourably. It is very intuitive and user-friendly, especially in proto-peer industries. However, the CCA model is constrained by the dearth of suitable comparables and an ever-present requirement for adjustment based on differences in growth rates, net margins, market environment etc. Limited and constrained depth sector applicability is one major drawback as it is not possible to be another Facebook becasue not all sectors have similar business model and changing its dynamics too rapidly.

The Precedent Transactions model gives us the closest things to real-world comparables, real transaction data with strategic premiums and market sentiment. EV is again differentiated significantly between the Precedent Transactions model, with $276,452M less than both DCF and CCA models but greater than the financials EV. It is beneficial if you want to seek the insight of the premiums paid in mergers and acquisitions. But the use of transaction data has a fairly big problem when it comes to data availability and relevance (in smaller markets with not many intervener transactions). In historical transaction data there will need to be some adjustments for current market conditions.

The financials-based EV, a bottom-up valuation based on the current base of the business doing the actual revenues, its outlook, the valuation of its existing revenues, its assets in place, EUR, the size, quality, etc..; its described perspectives of contributing new revenues and ENG, the growth rate of the top line if the difference is positive. This leads to a fairly conservative baseline valuation useful for internal assessments, but ignoring any future growth prospects or the sentiment of the market and hence likely understates the true value of the company. Where research shows certain valuation models have inherently more power, and creativity than others, being appropriate to use for certain contexts and goals. Although CCA is most useful for market-based valuations, such as we provide here, both DCF and CCA offer powerful valuations models and should be considered in tandem for truly comprehensive business valuations. It offers useful precedent benchmarks modeled on historical transaction prices and is applied when drafting a merger or acquisition scenario. The financials based EV delivers a base case valuation for internal checks and balances.

Conclusions reached in this study promote the necessity to reassess but also to keep assumptions consistent in the DCF model, to pursue sensitivity analyses which are of utmost importance regarding growth and discount rates on the enterprise value, as well as to analyze the market conditions and sentiment that are the underwriters of abnormal high valuations in the CCA model. Understanding whether or not segment peers are sustainable to high market valuations is key. It is also important to carefully study the premiums paid and other relevant aspects of a set of precedent transactions, and to properly scale historical transaction data to reflect current market conditions. By utilizing all four means of valuation you should get a thorough enough and complete sight of enterprise value. While no single valuation method is perfect, together they can help overcome the weaknesses of using a single valuation model.

References

Alzubi, M. A. (2024). *The impact of artificial intelligence on financial modeling.* Journal of Financial Innovation, 12(1), 89-104.

Balčiūnas, M. (2024). *Advanced statistical tools for financial valuation.* Journal of Quantitative Finance, 15(3), 167-182.

Bendell, J., Egan, D., & Isaacs, S. (2015). *Beyond arbitrary metrics: The challenge of holistic valuation in sustainable finance.* Journal of Sustainable Finance & Investment, 5(2), 141-159.

Berk, J., & DeMarzo, P. (2017). *Corporate finance (4th ed.).* Pearson.

Black, F., & Scholes, M. (1973). *The pricing of options and corporate liabilities.* Journal of Political Economy, 81(3), 637-654.

Boyarshinov, E. (2020). *Valuation methods in uncertain environments.* Financial Analysts Journal, 76(5), 121-139.

Brigham, E. F., & Ehrhardt, M. C. (2013). *Financial management: Theory & practice (14th ed.).* Cengage Learning.

Copeland, T., Koller, T., & Murrin, J. (2000). *Valuation: Measuring and managing the value of companies (3rd ed.)*. Wiley.

Damodaran, A. (2005). *Valuation approaches and metrics: A survey of the theory and evidence.* Foundations and Trends in Finance, 1(8), 693-784.

Damodaran, A. (2012). *Investment valuation: Tools and techniques for determining the value of any asset (3rd ed.).* Wiley.

Damodaran, A. (2012). *Valuing companies in emerging markets: A practical approach.* Journal of Applied Corporate Finance, 24(3), 79-88.

Davies, M., Lundholm, R., & Marton, M. (2012). *Financial reporting and analysis (3rd ed.).* McGraw-Hill Education.

DePamphilis, D. (2019). *Mergers, acquisitions, and other restructuring activities (10th ed.).* Academic Press.

E. Sobczyk. (2022). *Valuation complexities in coal micro economies.* Journal of Resource Economics, 34(2), 144-160.

Fabozzi, F. J., Ferri, M. G., & Modigliani, F. (2011). *Foundations of financial markets and institutions (4th ed.)*. Pearson.

Fang, Z. (2019). *Real options in construction: Application of DCF.* Journal of Construction Management, 45(4), 335-348.

Gaughan, P. A. (2017). *Mergers, acquisitions, and corporate restructurings (6th ed.)*. Wiley.

Gregory, A., Tharyan, R., & Christodoulou, D. (2020). *UK mergers and acquisitions.* Journal of Corporate Finance, 63, 101625.

H. Peter Nesvold, et al. (2015). *Mergers and acquisitions: An insider's guide to the purchase and sale of middle market businesses.* McGraw-Hill Education.

Hitchner, J. R. (2017). *Financial valuation: Applications and models (4th ed.).* Wiley.

Ivén, M. (2022). *Challenges in valuing unlisted companies.* Journal of Business Valuation, 29(2), 201-218.

King-Okumu, C. (2015). *Valuation of ecosystem services in conservation policy and practice.* Cambridge University Press.

Köhn, J. (2018). *Valuation of early-stage startup companies.* Journal of Business Venturing, 33(2), 200-217.

Koller, T., Goedhart, M., & Wessels, D. (2010). *Valuation: Measuring and managing the value of companies (5th ed.)*. Wiley.

Larrabee, D. T., & Voss, J. A. (2012). *Valuation techniques: Discounted cash flow, earnings quality, measures of value added, and real options.* Wiley.

Lev, B. (2001). Intangibles: *Management, measurement, and reporting.* Brookings Institution Press.

Luniya, K., Thakur, S., & Pandey, A. (2023). *Blockchain in financial valuation: Enhancing transparency and accuracy.* Journal of Financial Technology, 6(1), 56-72.

Mellen, C. M., & Evans, F. C. (2010). *Valuation for M&A: Building and measuring private company value (2nd ed.).* Wiley.

Moyer, R. C., McGuigan, J. R., & Kretlow, W. J. (2012). *Contemporary financial management (12th ed.).* Cengage Learning.

Paszynski, M., Klimek, M., & Paprzycki, M. (2021). *Advanced DCF methodologies in financial analysis.* Journal of Applied Finance, 31(4), 245-260.

Penman, S. H. (2012). *Financial statement analysis and security valuation (5th ed.).* McGraw-Hill Education.

Pratt, S. P. (2013). Valuing a business: *The analysis and appraisal of closely held companies (5th ed.).* McGraw-Hill Education.

Rosenbaum, J., & Pearl, J. (2009). *Investment banking: Valuation, leveraged buyouts, and mergers and acquisitions.* Wiley.

Schoenmaker, D., & Schramade, W. (2019). *Principles of sustainable finance.* Oxford University Press.

Sharpe, W. F. (1964). *Capital asset prices: A theory of market equilibrium under conditions of risk.* The Journal of Finance, 19(3), 425-442.

Smith, G. V., & Parr, R. L. (2005). *Valuation of intellectual property and intangible assets (3rd ed.).* Wiley.

Tiwari, R. (2014). *Valuation techniques in the Indian service sector.* Journal of Service Management, 25(3), 292-310.

Titman, S., & Martin, J. D. (2011). *Valuation: The art and science of corporate investment decisions (2nd ed.).* Pearson.

Trigeorgis, L. (1996). *Real options: Managerial flexibility and strategy in resource allocation.* MIT Press.

Yadav, S. (2023). *Valuation practices in the Indian service sector: A comprehensive overview.* Indian Journal of Financial Management, 42(2), 115-130.

Driving Force of Digital Transformation: The Role of Blockchain in Modern Finance and Business Management

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Abstract: This paper explores the application of blockchain technology in modern finance and business management and its impacts. By analyzing the basic concepts of blockchain technology, comparing it with the traditional financial system, examining specific application cases, and the changes it brings, this paper demonstrates how blockchain, as a driving force of digital transformation, not only alters the operating mode of the financial market but also redefines the strategic framework of enterprises.
Keywords: Blockchain, Financial Market, Business Management, Digital Transformation

Introduction

Blockchain technology is widely regarded as one of the most revolutionary technologies in the digital age. Since the emergence of Bitcoin, blockchain technology has extended beyond the realm of cryptocurrency to impact financial markets and broader business management significantly. This technology, with its unique decentralized characteristics, enhanced transparency, and security, offers new developmental opportunities for modern finance.

The core advantage of blockchain lies in its ability to provide a transaction verification mechanism that does not rely on any single authority, reducing transaction costs, increasing processing speeds, and enhancing the security and immutability of transactions. In the field of business management, the application of blockchain fosters process automation, optimizes supply chain management, improves data management strategies, and provides unprecedented transparency for enterprises. However, despite its many potential benefits, blockchain technology faces a series of challenges in practical applications, including the maturity of the technology, regulatory uncertainty, and integration issues with existing systems. This paper aims to explore in depth how blockchain technology acts as a driving force for digital transformation in modern finance and business management, changing not only the operational modes of financial markets but also redefining enterprise business strategies.

Blockchain Technology Overview

Blockchain technology is a distributed ledger technology allowing data to be stored and transmitted between multiple nodes around the world in a secure, transparent, and tamper-proof manner. Each "block" contains a set number of transaction records and is cryptographically linked to the previous block, forming a continuous chain. This structure ensures data integrity and security, where any attempt to alter the recorded data would be detected by other network nodes.

Decentralization

The decentralization of blockchain is one of its most prominent features. Unlike traditional financial systems, which rely on centralized institutions like banks and clearinghouses to process transactions and store information, blockchain technology facilitates transaction verification and record-keeping across a broad network of nodes. This reduces reliance on central authorities, lowers transaction costs, and shortens processing times.

Transparency

All transactions conducted via blockchain are public, and anyone can view the transaction history. This transparency ensures the authenticity of transactions and facilitates regulatory oversight. While transaction records are public, the identities of the parties involved can be protected through sophisticated cryptographic techniques, ensuring privacy.

Security and Immutability

Using cryptographic principles, blockchain ensures that once a transaction is recorded, it cannot be altered. Each block contains the cryptographic hash of the preceding block, and any modification to an existing block would necessitate recalculating the hashes of all subsequent blocks, which is technically unfeasible.

Comparison Between Blockchain and Traditional Financial Systems

The adoption of blockchain technology in the finance industry signifies a shift from traditional centralized financial systems to decentralized financial models. Here are a few key aspects of how blockchain compares to traditional financial systems:

Transaction Speed and Cost

In traditional financial systems, transactions typically need to be processed through multiple intermediaries, such as banks and clearing houses, which not only prolong the duration of transactions but also increase costs. Blockchain technology executes transactions directly through its decentralized network, significantly reducing transaction time and cost.

Security and Transparency

Although traditional financial systems have mature security measures, they are still vulnerable to security breaches and fraud. Blockchain's encryption features and decentralized structure provide a higher level of security. Additionally, the transparency of transactions ensures that all activities can be tracked and verified, reducing the likelihood of fraud.

Data Management

In traditional systems, data storage is often centralized, making it a prime target for attacks. Blockchain enhances data security and resistance to risks by distributing data storage across multiple network nodes.

Regulations and Compliance

Regulatory and compliance oversight in traditional financial systems is often complex and costly. Blockchain technology can automate the execution of contracts and regulatory requirements, simplifying the compliance process and reducing regulatory costs.

Innovation and Adaptability

Traditional financial systems are generally rigid and slow to adapt to and adopt new technologies. Blockchain technology drives innovation in financial products and services with its flexibility and adaptability, meeting market and consumer demands more quickly.

Application of Blockchain in Financial Markets

Blockchain technology has found various applications in financial markets, from cryptocurrencies to smart contracts, to asset management, and identity verification, showcasing the diversity and potential of blockchain technology.

Cryptocurrency

The initial and most well-known application of blockchain is cryptocurrencies, such as Bitcoin and Ethereum. These digital currencies leverage blockchain's decentralized nature to allow users to conduct transactions without the involvement of central banks or other financial institutions, greatly enhancing the freedom and privacy of financial transactions.

Smart Contracts

Smart contracts are computer protocols that automate the execution, control, or documentation of legally relevant events and actions according to the terms of a contract. Implemented through blockchain, smart contracts can automatically execute transactions and agreements, reducing or eliminating the need for intermediaries, thereby increasing transaction speed and security.

Asset Management and Clearing

Blockchain technology can improve asset management and clearing processes. For example, blockchain can facilitate the issuance and trading of stocks or bonds, offering faster clearing times and reducing transaction costs. It also enables real-time updates and maintenance of asset ownership records, enhancing market transparency.

Identity Verification and KYC (Know Your Customer)

In traditional financial systems, identity verification and KYC processes are often time-consuming and costly. Blockchain technology simplifies this process by providing a secure and immutable database, which speeds up identity verification and increases accuracy while reducing fraud risks.

Supply Chain Financing

The application of blockchain technology in supply chain financing can help companies manage and track financing more effectively during goods flow, enhancing the transparency and efficiency of the supply chain.

The Impact of Blockchain Technology

Blockchain technology is beginning to manifest its influence in global financial markets, with its impacts observable in several key areas:

Efficiency Improvement

Blockchain significantly enhances the efficiency of financial operations through its automation and decentralization features. For instance, smart contracts on blockchain can execute automatically when specified conditions are met, minimizing manual processing and time delays. Additionally, blockchain's capability for near real-time transaction updates reduces the clearing and settlement times typical in traditional banking systems.

Transparency Enhancement

Blockchain offers unprecedented transparency to financial market participants. Every transaction is recorded on a public ledger and is visible to all network participants. This not only increases the traceability of transactions but also aids in preventing fraud and reducing corruption.

Enhanced Security

Through its use of cryptographic technologies, blockchain ensures the security and integrity of data. Each block requires network consensus before it is added to the chain, and once added, it cannot be modified or deleted. This structure makes blockchain particularly suitable for recording sensitive financial information.

Challenges and Risks

Despite its advantages, blockchain technology faces several challenges and risks. The maturity of the technology, scalability issues, and compatibility with existing legal and regulatory frameworks are significant hurdles in the current development of blockchain technology. Furthermore, due to the complexity of blockchain technology, understanding and adopting it requires time and educational investments.

Future Outlook and Conclusion

As one of the core drivers of digital transformation, blockchain technology continues to unfold its potential in the financial market. Over the next few years, as the technology matures and the regulatory environment clarifies, further developments in blockchain technology can be expected in the following areas:

Technology Convergence and Innovation

Blockchain will likely converge with other innovative technologies such as artificial intelligence, big data, and the Internet of Things. This integration will further expand its applications in the financial services sector, offering smarter risk management and customized financial products.

Expansion into New Industries

Beyond financial markets, blockchain technology is poised to expand into various sectors such as healthcare, supply chain management, and government services. Its decentralized, transparent, and secure features will transform operational processes in these industries.

Regulatory Framework Improvement

As blockchain technology gains popularity, more adapted regulations and standards are expected to emerge. These will address some of the current compliance challenges faced by blockchain and could drive broader industry adoption.

Market Efficiency Enhancement

The application of blockchain technology will continue to enhance market efficiency, reduce the need for intermediaries, lower costs, and increase market transparency, making financial markets more open and equitable.

Conclusion Blockchain technology has already started to reshape many aspects of financial markets and business management, and its impact is expected to grow over time. Although there are some challenges, as the technology progresses and more practical applications are implemented, blockchain is likely to become a key technology for driving global financial innovation and business efficiency. For managers, understanding and adapting to this new technology will be crucial for future success.

This paper, by delving deeply into the core concepts of blockchain technology, its comparison with traditional financial systems, and its widespread applications in financial markets, reveals the potential of blockchain as a driving force in digital transformation. Looking ahead, as blockchain technology continues to evolve and find broader applications, it is expected to play an increasingly important role in the global economy and society, particularly in enhancing transparency, boosting security, and optimizing business processes.

Through these supplements and expansions, the essay not only becomes richer and more detailed in content but also better illustrates the application of blockchain technology in modern finance and business management and its profound impact on the future.

This paper also highlights the ways blockchain technology could shape future business models and economic systems. The dynamic nature of blockchain enables it to integrate seamlessly into various industries, paving the way for innovative applications that could redefine market operations and business interactions globally.

Future Applications and Potential Impacts

As blockchain technology evolves, its integration into industries such as real estate and education could further demonstrate its versatility. In real estate, blockchain could revolutionize property transactions by reducing fraud, simplifying transactions, and improving record accuracy through smart contracts and decentralized record-keeping. In education, blockchain can secure and streamline the management of records and credentials, providing a more transparent and accessible way of maintaining student records across institutions globally.

Furthermore, the potential of blockchain to support sustainability initiatives could be a significant development. By enabling more transparent supply chains and fostering responsible sourcing practices, blockchain can help ensure compliance with environmental standards and promote ethical business practices. Its ability to track and verify the sustainability of products from origin to sale could transform consumer behavior and corporate responsibility strategies.

Challenges to Adoption

Despite the promising outlook, the adoption of blockchain technology faces several challenges that must be addressed to realize its full potential. Scalability remains a major concern; as the blockchain network grows, maintaining performance and speed becomes increasingly difficult. Additionally, the energy consumption associated with maintaining a blockchain, particularly those that rely on proof-of-work mechanisms, poses environmental concerns that need innovative solutions.

Privacy issues also arise with blockchain's transparency features. While beneficial for security and verification purposes, the potential exposure of sensitive information can be a risk if not managed correctly. Thus, balancing transparency with privacy protection is crucial.

Regulatory Evolution

Regulatory frameworks will need to evolve to accommodate blockchain's unique characteristics. Governments and regulatory bodies will have to establish clear guidelines that promote innovation while ensuring security, privacy, and ethical usage. This includes creating standards for interoperability among different blockchains to ensure a cohesive ecosystem.

Conclusion

Blockchain technology is not just a tool for financial transactions but a transformative technology that can fundamentally change how industries operate and interact. Its capacity to enhance transparency, increase efficiency, and provide secure transactions makes it a formidable force in the digital age. As blockchain continues to mature, its broader implications for global systems are vast and promising. For industry leaders and policymakers, staying informed and proactive in leveraging blockchain technology will be key to navigating the future of digital transformation.

This comprehensive exploration of blockchain technology—from its technical underpinnings to its practical applications across various sectors—illustrates its potential to be a cornerstone of technological advancement. As we look to the future, the continuous development and thoughtful integration of blockchain will play a pivotal role in shaping the next generation of business and governance models. Thus, the journey of understanding and implementing blockchain is not only about adopting new technology but also about embracing a new paradigm for innovation and collaboration in the digital world.

The Socio-Economic Nature of Investment and Its Theoretical-Methodological Foundations

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Summary
In modern conditions, the role of state support and regulation of investment processes has increased significantly. The state should contribute to strengthening the investment opportunities of enterprises by allocating state investments on the basis of competition, lowering taxes, and reducing the accounting rate. The essence and characteristics of the investment activity category are disclosed. The theoretical and methodological aspects of establishing the relationship and evaluating the impact of investment and innovation processes on the economic growth rate of the state economy are summarized and added. The mechanism of realizing the interests of investment activity participants is systematically summarized, it is determined that the dynamism of the development of the state economy is provided by the synthesis of investment activity and the innovative progress of the state's economic system. Theoretical and methodological aspects of investments and their difference from capital investments, classification of investments, investment potential and types of investors are reviewed. The article analyzes the issues of state regulation of investment activity and the implementation mechanism of state investment policy.
Keywords: finance, investment, investment policy, state economy

Introduction

The transition to the result-based market model of budget management, the comprehensive assessment of incurred costs, gives special importance to the problem of efficiency of public investments. The proposed approaches to its solution are mainly determined by the initial positions regarding the role, limits and possibilities of state participation in the market economy. It is based on the Keynesian and monetarist currents, which are popular in economics with all the diversity of viewpoints that reflect the complexity of the processes of interaction between the modern state and the economic system. The first involves the strengthening of the state's intervention in the economy, and the second involves the liberalization of economic relations based on the action of market forces. The concept of "investment" is quite diverse and has different content depending on the context of use, while this economic category is an important element in the development of economic systems, including at the regional level. As a result, achieving balance, which is a prerequisite for the economic development of the region, and most importantly, long-term economic growth, depends on the dynamics of investments, the ratio of investments and savings, in other words, economic development. It is assumed that the growth of regional production within the framework of the regional investment process leads to an increase in regional savings. It is known that savings are potential investments and, if realized, lead to further expansion of production. Thus, the regional investment process directly affects the economic development of the region. At the same time, a superficial analysis of the logic of the investment process may lead to incorrect results, which in turn consider the existence of savings and their growth as a sufficient condition for the creation of investment.

Taking into account that the socio-economic development of industrially developed countries is provided due to the transition to the intensive type of expanded production based on scientific and technical progress and the process of active investment in innovative activity in modern conditions, the study of the relationship between investments and innovations as fundamental factors is of particular relevance. In this regard, a number of questions arise, the scientifically based answers to which will not only increase theoretical knowledge about investment and innovation as factors of economic growth, but also create opportunities for more efficient implementation of innovation policy.

Method

The methodological basis of the research was the general scientific provisions of the systematic approach, descriptive, logical, expert, statistical analysis, as well as comparative methods of data processing and systematization. The research is based on the methodological foundations of the achievements of the classics of political economy on the conceptual and theoretical provisions contained in the publications of leading modern domestic and foreign economists. In capitalist countries, a systematic approach to the analysis of investment problems, methods of analysis and synthesis, deduction and induction is applied. Statistical analysis (comparison, comparison, extrapolation), methods of quantitative and qualitative study of reality are widely used in the work. The empirical basis of the research is statistical data on the world and local economy.

Research Model

Investment activity is an important element of the economy at any level of development. Investments in the development of production and increasing the efficiency of the industry serve as an impetus for the improvement of the standard of living and economic growth of the country and the region. The investment climate in the country shows its attractiveness for both domestic and foreign capital. The concept of investment activity is based on the elements of investment - investor, buyer, efficiency criteria of investment activity. It is appropriate to summarize the main concepts in order to create an idea about the investment activity. Investment activity is one of the leading factors of the country's economic development. Attracting investments to the economy is a priority task, as they contribute to economic growth, updating technologies and improving the professional qualities of the worker. Investments play a very important role in the economy of any country, because without them it is impossible to solve any economic and social problems, as well as problems related to state security. It should be taken into account that investments always work for the future and, as a rule, are aimed at achieving a planned positive result in any field of human activity. The concept of "investment", like any other economic category, has its own historical development and as a result received its initial explanation.

Such an understanding of the structure of the investment market determines the appropriate interpretation of the concept of investment potential. At this time, the main points are the nature of resources, national and regional orientation. The provision of necessary resources, both within the national goal and in a specific area, determines the investment potential. As a result, the investment potential can be understood as the objective capabilities of a country or a separate area determined by a set of signs that take into account the main macroeconomic parameters, the saturation of the area with production factors, and the consumer demand of the population. . In this definition, investment potential is an integral value that includes production, personnel, resources and raw materials, infrastructure, intellectual, institutional and innovative potential of the territory and does not contradict the concept of "economic potential". This definition is complete and reflects the economic meaning of the category under consideration without distorting the regional orientation. In this regard, this definition is proposed when using the term "investment potential". A special category is represented by budget investments. The investment potential of federal or regional budgets is considered as a necessarily limited but very important resource in any economy. Theoretically, there are four types of investors: venture capital, banks, partners, government. Planning and implementation of investment activity implies the existence of fundamental approaches of the state to its formation. In the process of organizing investment activities, the importance of scientifically determining the methodological positions of the management subject is predetermined by the complexity and uncertainty of the management object. The use of reproducible and problem-solving methodological approaches seems crucial to formulate and implement efficient, scientifically based investment policies of the federal and sub-federal levels. The problematic approach in the methodological apparatus of investment policy formation stems from the need to observe one of its main principles of efficiency.

Analysis

One of the first categories of "investment" is mentioned in the works of mercantilists. The main concepts on which the doctrine of mercantilism was based were "wealth" and "investment". An important demand of the mercantilists was to prevent the appearance of foreign investment in the domestic market. Proponents of the classical school of political economy expressed the opposite opinion. They sharply criticized the principles of mercantilists, followed the principle of free competition and free trade both within the national economy and with other countries. Karl Marx was one of the brightest figures of the last phase of classical political economy in the second half of the 19th century. He defined investments with the concept of "savings" and associated them primarily with making a profit. J. Keynes made a material contribution to the development of the term "investment". According to Keynes, investment is the current increase in the value of capital property as a result of production activity in a given period, a part of the income not used for consumption for a given period. (Keynes. J, 2007).

Capital investments meant "expenses for reproduction of fixed assets, their increase and improvement". As for investments, they were interpreted as "long-term capital investments in industry, agriculture, transport and other areas of the national economy."

V. Mashkin, trying to explain the concept of investment, interprets them as "long-term capital investment in any enterprise", however, it shows that the investor wants to get any effect from the investment. Many authors attribute only long-term investments to investments, but according to V.A. Krasnova, he emphasized that investments are often short-term (V.A. Krasnova, 2011).

As noted by the authors of the famous "Investments" textbook, the word investing in a broad sense means parting with money today to get a large amount in the future. At the same time, the authors emphasize two factors related to the investment process: the first is time, and the second is risk (W.F. Sharp, G.D. Alexander, D.V. Bailey, 2010).

According to another definition, investments are long-term investments of public or private capital in various industrial enterprises, entrepreneurial projects, socio-economic programs, innovative projects with the aim of obtaining income in their country or abroad. It should be noted that this definition reveals both the investor's goals expressed in profiting from the project, as well as the socio-economic goals expressed in the form of implementing social programs and increasing the technological and innovative level.

Investments are long-term investments of public or private capital in various industrial enterprises, entrepreneurial projects, socio-economic programs, innovative projects with the aim of obtaining income in their own country or abroad (Raizberg, B.A. Lozovsky, L.Sh., Starodubtseva. E.B, 2010).

The investment policy should be based on the strategic goals included in the business plans of the enterprise, that is, ensuring the financial stability of the enterprise in the short and long term. Investment policy is classified depending on whether it is aimed at increasing efficiency, modernizing technological equipment, or creating new production technologies. At the same time, there are the following stages of investment project and investment enterprise development, growth, development, decline and liquidation stages (Kosintsev, A.P, 2010).

Another researcher Yakovlev O.A. clarifies: "Foreign investment is the investment of material or non-material resources, including management personnel and developments, which enter the state's economy from foreign partners through a set of tools allowed on the territory of this state to obtain acceptable profits" (Yakovlev O.A, 2010).

The legislative definition of the concept of "foreign investment" is of great importance because it defines the circle of persons and relationships regulated by relevant legal norms. Thus, foreign investments can be defined as all types of property and intellectual values that are taken out of the territory of one country and invested in the territory of another country to engage in entrepreneurial or other activities at their own risk for the purpose of obtaining or obtaining income. other results of joint use of the capital invested by the parties. The economic meaning of attracting foreign investments is that new technologies, forms of production and business organization, which have a fundamentally different and significant economic effect compared to the capabilities of national entrepreneurship, are integrated into the national economy. Historically, the first stage of the development of foreign investments was the transfer of material-intensive, heavy, ecologically polluting industries from developed countries to other developing countries. This was partly due to the motive of bringing production closer to the sources of raw materials, but in most cases the main incentive was to achieve higher profits by reducing labor costs and generally social benefits for workers. The analysis of the attraction of foreign investments allows us to draw conclusions about the historically formed paradigm of suppression of interaction between foreign and domestic companies.

This paradigm can be explained by the influence of two factors (Kadyrov TA, 2014):

1) national companies are less competitive than foreign companies. According to the formation model of technology transfer between two competing agents, the successful exchange of innovative technologies requires a relatively equal level of competitiveness between two firms, which is not observed in the modern economy.
2) the economy has developed a type of development consisting of extremely low level of its original innovative technologies and products and extremely high level of technological indebtedness. It is necessary to identify the economic component of the "foreign investments" category and determine the main goals, subjects and objects of the investment activity. Investment activity is a set of practical actions of legal entities, citizens and the state on the implementation of investments.

The main goals of foreign investment:

1) generate additional income;
2) establishment of control over foreign persons;
3) circumventing protectionist barriers that impede the movement of goods flows; - bringing production closer to new sales markets;
4) cost savings (transport costs, tax payments, especially when establishing or registering enterprises in offshore and special economic zones; reducing environmental protection costs). (Sergeev I.V., Veretennikova I.I., Shekhovtsov V.V, 2014).

The objects of investment activity can be newly created and modernized fixed assets and working capital, securities, purpose money deposits, scientific and technical products, other property objects, property rights and intellectual property rights. The main subject of the investment process is the investor. An investor is a subject of investment activity who invests his borrowed funds in the form of investments and ensures that they are used for their purpose. Investors can be states, transnational and international organizations, bodies that manage state and municipal property or property rights, foreign citizens and legal entities. Within the framework of the investment process, the following subjects are also taken into account: customers, contractors, users of investment activities, suppliers, banks, insurance and intermediary organizations. In order to more fully disclose the characteristics of "foreign investments", it is very important to present their classification.

Forms and types of foreign investments are almost always chosen as synonyms, that is, they are equal, but it is possible to distinguish the following forms of foreign investment. For example:

1) investment in fixed capital (funds) for such objects, which are included in the definition of capital or machinery and equipment, buildings and facilities, computing machines, machines, in accordance with the legislation of the country where the enterprise is located;

2) financial investments imply the purchase of various securities at the expense of foreign investments, as well as the investment of not only these investments, but also various objects purchased for them, such as machines, equipment, materials, in the authorized capital. (Zubchenko L.A, 2014)

In general, all of the above types of foreign investment make up the general theoretical composition of foreign financing sources of investment projects for recipient countries. Thus, in modern conditions, among various forms of economic activity, the implementation of foreign investments becomes more and more important, it becomes one of the most important elements of the investment component in the economies of various countries.

Foreign investment is not just money invested in enterprises, but primarily new, high-tech technologies, the spread of modern management and organizational models to enterprises, the possibility of improving business ethics in the economy, the transfer of modern management methods and direct growth (Gurjiyeva K.O, 2013).

Investment attractiveness is an integral indicator determined by the totality of its economic and financial indicators, state, social, legislative, political and social development indicators. Investment attractiveness determines the movement vector of physical, financial, intellectual and human capital in the country and abroad. Investment attractiveness is determined by the simultaneous effect of two groups of investment potential factors, a set of conditions, attracting or repelling investors and investment risk factors.

In order to assess the investment potential, it is necessary to take into account macroeconomic indicators, the availability and availability of production factors, the consumption demand of the population and other parameters. Investment risk reflects the probability of loss of investments and income from them. The strengthening of competitive relations in the world and national markets, the wide development and rapid change of technologies, the increase in business diversification, the complex complexity of business processes and other factors make it necessary to form a system for evaluating and monitoring the investment attractiveness of the area.

Investment attractiveness is an integral indicator determined by the totality of its economic and financial indicators, state, social, legislative, political and social development indicators. Investment attractiveness determines the movement vector of physical, financial, intellectual and human capital in the country or abroad. Investment attractiveness is determined by the simultaneous effect of two groups of investment potential factors, a set of conditions, factors that attract or repel investors, and investment risk factors. According to A.M. Beketov, an effective method of assessing the attractiveness of investment "The review of the methods of assessing the attractiveness of the region should have the following characteristics:

1) popularity among potential investors;

2) adaptation to changing economic conditions;

3) the ability to assess the real distance between regions and determine the dynamics of their positions;

4) complexity (research should be conducted at both micro and macro levels, qualitative and quantitative indicators should be taken into account);

5) considering the industrial characteristics of the region;

6) accounting of investment and innovation activity;

7) reliability of the used tools and results. (A.M. Beketova, 2015).

It should be taken into account that for a comprehensive assessment of investment attractiveness, first of all, it is necessary to act from the position of a potential investor. When making a decision, the investor usually takes into account the potential return of the investment, the amount of required investments, as well as the risks.

According to another opinion, the approach to determining the country's investment attractiveness includes three main blocks: 1) economic attractiveness; 2) legal attractiveness; 3) risks when investing (Zhadan.A.Э., 2016)

Taking into account the characteristics that an effective methodology for the assessment of investment attractiveness should have, as well as the positions considered by a potential investor, Churilova E.E. and there is a need to analyze the approaches described in Ovchinnikova O.P.'s article. The first approach defines investment attractiveness as a set of socio-political, natural, economic and psychological characteristics. In this direction, the assessment methodology is implemented using an integral indicator of the reliability of the investment environment, which forms a set of indicators for its assessment.

Among all the various indicators that determine the investment attractiveness of the region, the indicators that best meet the requirements of a comprehensive assessment were selected. These indicators are included in investment attractiveness factors that reflect all aspects of the investment process. The formed set of indicators affects the external and internal factors of the functioning of the regions, such as economic systems and investment objects. Investment attractiveness factors of regions include political, social, economic, environmental, infrastructure, legislation, crime, innovation, production, labor, finance, investment and resource-raw materials. Thus, the proposed methods for assessing the investment attractiveness of regions allow to correlate the obtained values of the complex indicator of investment attractiveness with financial calculations of investors, as well as to characterize the profitability of invested funds, taking into account probable losses. Analyzing the main methods of assessing the investment attractiveness of the area, we can conclude that this assessment plays an important role. It helps to identify and justify the indicators that affect investment attractiveness, shows the most interesting regions for investors, and also allows regional and federal authorities to identify the main economic problems of the region and develop the necessary investment and innovation policy.

Conclusion

Interpretations of the concept of "investment", which have their own characteristics in various branches of economic science and in various fields of practical activity, are given. An important step in the investment process is taken by the participants of the investment activity, which can be investors, customers, users of the works, users of the investment activity, suppliers, banks, insurance organizations, investment exchanges and other participants of the investment process. The classification of investments allows not only to take them into account correctly, but also to analyze the level of their use from all angles and to obtain objective information for the development and implementation of an effective investment policy on this basis. Investment management mechanisms that combine state regulation and self-regulation of economic processes at all levels of management are considered. Approaches to the analysis of advantages and disadvantages of various types of investment policies of enterprises have been further developed and determined that the efficiency of innovation activity management should be considered as a hierarchical system operating in the interaction of macro and microeconomic levels.

Literature

in Azerbaijani

1. G.A. Azizova State investment-innovation policy Baku (2014)
2. Hasanli Javid Salman's master's thesis on the topic "Comprehensive study of the economic relations of the Republic of Azerbaijan with the CIS countries" Unec 2015
3. Ibrahimov F.M. Foreign investments directed to the economy of Azerbaijan and its role in the revival of the national economy. Baku 2007
4. Investment potential of the economy: formation and mechanisms of use" textbook. T.I. Karimova. Baku 2013
5. Investment potential of the economy: formation and mechanisms of use" T. Karimova (2012)
6. Legal regulation of investment activities" S.Z. Isayev (2011)

in Russian

1. Beketova A.M. Obzor of methods of assessment of investment attractiveness of the region // Economy and management of innovative technologies. - 2015. - No. 4. – C. 30.
2. Gurzhieva K.O. Classification of direct foreign investments according to ways of conducting international economic activity // Nauchnyi zhurnal KubGAU. – 2013. - #88. - C. 7.
3. И. И. Veretennikova, V. B. Shekhovtsov. — 3rd edition, revised . — M.: Издательство Юрайт, 2014. — C.53.
4. Keynes, J. General theory of employment, percentage and money / Keynes, Dzh. - M.: ЕКСМО, 2007. – С. 182
5. Krasnova V. A. Investments and investment activity of the region: theoretical aspect // Молодой учений. - 2015. - No. 9. - С. 636.
6. Raisberg, B. A., Lozovsky, L. Sh., Starodubtseva, E. B. Contemporary economic dictionary / B. A. Raisberg, L. Sh. Lozovsky, E. B. Starodubtseva. – 6th edition, revised. and the ball. — M.: ИНФРА-М, 2011. – С. 232.
7. Sergeev I.V., Veretennikova I.I., Shekhovtsov V.V. Investments: Textbook for bachelors.
8. Zubchenko L.A. Foreign investments: textbook / Zubchenko L.A. - M.: Knigodel, 2012. – C.14.
9. Churilova E.E., Ovchinnikova O.P. Methods of estimating the investment climate of the region // Economic sciences. – 2014. - No. 9. - C. 94-99.
10. Sharp U.F., Alexander G.J., Bailey D.V. Инвестиции: учебник / Sharp U.F., Alexander, Bailey D.V. – M.: Infra-M, 2010. – p.330.
11. Yakovlev, O.A. Regional stock market: assessment and ways to increase investment attractiveness: – Saratov, 2010. – P. 34

Financial innovations world experience and implementation in Kazakhstan

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Introduction

The advancement of services has been significantly influenced by technological progress, leading to the rise of financial technology (fintech). Fintech entails integrating technology into the services provided by companies to improve their accessibility and customer service. Innovations such as online banking, blockchain, mobile payments and peer to peer lending have transformed the financial industry by offering greater convenience, efficiency and security. This shift has not only simplified transactions but has also expanded access to financial services for a broader audience, enabling previously underserved communities to participate in the financial system.

The impact of these advancements is particularly notable in developing countries where traditional banking infrastructure is lacking. The use of mobile technology has allowed fintech companies to bypass infrastructure limitations by delivering financial services directly through consumers mobile devices. This breakthrough has given millions of people access to banking resources, credit options and investment opportunities, thereby promoting economic growth and fostering financial inclusion.

Although the roots of the fintech revolution can be traced back to technological advancements in the 1990s, it gained significant momentum in the early 21st century with the widespread adoption of internet and mobile technologies.

The global financial crisis of 2008 accelerated the adoption of fintech as it undermined trust in traditional financial institutions and spurred a demand for more innovative and reliable solutions. The advancements in financial technology have brought about significant changes in various aspects of the financial industry worldwide. In developed countries, they have enhanced the efficiency and ease of financial transactions, while in less developed nations, they have provided essential opportunities for greater financial inclusion. Take, for example, mobile payment systems like M Pesa in Kenya, which have demonstrated how fintech can support inclusion and economic development in regions with limited banking infrastructure.

Among the most impactful innovations in fintech are the emergence of payment methods such as WeChat Pay and Alipay. In China, these platforms have not only revolutionized payment systems but also created extensive financial ecosystems. WeChat Pay, launched by Tencent in 2013, seamlessly integrates with the popular WeChat messaging app to enable users to conduct a variety of financial transactions—from paying bills to sending money and making purchases. Similarly, Alipay, introduced by Alibaba Group in 2004 as an escrow service for e commerce transactions, has expanded its services to include wealth management and consumer credit offerings.

The widespread adoption of WeChat Pay and Alipay can be attributed to their integration of financial services into daily routines, providing users with a convenient and secure experience.

These platforms have become indispensable tools for people in China, simplifying tasks like shopping and utility payments. Their broad acceptance has significantly increased access to services, empowering millions to manage their finances effortlessly and securely.
WeChat Pay, which is integrated within the popular WeChat social app, leverages its extensive user base to provide various financial services. Users have the convenience of paying bills, sending money to loved ones and shopping online or offline using QR codes. Its popularity lies in how seamlessly it integrates into users daily routines, offering both convenience and security.

Apart from facilitating transactions, WeChat Pay also enables peer to peer transfers, bill payments and investment opportunities as part of its all encompassing ecosystem. This comprehensive approach fosters user engagement and loyalty, fueling its growth and widespread acceptance.

By making financial services accessible through smartphones, WeChat Pay has played a key role in promoting financial inclusion in China.

Alipay has created opportunities for millions of individuals residing in rural and underserved areas to access financial services that were previously out of reach. This not only positively impacts personal financial stability but also stimulates economic activity and growth.

Originally established as a payment service for Alibaba's online marketplace, Alipay has evolved into a comprehensive financial services platform. It now offers a range of services including wealth management, insurance and consumer credit. Its success can be attributed to its ability to facilitate cost effective, reliable transactions securely. Through integration with Alibaba's e commerce platforms, Alipay contributes significantly to China's digital economy by advancing financial inclusion and providing essential services to millions of users who were previously marginalized.
Alipay's approach focuses on creating an ecosystem that extends beyond just payment solutions. This includes services like Ant Financial's Yu'E Bao money market fund for earning interest on savings and the Huabei consumer credit service for buying on credit. These added features have established Alipay as a crucial tool for Chinese consumers, solidifying its position in the market. A significant part of Alipay's commitment to inclusivity lies in its dedication to serving underserved communities.
By utilizing data and advanced algorithms, Alipay can assess individuals creditworthiness even if they lack traditional credit histories. This has opened up opportunities for individuals and small businesses to access financial services such as credit, insurance and investments that were previously out of reach.

A Brief Overview of Kazakhstan's Financial Sector
Since gaining independence in 1991, Kazakhstan's financial industry has experienced growth and transformation. Moving from a state controlled model to a market driven framework, the country now accommodates a mix of local and international banks. Despite these advancements, challenges persist in Kazakhstan's financial landscape like limited financial inclusivity, reliance on traditional banking methods and underdeveloped digital infrastructure. The banking industry in Kazakhstan is dominated by major banks while access to financial services remains uneven, particularly in rural areas. Cash transactions are still common among Kazakh citizens with digital banking adoption trailing behind more developed markets.
This scenario brings about both challenges and possibilities for fintech advancements to bridge gaps and expand services to underserved communities. Recently, fintech solutions have begun leaving their mark on Kazakhstan's financial sector. The government has recognized the significance of fintech in fostering inclusion and economic growth, resulting in various initiatives to

promote innovation within the industry. Among these initiatives, Kaspi.kz has emerged as a key player in propelling digital banking and mobile payments, drawing comparisons to the success of WeChat Pay and Alipay in China. Initially operating as a traditional bank, Kaspi.kz has transformed itself into a fintech platform offering a diverse range of digital financial services. Through the Kaspi.kz app, users can conduct transactions, transfer money, apply for loans and shop online seamlessly on a single platform. This transformation has notably enhanced accessibility and convenience for individuals in Kazakhstan while driving the country's economic digitization forward. The success of Kaspi.kz can be attributed to its focus on meeting customer demands and leveraging technology to deliver convenient and accessible financial solutions. With its user friendly interface and seamless service integration, the platform has become a popular choice among consumers. By offering payment options, online shopping capabilities and digital banking services, Kaspi.kz has become an integral part of daily life for many residents of Kazakhstan. In addition to enhancing convenience, Kaspi.kz has played a vital role in promoting financial inclusion. Kaspi.kz has utilized technology to improve access to banking services for underserved communities, especially those in rural areas. This effort has positively impacted economic activities by allowing more individuals and businesses to obtain credit, invest and participate in digital transactions.

Study Goals

This research seeks to assess the impact of financial advancements, particularly the adoption of WeChat Pay and Alipay, on Kazakhstan's financial sector with a specific focus on Kaspi.kz. By exploring how these leading Chinese fintech companies have transformed their industry, the study aims to highlight lessons that can be applied in Kazakhstan.

The study will examine the innovations introduced by Kaspi.kz and evaluate their effects on promoting financial inclusion, enhancing economic activities and improving Kazakhstan's overall financial environment. Through a comparative analysis between China and Kazakhstan, the study aims to identify best practices as well as potential challenges associated with implementing fintech innovations in emerging markets.

Research Inquiries;

The main research inquiries guiding this study are;

How have WeChat Pay and Alipay reshaped China's financial sector?

In what ways has Kaspi.kz integrated similar fintech innovations in Kazakhstan?

What impact have these innovations had on Kazakhstan's sector and economy?

These research inquiries will be explored through a combination of quantitative analysis utilizing data from the National Bank of Kazakhstan and other relevant sources.

The study will also consider insights collected from surveys with customers of Kaspi.kz.

WeChat Pay and Alipay; Changing the Financial Landscape of China

The move towards digital financial solutions is notably visible in China due to the emergence of mobile payment platforms like WeChat Pay and Alipay. These platforms have not only revolutionized payment methods but also reshaped how consumers interact with their financial institutions and each other.

WeChat Pay and Alipay are prime examples of how financial innovations can be utilized to bring about significant shifts in consumer behavior and financial systems. These two platforms, WeChat Pay and Alipay, have played a crucial role in altering the financial landscape of China.

Launched by Tencent in 2013, WeChat Pay has transformed mobile payment solutions by seamlessly integrating into the popular WeChat social media app, which boasts over a billion active users. It provides users with a wide range of transaction options, enabling them to make purchases, transfer money to friends and even manage investments all within one platform. This seamless integration has been pivotal in its widespread adoption. The convenience of conducting financial transactions within a commonly used social media app eliminates the necessity for separate banking apps, enhancing accessibility and user friendliness.

Various factors contribute to the success of WeChat Pay.

The easy to use interface makes it simple for people with different levels of tech knowledge to navigate. The process of scanning a QR code for payments has revolutionized how transactions are done in different sectors, ranging from street vendors to high end retailers.

Furthermore, the platform's robust security measures, like real time transaction monitoring and advanced encryption technologies, have built trust among users. This trust is crucial in encouraging the widespread acceptance of digital payment systems. Additionally, integrating WeChat Pay with social media enhances user engagement. For example, the ability to send money as a "red envelope" during Chinese New Year carries cultural significance and adds a social element to financial transactions.

By 2018, WeChat Pay had secured over 40% of China's mobile payment market share, highlighting its dominance and the shift towards a cashless society. This transition reflects broader trends in consumer behavior and technological advancements. The ease of mobile payments has led to their adoption across various age groups, from tech savvy millennials to older individuals who appreciate the system's simplicity and security.

Moreover, the move towards a cashless society aligns with government efforts to combat corruption and improve financial transparency.

Alipay, created by Alibaba Group in 2004, started as a secure payment service for transactions on Alibaba's online shopping platforms. Over time, it evolved into a comprehensive financial services center offering various services like wealth management, insurance and consumer credit. The seamless connection between Alipay and Alibaba's e commerce platform has been crucial to its success by providing an easy payment solution that enhances user convenience and trust. Beyond just payments, Alipay offers a range of financial services that cater to a wide audience, making it a popular choice for managing finances (Zhong qing et al., 2019).

Alipay's innovation extends beyond traditional banking services. By leveraging big data and advanced algorithms, Alipay can assess individuals creditworthiness even without traditional credit histories. This approach has increased access to credit for many individuals and small businesses, boosting economic progress and reducing poverty levels. For instance, Sesame Credit—a credit scoring system developed by Ant Financial linked to Alibaba—analyzes users online behavior to determine their credit risk. This method allows those excluded from conventional credit systems to access loans and other financial products, promoting inclusivity in financial services (Berg et al., 2019).

By the year 2020, Alipay had gained a following of more than 1.2 billion users worldwide, showcasing its significant impact on the financial industry. The widespread global reach of the platform underscores its solid technological base and innovative business approach. Alipay has actively established collaborations with international companies and financial organizations, broadening its influence and user community (Zhong qing et al., 2019). The emergence of WeChat Pay and Alipay in China has not only reshaped consumer behaviors but also shaped global perceptions of Chinese technological advancements. These platforms have come to symbolize

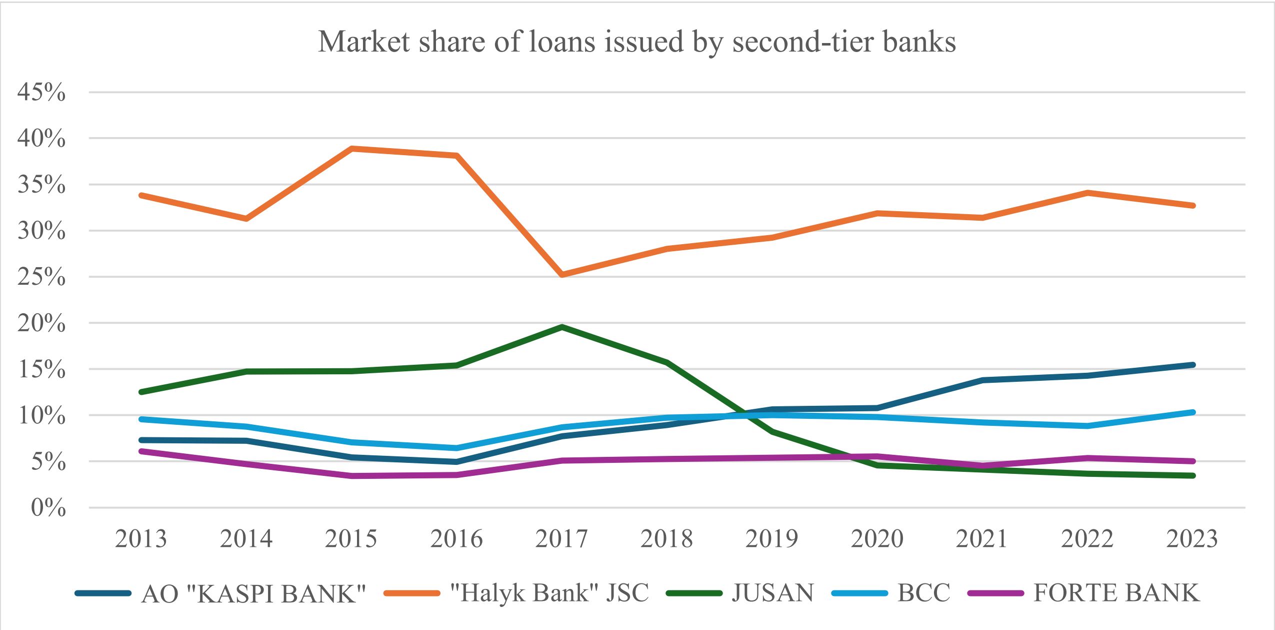
China's rapid progress in technology and innovation within the finance sector. Social networking sites like Weibo and WeChat have played pivotal roles in promoting these payment services, underscoring the importance of reputation and online visibility in attracting users. The widespread popularity and engagement on these platforms have built trust and encouraged wide adoption, highlighting the connection between social media and fintech. The smooth integration of these payment systems into daily life and social norms has cemented their acceptance and usage (Zhu, 2019). The dominance of WeChat Pay and Alipay in the Chinese market mirrors a broader trend towards integrating digital solutions into financial services, emphasizing the significance of innovative approaches to effectively engage users while establishing trust.

The accomplishments showcase how digital payment systems can help promote financial inclusion, stimulate economic engagement and contribute to overall economic progress. These platforms have established a benchmark for global financial systems, demonstrating how technology can improve efficiency and inclusivity within financial environments. WeChat Pay and Alipay have transformed the financial landscape in China by combining social media integration, user friendly interfaces and robust security measures. Their success underscores the importance of customizing financial services to meet consumer needs and leveraging technology to enhance financial inclusivity. As these platforms evolve, they are poised to play a significant role in shaping the future of global financial services.

An Overview of Insights

This section explores the analysis and findings derived from a quantitative study conducted to assess the impact of Kaspi.kz's digital banking advancements. The analysis is rooted in data spanning the past decade and focuses on metrics such as the share of loans issued by second tier banks, loan portfolio sizes and year over year growth in loan portfolio sizes. This data offers valuable insights into Kaspi.kz's expansion trajectory compared to other banks operating in Kazakhstan.

Between 2013 and 2023, Kaspi Bank's share of loans from second tier banks has shown a steady increase. In 2013, the bank accounted for 7% of all loans issued by second tier banks, a percentage that remained consistent in 2014 but decreased to 5% in both 2015 and 2016. However, starting in 2017 with the launch of its digital banking platform, Kaspi Bank's share began to climb consistently. By the end of 2023, Kaspi Bank's portion had grown to reach 15%.



In terms of loan portfolios, Kaspi Bank experienced significant growth during this period. Beginning at around 615 billion tenge in loans in 2013, the bank's portfolio surged to over 4.2 trillion tenge by the end of 2023. This impressive expansion was closely linked with the introduction of digital banking solutions and the super app strategy launched in 2017.

Halyk Bank also witnessed substantial growth in its loan portfolio over the same period, starting at approximately 2.85 trillion tenge in loans in 2013 and reaching around8.88 trillion tenge by the close of2023. While Halyk Bank maintained its position as a leader based on portfolio size, Kaspi Bank demonstrated a notably higher growth rate.

On the other hand,Jusan,BCC and Forte Bank saw varying levels of expansion during this time frame.
For example, Jusan's loan portfolio grew from 1.06 trillion tenge in 2013 to around $946 billion tenge by the end of the period under review. Similarly, BCC's portfolio expanded from $807 billion tenge to roughly $2.8 trillion tenge during this timeframe.

The rise in loan portfolio amounts between years provides valuable insights into how Kaspi Bank's growth stacks up against its competitors. Kaspi Bank has shown impressive growth rates, especially since the introduction of its digital banking platform. In 2021, Kaspi Bank witnessed a 72% surge in its loan portfolio amount, followed by increases of 29% in 2022 and 34% in 2023. These growth numbers highlight the positive impact of digital innovations on Kaspi Bank's lending operations.

Halyk Bank also demonstrated strong growth, with notable increases seen in 2015 (65%) and 2022 (36%). However, Halyk Bank's year over year growth rates displayed more variability compared to those of Kaspi Bank. On the other hand, banks like Jusan and BCC went through fluctuations involving both periods of growth and decline, showcasing the competitive and ever evolving nature of Kazakhstan's banking sector.

The adoption of digital banking and the super app model by Kaspi.kz has been instrumental in propelling its expansion.
By adopting strategies similar to those used by Alipay and WeChat Pay, Kaspi.kz has revamped its platform to provide a wide range of financial services alongside marketplace functions. This approach not only enhanced user convenience but also led to a significant rise in the number of loans taken out. A pivotal move was integrating a marketplace into the Kaspi.kz app, allowing sellers to showcase their products and buyers to utilize financing options offered by Kaspi.kz. This payment model, akin to Alipay's collaboration with Taobao in China, played a crucial role in boosting loan growth via the app.

The analysis and findings of the study underscore the considerable influence of Kaspi.kz's digital banking innovations on its expansion and market standing. Through the implementation of an all encompassing digital platform and the super app concept, Kaspi.kz has witnessed a noteworthy uptick in its loan portfolio and market share, surpassing competitors. The inclusion of diverse financial services and marketplace functionalities within the app has made it more convenient for users to manage their financial requirements.

In essence, Kaspi.kz's evolution from a traditional bank into a leading super app sets a precedent for other financial institutions aiming to achieve similar success in today's digital landscape.
By continuously innovating and meeting the needs of users, Kaspi.kz is in a strong position to maintain its leading role in Kazakhstan's financial sector and potentially expand its reach to other

growing markets. The findings of this study underscore the transformative impact digital financial progress can have on promoting financial inclusion, driving economic growth and improving the overall efficiency of financial services. Kaspi.kz's successful implementation of digital banking strategies highlights the importance of embracing technology and innovation in the modern financial industry.

References

1. Berg, T., Burg, V., Gombović, A., & Puri, M. (2019). On the rise of fintechs: credit scoring using digital footprints. Review of Financial Studies, 33(7), 2845-2897. https://doi.org/10.1093/rfs/hhz099
2. Zhong-qing, H., Ding, S., Li, S., Chen, L., & Yang, S. (2019). Adoption intention of fintech services for bank users: an empirical examination with an extended technology acceptance model. Symmetry, 11(3), 340. https://doi.org/10.3390/sym11030340
3. Zhu, Y. (2019). Social media engagement and chinese international student recruitment: understanding how uk heis use weibo and wechat. Journal of Marketing for Higher Education, 29(2), 173-190. https://doi.org/10.1080/08841241.2019.1633003

The Role of Basel III in Enhancing Financial Stability Post-2008 Financial Crisis

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Introduction

The financial crisis of 2008, originating from liquidity shortfalls and excessive risk-taking by major financial institutions, revealed profound vulnerabilities within the global financial system. This crisis, characterized by the collapse of prominent banks and the subsequent economic downturn, prompted an urgent reassessment of the regulatory framework governing the banking sector. In the wake of this financial upheaval, the Basel Committee on Banking Supervision recognized the need for a more robust regulatory standard to prevent future crises, leading to the development of Basel III.

Basel III was designed to address the shortcomings exposed by the financial crisis, particularly in the areas of bank capital adequacy, risk management, and market liquidity. The reform package introduced comprehensive changes aimed at strengthening the global banking system. By raising the quality and quantity of the regulatory capital base, enhancing risk coverage, and introducing more stringent liquidity requirements, Basel III sought to increase the banking sector's ability to absorb shocks arising from financial and economic stress.

The purpose of these reforms was multifold: to fortify banks against the kind of severe financial stress that had led to the crisis, to improve risk management and governance, and to enhance the transparency and disclosures related to the banking sector's financial health. This set of measures was not just a response to past inadequacies but a forward-looking solution intended to stabilize the financial system and protect it against future vulnerabilities.

These enhancements under Basel III marked a significant shift in banking regulation, focusing not only on individual financial institutions but also on the stability of the financial system as a whole. The implementation of Basel III has been pivotal in reshaping banking practices, promoting a more cautious approach to risk, and ensuring that banks are more resilient in the face of economic fluctuations. The following sections will explore the specific reforms introduced by Basel III, their impact on bank resilience, and the overall reduction in systemic risk within the global financial landscape.

Key Reforms:

1. Capital Reforms

- Higher Capital Requirements: Basel III increased the minimum common equity Tier 1 (CET1) capital requirement from 2% under Basel II to 4.5% of risk-weighted assets (RWAs). This ensures that banks have a stronger capital base to absorb losses.
- Capital Conservation Buffer: An additional buffer of 2.5%, bringing the total CET1 requirement to 7%, was introduced. This buffer is designed to be built up during normal times so that it can be drawn down during periods of stress.
- Countercyclical Buffer: This is an additional buffer ranging from 0% to 2.5% of RWAs, implemented according to national circumstances when excess credit growth is associated with a build-up of systemic risk.
- Leverage Ratio: A non-risk-based leverage ratio was introduced to serve as a backstop to the risk-based capital requirements, set at a minimum of 3% of total assets, to curb excessive leverage in the banking system.

2. Liquidity Reforms

- Liquidity Coverage Ratio (LCR): This requires banks to hold a buffer of high-quality liquid assets sufficient to cover net cash outflows under a 30-day stress scenario. The LCR is designed to ensure that banks have enough liquidity to withstand short-term disruptions.

- Net Stable Funding Ratio (NSFR): Introduced to promote a more stable funding profile in relation to the composition of banks' assets and off-balance sheet activities. The NSFR requires banks to maintain a stable funding structure in relation to their assets and off-balance sheet activities over a one-year time horizon.

3. Systemic Risk and Global Systemically Important Banks (G-SIBs)

- Additional Capital Surcharges for G-SIBs: Basel III imposes higher capital requirements on institutions identified as globally systemically important banks, to reflect the greater risks they pose to the global financial system. These surcharges are scaled according to the bank’s systemic importance, ranging from 1% to 3.5% of RWAs.

4. Leverage and Liquidity Enhancements

- Enhanced Leverage Ratio Framework: The leverage ratio was further refined to ensure it captures off-balance sheet exposure more effectively, including derivatives and securities financing transactions.

- Improvements to Risk Coverage:Ba sel III strengthens the risk coverage of the capital framework, including enhancements to the treatment of counterparty credit risks and exposures associated with derivatives and securities financing transactions.

5. Macroprudential Oversight

- Integration of Macroprudential Measures: Basel III integrates several macroprudential measures to address system-wide risks and prevent future banking crises. These measures include the countercyclical capital buffer, which is intended to increase capital requirements during periods of high credit growth.

Under Basel III, banks are required to maintain higher levels of core equity capital, specifically Common Equity Tier 1 (CET1), which must comprise a greater proportion of their total capital base. This shift ensures that banks have a substantial buffer of the highest quality capital that is fully capable of absorbing losses. Furthermore, the introduction of the capital conservation buffer increases the total capital requirement, providing an additional layer of security designed to absorb potential losses during periods of economic stress. This framework not only improves individual banks' resilience but also stabilizes the broader financial system by reducing the likelihood of bank failures that could trigger a financial crisis.

A significant innovation in Basel III is the leverage ratio, which complements the risk-based capital requirements. Unlike the latter, which are sensitive to how banks assess the riskiness of their assets, the leverage ratio does not depend on risk assessments and serves as a straightforward backstop to prevent excessive leverage in the banking sector. This non-risk-based measure ensures that banks' expansion of assets is proportionate to their non-risk weighted capital base, thereby mitigating the risk of over-leverage that was prevalent during the pre-crisis period.

Basel III introduces two critical liquidity ratios—the Liquidity Coverage Ratio (LCR) and the Net Stable Funding Ratio (NSFR). The LCR requires banks to hold a sufficient reserve of high-quality liquid assets that can be quickly converted to cash to meet their short-term obligations. This requirement ensures that banks can survive acute liquidity disruptions lasting up to 30 days. On the other hand, the NSFR requires banks to maintain a stable funding profile in relation to their asset and off-balance sheet activities over a one-year period. Together, these liquidity standards discourage excessive reliance on short-term wholesale funding, promote more stable funding practices, and reduce the likelihood of a liquidity crisis affecting the banks and the financial system at large.

Since the implementation of Basel III, empirical evidence from regulatory reports and independent analyses suggests significant improvements in the capital ratios and liquidity levels of banks globally. These changes have been most pronounced in banks that were initially under-capitalized or had weaker liquidity profiles. The continued monitoring and adjustment of Basel III standards have been instrumental in ensuring that banks not only meet minimum expectations but also adapt to evolving market conditions and potential risks.

Overall, the enhancements brought about by Basel III have dramatically increased the resilience of banks globally. By enforcing stricter capital and liquidity requirements, the reforms have equipped banks to better withstand economic shocks and have thereby contributed to the stabilization of the global financial system.

Systemic Risk Reduction

A primary objective of the Basel III reforms has been to reduce systemic risks within the global banking system, which were significantly exposed during the 2008 financial crisis. The reforms targeted the interconnectedness and vulnerabilities that characterized the financial system, implementing several strategic measures aimed at enhancing the overall stability and robustness of banks.

1. Higher Capital Requirements: One of the cornerstones of Basel III is the introduction of higher capital requirements, including both higher minimum capital ratios and additional capital buffers. These measures ensure that banks hold a more substantial amount of their own funds against potential losses. By increasing the quality and quantity of regulatory capital, particularly the Common Equity Tier 1 (CET1) capital, banks are better equipped to absorb larger financial shocks, reducing the likelihood of systemic crises.

2. Leverage Ratio Controls: Basel III introduced a non-risk-based leverage ratio to serve as a backstop to risk-based capital requirements. This measure limits the extent to which a bank can leverage its equity capital, addressing the issue of excessive borrowing that was a key factor in the financial crisis. By capping leverage, the reforms constrain the potential buildup of systemic risks associated with high leverage levels in the banking sector.

3. Liquidity Standards: The Liquidity Coverage Ratio (LCR) and the Net Stable Funding Ratio (NSFR) were introduced to ensure that banks maintain sufficient liquidity for both short-term and long-term operational needs. The LCR requires banks to hold enough high-quality liquid assets to cover net cash outflows for a 30-day stress period, while the NSFR requires banks to maintain a stable funding profile relative to the composition of their assets and off-balance sheet activities. These liquidity standards prevent banks from relying excessively on unstable short-term funding, thus reducing the risk of market-wide liquidity crises.

4. Enhanced Risk Management and Oversight: Basel III also emphasizes improved risk management practices and enhanced oversight. The reforms call for better risk assessment techniques, more transparent reporting standards, and closer regulatory scrutiny of banks' risk-taking behaviors. These practices help identify and mitigate risks early, preventing them from escalating into systemic threats.

5. Addressing Systemic Interconnections: The reforms specifically target the systemic interconnections that can lead to contagion within the financial system. By requiring higher capital and liquidity standards for systemically important banks (Global Systemically Important Banks, or G-SIBs), Basel III aims to reduce the "too big to fail" risks, thereby minimizing the potential for systemic disturbances emanating from the largest and most interconnected financial institutions.

6. Empirical Evidence of Effectiveness: Recent evaluations and empirical analyses demonstrate that these measures have significantly lowered systemic risk within the banking sector. Market-based indicators, such as reduced credit default swap spreads and improved ratings for bank solvency, reflect greater market confidence in the stability of the banking system.

Moreover, the observed reduction in banks' probability of default underscores the effectiveness of Basel III in enhancing systemic resilience.

Evaluation of Efficacy of Basel III Reforms

Comprehensive Analysis

The evaluation of the efficacy of Basel III reforms is rooted in a thorough analysis of empirical data and regulatory reports that track the progress of banks in adhering to the new standards. This includes assessing changes in capital adequacy, leverage ratios, liquidity requirements, and overall bank resilience since the implementation of the reforms.

Capital Adequacy Improvements

A significant aspect of Basel III's efficacy is observed in the enhancement of capital adequacy ratios among banks. Banks have not only increased their core capital but have also improved the quality of capital held. This shift ensures that banks are better equipped to absorb losses, thereby stabilizing the financial system during economic downturns. The introduction of stricter capital requirements, like the Common Equity Tier 1 (CET1) and Tier 1 capital, has enforced a stronger buffer against potential financial shocks.

Leverage Ratio Effectiveness

The implementation of a non-risk-based leverage ratio serves as a critical backstop to the risk-weighted capital requirements. This measure has been effective in curbing excessive leverage practices that were prevalent prior to the financial crisis. The leverage ratio requirement compels banks to maintain a healthier balance between their equity and borrowed funds, thus promoting a more sustainable approach to banking operations and risk management.

Enhancement of Liquidity Standards

Liquidity standards, including the Liquidity Coverage Ratio (LCR) and the Net Stable Funding Ratio (NSFR), have been pivotal in ensuring that banks maintain adequate liquidity buffers. These measures help banks withstand short-term liquidity pressures and align their asset and liability management with long-term stability objectives. The improved liquidity profiles of banks under Basel III reduce the likelihood of financial distress caused by liquidity shortages, which were a notable problem during the 2008 crisis.

Impact on Systemic Risk

The reforms have effectively reduced systemic risk by introducing more robust risk management frameworks and enhanced supervisory oversight. By enforcing higher capital and liquidity standards, Basel III limits the possibility of bank failures that could trigger wider financial instabilities. Moreover, the increased resilience of individual banking institutions contributes to the overall stability of the global financial system.

Market-Based Indicators

Market-based indicators, such as Credit Default Swaps (CDS) spreads and bank ratings, reflect an increased confidence in the banking sector's stability post-reforms. These indicators have shown a notable improvement, suggesting that market participants recognize the enhanced risk profiles of banks due to Basel III regulations.

Continuous Monitoring and Adaptation

Ongoing evaluations by regulatory bodies and independent researchers indicate that while Basel III has significantly improved banking stability, continuous monitoring and adaptations are essential. This ensures that the regulations remain effective in the face of evolving market conditions and financial innovations.

The comprehensive evaluation of Basel III's efficacy concludes that the reforms have fundamentally strengthened the banking sector's structure and operations. By enhancing capital and liquidity standards and reducing systemic risks, Basel III has played a crucial role in fostering a more resilient banking environment, thereby contributing to greater financial stability worldwide.

Conclusion

The Basel III reforms represent a pivotal shift in global banking regulation, fundamentally restructuring the industry towards a path of enhanced stability and resilience. Initiated in response to the financial disruptions experienced during the 2008 crisis, these reforms have fortified the banking sector, equipping it with the tools and capacities to withstand future economic shocks and stressors.

Since their implementation, Basel III regulations have not only strengthened the capital base and liquidity of banks but also redefined the risk management landscape across financial institutions globally. The increase in capital requirements, the introduction of rigorous liquidity ratios, and enhanced supervisory standards have collectively reduced the probability of bank failures and the associated contagion effects that can lead to broader financial crises.

Moreover, the reforms have had a stabilizing effect on the financial markets by increasing transparency and accountability in the banking sector. This has restored confidence among investors, policymakers, and the public, contributing to a more stable economic environment. Banks are now better positioned to contribute to sustainable economic growth due to their improved ability to lend during downturns, reflecting a robust financial buffer and risk assessment framework.

However, the journey does not end here. The financial landscape is continuously evolving, with new challenges such as digital financial services, cybersecurity risks, and global economic uncertainties emerging. To remain effective, the Basel III framework must adapt to these changes. Ongoing assessment and refinement of the regulations will be crucial to address any gaps or unintended consequences and to enhance the framework's responsiveness to new risks.

In conclusion, while Basel III has significantly contributed to the stability and resilience of the global banking system post-2008, the regulatory environment must continue to evolve. This adaptability will ensure that the banking sector not only withstands future shocks but also plays a central role in supporting the real economy through various market cycles.

ОЦЕНКА ЭКОЛОГИЧЕСКОЙ УСТОЙЧИВОСТИ АЗЕРБАЙДЖАНА, КАК ОДНОЙ ИЗ ЦЕЛЕЙ РАЗВИТИЯ ЗЕЛЕНОЙ ЭКОНОМИКИ

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Обеспечение экологической устойчивости является одной из основных целей развития в стране зеленой экономики – экономики с минимальным воздействием на окружающую среду, экономики, опирающейся на зеленые технологии. Для того, чтобы определить пути ее обеспечения, для начала, следует определить, что данное определение подразумевает.

«Экологическая устойчивость» определяется, как:

- «ответственность за сохранение природных ресурсов и защиту глобальных экосистем для поддержания здоровья и благополучия сейчас и в будущем»; [1]

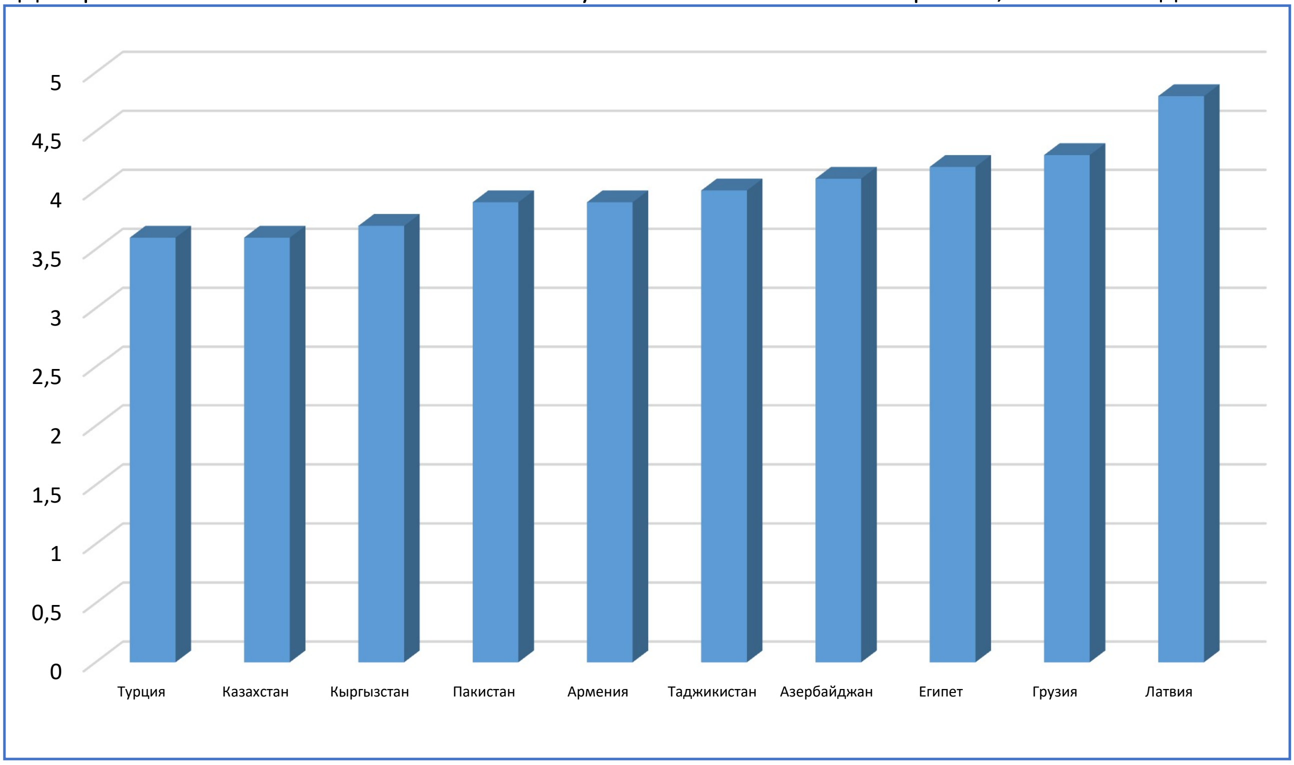
- «удовлетворение потребностей в ресурсах и услугах текущего и будущих поколений, не ставя под угрозу здоровье экосистем, которые их обеспечивают».[2]

Можно отметить, что основным фактором обеспечения экологической устойчивости является проведение мероприятий, нацеленных на заботу о природных ресурсах, об окружающей среде, с учетом интересов настоящего и будущих поколений.

Всемирный Экономический Форум определяет экологическую устойчивость, как совокупность таких показателей, как Выбросы парниковых газов на душу населения, Возобновляемая энергия, Глобальный индекс климатических рисков, Инвестиции в зеленую энергетику и инфраструктуру, Концентрация твердых частиц, Базовый уровень дефицита воды, Индекс Красной книги (показывает изменения количества разновидностей из Красной книги, которые находятся под угрозой исчезновения), Утрата лесного покрова, Очистка сточных вод, Чистая океанская вода, Общее количество ратифицированных договоров по охране природы, Адекватная защита природы, Контроль за влиянием производства на окружающую среду и природу, Общий охват охраняемых территорий, Средняя доля морских, наземных и пресноводных ключевых районов биоразнообразия, охватываемых охраняемыми территориями. [3, с. 70-73]

Проанализируем данные показатели в Азербайджане и еще нескольких странах.

Диаграмма 1. Показатель Экологической устойчивости по 10-ти странам, 2021-ый год



Источник: Всемирный Экономический Форум [3]

Выше продемонстрирована диаграмма на основе показателей экологической устойчивости на 2021 год. Как мы можем увидеть, у Азербайджана данный показатель имеет отметку в 4.1 балла. У других стран соответственно: Турция – 3.6, Казахстан – 3.6, Кыргызыстан – 3.7, Пакистан –3.9, Армения – 3.9, Таджикистан – 4, Египет – 4.2, Грузия – 4.3 и Латвия – 4.8. Средний показатель отобранных стран составляет 4.01 балла. Отсюда можно сделать вывод, что показатель Азербайджана является выше среднего среди отобранных стран.

По показателю Экологической устойчивости Азербайджан занимает 52-ое место в мире.

В Таблице 1. представлены показатели, формирующие показатель Экологической устойчивости.

Таблица 1. Компоненты показателя Экологической устойчивости по 10-ти странам, 2021-ый год

Страны	Выбросы	Возобновл			Концентра	Базовый	Утрата	Очистка		Контроль	Общий	Средняя доля	Индекс	Общее количество
Азербайджан	4.2	1.1	5.5	4.8	2.9	3.5	7	1.7	5.8	4.9	1.7	1.6	5.9	4.7
Кыргызыстан	6.2	2.4	5.4	1.9	3.2	3	7	1.3	2.5	2.3	1.8	2.4	6.8	4.5
Пакистан	6.3	3.5	1.2	4.5	1	2.1	7	1	4.7	4.6	2.2	2.5	5.2	5.8
Грузия	5.4	2.7	4.5	4.3	4.4	5.3	7	2.1	4.4	4	1.9	2.9	5.7	5.1
Армения	5.9	1.7	5.8	3.7	1.3	2.9	7	2.4	3.1	3.8	3.9	2.4	4.9	4.9
Турция	5	1.7	4.2	3.6	2.8	2.7	5.9	3.9	2.7	3.6	1	1.1	5.6	4.5
Казахстан	1.8	1.1	6.2	3.4	3.9	4.4	6.9	1.9	2.6	2.9	2.4	1.7	5.4	4.5
Таджикистан	6.4	3.4	3.9	3.5	1	3.8	7	1.1	4.2	3.7	3.7	2	6.9	4.3
Латвия	5.4	3.5	4	4.2	5.6	6.5	2.8	5.3	4.8	4.4	3.1	5.6	6.9	6
Египет	5.8	1.3	5.8	5.2	1	3.3	6.9	2.7	4.5	4.4	2.4	3	5.9	5.3
Среднее	*5.2*	*2.2*	*4.7*	*3.9*	*2.7*	*3.8*	*6.5*	*2.3*	*3.9*	*3.9*	*2.4*	*2.5*	*5.9*	*5.0*

Источник: Всемирный Экономический Форум [3]

В этой таблице рассмотрены все показатели, на основе которых формируется общий показатель Экологической устойчивости.

Азербайджан лидирует среди указаных стран в таких показателях, как: Утрата лесного покрова, Адекватная защита природы и Контроль за влиянием производства на окружающую среду и природу.

Низкий же балл в сравнении со средними баллами Азербайджан имеет в таких показателях, как: Выбросы парниковых газов на душу населения, Возобновляемая энергия, Базовый уровень дефицита воды, Очистка сточных вод, Общий охват охраняемых территорий, Средняя доля ключевых районов биоразнообразия, охватываемых охраняемыми территориями и Общее количество ратифицированных договоров по охране природы.

Но, чтобы иметь полное представление об этих показателях, нужно рассмотреть местоположение Азербайджана в общем рейтинге.

По первому показателю Азербайджан занимает 77-ое место среди 117 стран, по показателю Возобновляемой энергии – 108, Глобального индекса климатических рисков – 21, Инвестиций в зеленую энергетику и инфраструктуру – 25, Концентрации твердых частиц – 75, Базового уровня дефицита воды – 82, Утраты лесного покрова – 5, Очистки сточных вод – 70, Адекватной защиты природы – 6, Контроля за влиянием производства на окружающую среду и природу – 17, Общего охвата охраняемых территорий – 90, Средней доли ключевых районов биоразнообразия, охватываемых охраняемыми территориями – 109, Индекса Красной книги – 39, Общего количества ратифицированных договоров по охране природы – 102.

Выводы

Руководство Азербайджана нацелено на развитие в стране зеленой экономики, на обеспечение экологической устойчивости. В стране принимаются соответствующие государственные программы, увеличиваются инвестиции в зеленую энергетику и т.д. В результате всех этих мер, Азербайджан занимает достаточно хорошее место по многим показателям экологической устойчивости среди стран мира.

Но для того, чтобы добиться еще большей экологической устойчивости в стране, необходимо предпринять соответствующие меры по:

1. сокращению выбросов парниковых газов;
2. увеличению использования возобновляемых источников энергии;
3. сокращению базового уровня дефицита воды (по снижению соотношения общего изъятия воды к имеющимся запасам поверхностных и подземных вод);
4. увеличению процента очищаемых сточных вод;
5. увеличению доли площади охраняемых территорий суши и моря в общей площади страны;
6. увеличению средней доли морских, пресноводных и наземных ключевых районов биоразнообразия, охватываемых охраняемыми территориями;
7. увеличению числа ратифицированных договоров по охране природы;
8. снижению концентрации твердых частиц.

Список литературы

1. What Is Environmental Sustainability? https://sphera.com/glossary/what-is-environmental-sustainability/

2. Morelli, J. Environmental Sustainability: A Definition for Environmental Professionals // Journal of Environmental Sustainability, Volume1, Issue 1, 2011. https://cloud.mail.ru/attaches/17159755251931470924%3B0%3B1?folder-id=500015&x-email=leyli116%40mail.ru&cvg=f

3. Travel & Tourism Development Index 2021: Rebuilding for a Sustainable and Resilient Future | World Economic Forum (weforum.org)

Pedagogical Sciences

IN TEACHING MORPHOLOGY IN PRIMARY CLASSES. THE ROLE OF GRAMMATICAL ANALYSIS

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Grammatical analysis helps to further strengthen the knowledge, skills and habits gained from the Azerbaijani language, the development of students' oral and written speech, and logical thinking. In the process of analysis, the student applies the theoretical knowledge acquired from the language to practical studies (individual words, sentences, connected texts), finds the relevant rules of the Azerbaijani language from them, determines which sections it belongs to, separates its similarities and differences, classifies them according to their characteristics, and comes to generalized conclusions. It gives characteristics to the analyzed words and sentences.

Grammatical analysis requires full conscious activity from students, remembering both the material that has been passed and the material that needs to be repeated. Students learn new rules both theoretically and apply what they have learned to practical work. In such conditions, students' attention is strengthened, the acquired habits are sealed, and their independent activities increase.

In class I, students learn sentences, words, sounds, letters, vowels, consonants, thick vowels, thin vowels, etc. when they get acquainted with terms like Sentences are divided into words, words into syllables, syllables into sounds. The relationship between the sound and the letter is revealed, questions are put to the words in the sentence, whether a different word is created by changing a certain sound (shal-sal-nal, hal-bal), or by changing a word in the sentence, a completely different idea does not arise (Tahira sings at school (on stage) My father (teacher, doctor, farmer) is a witness.

The content and nature of the materials presented in grades I-IV are such that they are expanded by repeating the previous ones, and a bond is created between the previous and new lessons. Repetition of what was passed at the end of each section serves to strengthen the acquired knowledge. Depending on the content of the teaching materials and the purpose of the lesson, the analysis of the Azerbaijani language can be carried out in different ways, which are called incomplete, complete and complete analysis in the methodological literature.

1) Partial analysis on a specific topic - the goal here is to find out what students have mastered on a specific topic. Therefore, it is required to indicate only one or more signs of a word, part of speech, sentence, sentence members. For example: after the teaching of the "Law of Harmony" topic in the II class, the reasons for whether the corresponding words follow that law or not, the types of vowels according to the position of the lips are clarified. Or, after teaching the verb in the IV class, the students are taught to change the word denoting the name of any action only according to the question and the person (or tense). This type of analysis is used in every lesson.

2) Whole section analysis - in Azerbaijani language is addressed at the end of each section. It is required to indicate all the grammatical elements of the corresponding word or sentence. For example, in class IV, after the subject of "Sentence members (primary and secondary members)

has been covered: In the sentence, "Baby lambs graze on green grass", the grammatical basis (mubtada and news) is determined based on questions, how about both the words baby and green? The answer to the question defines that the baby second-order member explains the prime, the green second-order member explains the grass second-order member.

3) Full analysis according to all grammatical signs of the words in the sentence - determines the type of the sentence, shows all the grammatical signs of all the words (sentence members, their means of expression, structure of words, etc.). Such an analysis is carried out at the end of the academic year and includes all areas of the language rules for the Azerbaijani language. Here, one area of the language is almost not isolated from the other, in most cases phonetic-morphological, syntactic-morphological, orthographic - morphological, orthographic-morphological, orthographic-orphoepic, syntactic and punctuation analyzes are conducted in conjunction. Grammatical analysis also combines stylistic works in its content.

Morphology, which is one of the main branches of grammar, studies the grammatical meanings of the word, studies the word and its forms. Speaking of morphological analysis, let's note that it is important in several ways: 1) determining the broad grammatical meanings and forms of the word, 2) revealing the similarities and differences of parts of speech while characterizing them. 3) revealing the internal structure of individual parts of speech. 4) Instilling necessary knowledge, skills and habits in students on spelling, orthography and lexicon. 5) development of speech and thinking of schoolchildren. 6) Creation of optimal conditions (ground) for mastering the content of materials on syntax, etc.

There are two types of morphological analysis: a) according to the structure of the word; b) according to parts of speech.

"The elementary course on morphology involves providing students with concepts related to the formation of a conscious attitude to the main elements of the language - the structure and forms of words. Here are roots and suffixes, types of adjectives, parts of speech, questions, grammatical signs, etc. is covered" (1, p. 321).

In grade II, students are taught the composition of words in a practical way: "Words denoting the name of an object", "Words denoting the movement of an object" and "Words denoting the nature of an object" are taught.

"The concept of "Parts of speech" is gradually mastered in primary classes over several years. The simple training started in the II grade is extended in the III-IV grades and scientific information is provided" (4, p. 262). Simple, practical knowledge gained in this field allows for morphological analysis. The analysis of the structure of the word should occupy a large place in II-IV classes. In the second grade, with students in the garden, forest, sailor, etc. If work is carried out on the separation of the roots and suffixes of type words, in the III-IV grades this process is gradually complicated, with two suffixes - blacksmithing, books, etc. and later with three suffixes - forestry, forestry, vegetable growers, etc. The composition of such words is determined. Students separate words into independent roots and suffixes. Water, water, water, water, etc. are involved in the analysis.

It is also useful for strengthening. By studying the grammatical signs of the word, the students make sure that the roots of related words are written in the same way, they learn to write words correctly according to the morphological principle. Therefore, it is necessary to train students on the comparison of related words. Because the first idea about the root is based on observations on related words (grass, grass, grass, etc.).

"Practical habits acquired about the artist are systematized and classified in the II grade, students get acquainted with modifying and correcting suffixes. The biggest difficulty encountered in teaching the composition of the word is "understanding the concept of word-changing and word-correcting suffixes and the difference between them" (4, p. 322-323).

For the first time, based on the examples of tractor-tractor, school-school, it is understood that it refers to a person working in a certain facility and studying. At the next stage, work is being done on finding words that correspond to the names of things, gradually sign, and finally also action: ice, glacier, icy, ices, etc. Finally, it is explained which suffixes used in the studies in the textbook have the feature of creating a new word. As a result, children are made to understand that many adjectives in our language change the form of words and partially the meaning of words, but the general meaning is preserved.

"There are suffixes in our language that, when added to certain words, have a strong impact not only on their shape, but also on their content, creating words with a completely new meaning. Such suffixes are called word-correcting suffixes" (3, p. 103).

When going through each part of the speech, the role and question in the sentence are revealed by using analyzes in the same order. For example, when adjectives are discussed in the Azerbaijani language textbook of grade III, the students are informed as follows: "A word that expresses the sign and quality of existence is not an adjective. Adjective how:, what kind? Which one? It answers one of their questions"(2, p. 126). Children are instructed to tell examples of adjectives, then sentences are given, and students find the adjective by analyzing the sentence with the help of questions, remembering what they learned earlier. All parts of speech are taught in this manner. In the analysis by parts of speech, individual words of the text are taken and their different grammatical signs are indicated.

Summarizing what we said above, we can say that in morphological analysis, students determine the name of the parts of speech, its characteristics, that is, its type and grammatical signs. For example: when analyzing nouns, students first of all indicate whether the noun is specific or common, what object it represents. Then they note its case, whether it is singular or plural, the type of structure. In the analysis of adjectives, they first note that the thing expresses a quality or sign, and then determine their degrees and structural types. In the analysis of verbs, their grammatical meaning type (known, return, forced, opposite, one-coming, unknown), tense and personal form, structural type, etc. is determined. Students should also indicate separately which question the analyzed main speech parts are the answer to.

Of course, this whole process cannot be imagined without tables and schemes. The composition of words, complex words, ways of their formation, parts of speech (main and auxiliary parts of speech), etc. In addition to tables and schemes, posters with text, grammar-orthographic albums, and various pictures can be used as visual aids to provide information about the subject. Also, various types of studies engage students in creative work, develop their ability to think and draw conclusions. In this way, in addition to instilling grammatical and orthographic concepts to young schoolchildren, a foundation is created for the development of their logical thinking.

References

1. Baliyev H. Middle school teaching method of Azerbaijani language. Baku, publication of ADPU, 2003, 426 p.

2. Ismayilov R., Abdullayeva S., Jafarova D., Gasimova X. Azerbaijani language textbook of general education schools grades I-IV. Altun kitab, Baku, 2019. 223 p.

3. Nabiyeva Sh., Abdullayeva G., Keimova A.Lectures on the method of teaching mother tongue in primary classes. Science and education, Baku, 2015, 520 p.

4. Jafarova N. Methodology of teaching Azerbaijani language in primary classes. Parts I-II. Baku, 2016, 404 p.

IN TEACHING MORPHOLOGY IN PRIMARY CLASSES THE ROLE OF GRAMMATICAL ANALYSIS

SUMMARY

The article discusses the grammatical analysis conducted during the teaching of morphology in primary classes. It is noted that grammatical analysis requires full conscious activity from students. During morphological analysis, students determine the name of the parts of speech, its characteristics, that is, its type and grammatical signs. The article emphasizes the importance of grammatical analysis and the rules of how to conduct it during the presentation of certain topics. Grammatical analysis not only instills grammatical and orthographical concepts to young schoolchildren, but also lays the foundation for the development of their logical thinking.

Examples show how syntactic and morphological analyzes are carried out in each of the primary classes. The main and auxiliary parts of speech, word and its composition, related words are discussed. More efficient ways of teaching these subjects are revealed. A certain table, graph, etc. the importance of using visual aids is also emphasized.

Keywords: elementary education level, spelling, grammatical analysis, writing skills,

В преподавании морфологии в начальных классах роль грамматического анализа

РЕЗЮМЕ

В статье рассматривается грамматический анализ, проводимый при преподавании морфологии в начальных классах. Отмечается, что грамматический анализ требует от учащихся полной сознательной деятельности. В ходе морфологического анализа учащиеся определяют название частей речи, ее характеристики, то есть ее вид и грамматические признаки. В статье подчеркивается важность грамматического анализа и правила его проведения при изложении определенных тем. Грамматический анализ не только прививает юным школьникам грамматические и орфографические понятия, но и закладывает основу для развития их логического мышления.

На примерах показано, как проводятся синтаксический и морфологический анализы в каждом из начальных классов. Рассмотрены основные и вспомогательные части речи, слово и его состав, родственные слова. Выявлены более эффективные способы преподавания этих предметов. Определенная таблица, график и т.д. также подчеркивается важность использования наглядных пособий.

Ключевые слова: начальный уровень образования, орфография, грамматический анализ, навыки письма,

ABOUT MODERN TEACHING METHODS

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What is the teaching method? First, let's try to clarify this question. Pedagogical literature has a definition of this term on different parameters. For example, the famous Russian pedagogue Yuri Babansky called the teaching method "a method of regular interrelated activity of the teacher and students, an activity aimed at solving the problems of education, upbringing and development in the learning process." Another Soviet and Russian Methodist scientist, Isaac Lerner, formulated this concept in the following way in his book "The Didactic Basis of Teaching Methods": "The teaching method is the teacher's consistent approach that organizes the student's cognitive and practical activity and continuously leads him to master the content of the education, i.e. to achieve the educational goals. is a system of actions".

Definitions may differ in detail, but these views can be agreed on in fundamental aspects. The teaching method always involves the organized activity of the teacher and the student to achieve the learning goals.

Since teaching methods are closely related to social, cultural and technological context, they change and improve over time. For example, in the early stages of human development, the method of imitation prevailed. The young members of the primitive community observed their elders and thereby learned to create tools and obtain food. The emergence of language allowed the next generation to learn to speak orally. Writing, then its printed variants, was long considered one of the main methods of learning to read books. Of course, the invention of computers and the Internet also played a role in the way people teach and learn.

Philosophers have always looked for the most effective teaching methods and applied them to see how effective they are. For example, Socrates became the founder of the heuristic method, where the teacher not only transmits knowledge to the student, but also helps them to conduct independent research with the help of a specially structured conversation. In the 16th century, the French humanist Michel Montaigne promoted the individualization of learning, the independent study of curiosity and natural phenomena.

What is the difference between methods, methodology, methodology, methods?

Methods should not be confused with technique. Each method consists of individual elements - methodological (or didactic) techniques. For example, a lecture is a teaching method, with the teacher writing the main points on the board and the student taking notes.

The same techniques can be implemented in different ways. At the same time, different teachers can incorporate different techniques and their combinations into the same methods. For example, working with a book means reading aloud, memorizing the text, looking for an answer to a question, describing an illustration, etc. may consist of such methods.

Concepts of method and methodology are also related to the concept of method. Unlike the method, the methods can be different, the teaching methodology implies a set of special algorithms and rules. If a method can be used in different teaching concepts, then the methodology has a certain theoretical basis. Often the methods belong to the author: for example, nine teaching methods were proposed by Robert Gagne.

According to the philosophical encyclopedic dictionary, methodology is "the system of principles and methods of organizing and building theoretical and practical activity, as well as the doctrine of this system." That is, the methodology of education will include methods, techniques and other aspects of educational activities. For example, flipped learning is essentially a methodology.

Classification of teaching methods

There is still no generally accepted approach to the classification and systematization of teaching methods in pedagogy. Perhaps because the learning process itself consists of many interrelated elements, moreover, it must be taken into account by both the teacher and the student. Therefore, researchers who try to bring all different methods into a certain system choose different bases for classification:

• For didactic tasks: there are methods of acquiring knowledge, developing skills and habits, applying knowledge, creative activity, strengthening and testing knowledge, skills and habits. This concept was proposed by Mikhail Danilov and Boris Esipov.

According to the source of information transfer: the methods are oral (lecture, discussion, working with a textbook), visual (working with illustrations and diagrams, watching a video) and practical (problem solving, laboratory work, didactic games).

• According to the nature of students' cognitive activity: information-receptive method (when the teacher transmits information to the students), reproductive (the student takes an example from the teacher), problem presentation method (the teacher formulates the problem and shows the logic, takes steps to solve it), heuristic (the teacher separates the problem -divides into separate tasks, and students solve them) and research (students look for solutions to problems that are new to them). The authors of this approach reflecting the development of student independence are Russian educators Isaac Lerner and Mikhail Skatkin.

• According to the logic of information presentation and perception: inductive methods (when the teacher first presents specific facts and then calls out general propositions or when students solve problems to reach a general idea) and deductive methods (students proceed from abstract concepts or general concepts) . From laws to concrete results, from theory to problem solving). This classification was developed by Anatoly Aleksiuk.

Yuri Babansky was inclined to a holistic approach and proposed his own system, which to some extent combines all other classifications. Thus, according to Babansky's concept, teaching methods are divided into three large groups:

- ➢ Methods of organizing and implementing educational and cognitive activities (verbal, visual and practical, inductive and deductive, reproductive and problem-searching, independent work methods).
- ➢ Methods of stimulation and encouragement of teaching and cognitive activity (methods of attracting and forming cognitive interest, as well as methods of encouragement and punishment - for the development of responsibility for the result of learning).
- ➢ Monitoring the effectiveness of educational and cognitive activity and self-control methods (verbal and written control methods, control laboratory works, computer tests).

It should be noted that these methods are common to all subjects, but in practice they can take the most suitable form for a specific subject. For example, if we use the classification of Lerner and Skatkin, the reproductive method can be either repeating foreign language expressions after the teacher, or conducting a chemical experiment based on a model.

What modern teaching methods are useful?

Pedagogy does not stand still and is updated with new teaching methods and methods. They differ from the traditional ones, as a rule, in that students play a clearer, even central role in the learning process. In other words, these are active learning methods. Unlike the passive model, the student does not just listen to the teacher or read the textbook, but performs the cognitive activity himself. In addition, these methods help to develop general skills and combine knowledge and skills from different disciplines. Let's talk about some modern teaching methods that students and teachers should pay attention to.

Project-based teaching method. The project teaching method differs from the classical method in that students independently set a goal and determine ways to achieve it, search, select, summarize and analyze the information they need, and the teacher acts as a consultant. A project requires a practical task (problem), searching for information about it, designing a solution and a final product, usually presented in the form of a presentation. The project ends with defense. The projects are:

• research (the result is confirmation or refutation of a certain theory);
• experience-oriented (the result is a proposed solution to the problem);
• creative.

The project-based learning method allows us to teach schoolchildren or adult students to independently achieve the set goal and plan the movement towards it; develop the ability to work with information; apply the acquired theoretical knowledge in practical matters; develop skills to conduct research, transfer and present acquired knowledge and experience.

Work on the project can be done both individually and in groups, and the second option will help students develop communication and cooperation skills. The teacher's task is to coordinate work, help in the distribution of roles, and if necessary, prepare an action plan.

Case analysis (case method). Depending on the subject taught, the case method can be legal, entrepreneurial, medical, reflect some kind of social problem, historical event or practical task. There are many variations of this method. Usually these are real facts about a complex and uncertain situation in life. The students' task is to investigate and analyze this situation, and then propose a solution to it as if it were happening right now. In this process, children and teachers learn to apply theoretical knowledge in practice, correctly evaluate facts and relate them to their own knowledge, and argue their positions. Typically, it is used in cases where there is no single correct solution to a case: for example, the same facts can be interpreted in different ways from a legal point of view, so similar legal disputes can be resolved differently depending on whose arguments are more prominent. Different medical diagnoses and treatment protocols are possible for the same symptoms.

By the way, the student builds an argument to solve a case, the teacher sees whether he reasoned correctly, used all the necessary educational information and understood it correctly. Case can be individual or group.

Brainstorming. It is a method of collective discussion of a topic, problem or task, which involves the participants freely expressing their opinions. The point is that the teacher defines the topic of the discussion, the goal (for example, to offer as many ideas as possible in 15 minutes) and explains the rules (don't reject or criticize any ideas until the next stage, but you can discuss the ideas of other participants can develop). Ideas shared during the process are recorded and then analyzed together to determine the best solution.

This method develops creativity, the ability to focus on a specific task, establish interaction in a group, and analyze one's own and others' ideas. Refers to active learning methods. In the process of using this method, the following pedagogical goals are achieved:

• students' cognitive activity and interest are stimulated;
• Pupils actively absorb the teaching material;
• theory is connected with practice;
• experience of creative activity in solving non-standard tasks and problems is formed;
• intellectual abilities and quick mental operations develop;
• students develop communication skills for group interaction and gain experience in collective activities.

Mind mapping method. It is a way of presenting a topic or problem in a visual way, helping to clearly see the relationships between its components. A mind map is a diagram with a main topic or task at its center, and "branches" of related ideas branch off from it. This method can be useful both for explaining a complex topic to students and for collective or independent work of schoolchildren - in the process they learn to collect, analyze and systematize information.

Role playing and business games. Role playing is a way to learn from your own experience through simulated situations. As the name of the method suggests, students take certain roles. The teacher reveals the game situation and plot and controls the game process. Role play helps to practice different scenarios of behavior and interaction in a safe context, to demonstrate skills and habits, and this method is widely used from preschool education to business training.

A business game is a combination of job analysis and role-playing - a simulated professional situation in which participants who have assumed certain professional roles must find a solution to a problem. As a rule, it is used to translate theoretical knowledge into practical application. Here are some more original approaches to learning.

How to choose teaching methods?

There are many different teaching methods, and researchers agree that there are no 'bad' or 'good' methods - each can be more or less effective in different educational contexts. For example, it cannot be said that innovative methods are always more effective than traditional methods and that learning by doing is better than theory - in some educational situations, working with a textbook or a lecture may be more useful than a project or a role.

Yuri Babansky formulated the principle of optimality in the selection of teaching methods, based on the fact that each of them is aimed at solving certain pedagogical and educational problems. Therefore, it is very important for a teacher, trainer or methodologist to understand the advantages and disadvantages of different methods in order to apply them most effectively.

In addition to the goals and tasks of training, the choice of methods is influenced, of course, by the age and individual development of students (children and adults are taught differently), other psychological factors and the characteristics of training. For example, the humanities offer greater opportunities than technical subjects to formulate problems for discussion, and group project work is excellent for developing team skills.

Of course, the time factor is also very important - some teaching methods take more time and effort to implement and use regularly than to use simpler and more familiar methods.

It is important to rely on an evidence-based approach when using completely new, innovative teaching methods. It may be beneficial to use only methods that have been proven to be effective, or at least to introduce new methods with caution. There are examples of once very popular approaches failing. For example, the idea was to teach people according to their type - auditory, visual or kinesthetic.

References

1. Aliyeva F., Mammadova U. Modern learning technologies. Baku, 2014. 185 p.

2. Hajiyev. A. The essence of the "Azerbaijani language" subject curriculum and theoretical and practical issues of its use in the educational process. Teaching of the Azerbaijani language and literature, Baku, 2012, No. 3, p. 30-35.

3. Kazimov A. Methodology of teaching Azerbaijani language in secondary school. Baku, 2013, 171 pages.

4. Karimov Y.S., Training methods. Baku, "RS polygraph" LLC, 2007, 270 p.

Keywords: teaching methods, application, inductive and deductive methods

ASSESSMENT STANDARDS AND WAYS OF USING ASSESSMENT TOOLS

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Samples of appropriate evaluation standards are used for evaluation of the achieved learning outcomes, acquired knowledge and skills in subject curricula. Content standards – ensure that students move through the level with appropriate knowledge, skills, and values. Assessment standards – determine the degree of change by checking at what level the content standards are being met.

Assessment standards are set based on the exam-based method, final assessment (examination) is held at the national level for relevant classes, standards are set by analyzing the results: standards achieved by at least 90-100% of students; high - standards achieved by at best 30% of pupils.

Assessment standards are conducted on 4 levels and are prepared in the form of assessment schemes (QS). Rating schemes are a special type of rating scale, which includes two main issues:

- What should I evaluate (object, content, aspects, aspects, characteristics)?
- How can I determine the characteristics of low, medium and high levels of achievement?

Level 1 indicates the lowest, level 4 the highest. Levels 1 and 2 are for most students, Levels 3 and mostly 4 are for more talented students.

Evaluation schemes are used to make evaluation more fair, objective, and reliable. Assessment schemes provide teachers with useful information about the effectiveness of teaching and require that each teacher define his own criteria for the relevant conditions, and assessment schemes reduce the time spent by the teacher on assessing student performance, through quality levels to take into account classes with students of different abilities. creates conditions.

Holistic assessment schemes - give an overall impression of the student's work, based on a 4-5 point scale that reflects the level of performance, this type of assessment scheme is a quick assessment method to describe the overall picture of student achievement.

Analytical assessment schemes - determine the student's grades in separate areas of activity, a 4-5 point scale is used in the assessment. Unlike holistic assessment, more time is required for assessment, and more detailed information about students' achievements is provided by successive assessment of students' activities.

Elements of evaluation schemes: main areas to be evaluated; a rating scale to assess different levels of achievement; level label: a word or number describing the level of achievement; level descriptor: a word (phrase) that describes the level of achievement in more detail; level indicators: specific examples of issues to be addressed for each achievement level; standard: the result intended to be achieved.

The development of evaluation standards through evaluation schemes is carried out in this order: the learning goal is determined (knowledge, skills, attitudes, results), the considerations about what students should know and be able to do are clarified; the assessment purpose is selected (diagnostic, formative summative); decides what kind of evaluation schemes to use (holistic, analytical); aspects of assessment (knowledge and skills, ways of their acquisition, application, etc.) or main areas are defined and described; different levels of achievement are qualitatively defined and described; the number of achievement levels is specified according to evaluation points; types of level descriptors (descriptive indicators) are selected (quantitative, normative, descriptive). If the descriptive type is selected, a verbal description of all achievement levels is given; various exemplary student tasks are prepared for each level; if necessary, the evaluation scheme is reviewed and necessary changes are made.

In order to describe the nature and content of the assessment area and level, level descriptors are set for each aspect of the assessment, and the following are taken into account when drawing up the level descriptors:

- short and simple use of thought, using language that students will understand;
- not using descriptors such as "bad", "average", "adequate", "good", "excellent";
- describing characteristics of observable skills or learning outcomes;
- the equality of accepted intervals and the optimal determination of the boundaries of assessment levels;
- full coverage of student achievement on the scale of levels;
- drawing up the content of the descriptions in the same style and form according to achievement levels;
- compatibility of activity levels in all aspects;
-determining the first "highest" and then the "lowest" levels and finally preparing the "intermediate" levels;
-that the highest level is realistic, and that the lowest level reflects not only the shortcomings, but also the characteristics of minimal achievement.

Factors that should be considered when developing assessment standards are: some content sub-standards can be developed individually, and some can be grouped together; if the content sub-standard is less important for evaluation, the evaluation standard may not be prepared for it; in some cases, it may not be possible to develop an assessment standard for any content sub-standard.

he curriculum of each subject, which plays a basic role in the development of assessment standards and determines the learning standards and expected learning outcomes, is prepared more comprehensively and widely than the set of assessment standards, and although a number of assessment standards are not clearly reflected in the curriculum, they are used in various assessment measures.

In the process of determining the assessed skills, their cognitive nature is taken into account. This is considered an important condition in determining the level of complexity of assessment tasks. It covers the main features of mastery (logical thinking, performing procedures, understanding concepts, solving problems).

Low-level questions focus on performing simple procedures, understanding elementary concepts, and solving simple problems. High-level questions are used to develop students' ability to think logically, understand concepts thoroughly, perform complex procedures, and solve non-standard problems.

The development of evaluation tools (tests) to measure the extent to which students have achieved content standards and to conduct final (summative) assessments of acquired skills is carried out in the following order:

1. Appropriateness of the tests (evaluation of the target) and reliability (based on real data);
2. Determination of two groups of subjects with a content standard (in the first case, teaching and training is aimed at inculcating a limited number of skills, in the second case, students are expected to achieve a larger number of skills and habits through the subject taught for several years);
3. Ensuring a representative (representative) selection of all standards in summative tests, if a small number of content standards have been mastered, all standards can be represented in the exam, and if a large number of standards have been mastered, more than 1 at different levels related to each standard it is appropriate to ask the question.

4. In the final (summative) tests, ensuring a representative selection for all levels - the tasks must be performed even by middle-level children, at the end of the educational process, the objective distribution of questions for all levels is determined as follows: questions for the 1st level 20%, 2- 3rd level questions 30%, 3rd level questions 30%, 4th level questions 20%.

References

1. Concept of General Education in the Republic of Azerbaijan (National Curriculum) // Curriculum, 2008, No. 1

2. Education Reform Program of the Republic of Azerbaijan, Baku, 1999

3. Agayev A.A. Learning process: tradition and modernity. Baku: Adiloglu, 2006

4. Beylarov A. On new approaches to the assessment of student achievements//Kurikulum, 2011, No. 2

5. State standard and programs (curricula) of the general education level // Curriculum, 2010, No. 3

Assessment standards and ways of using assessment tools

Summary

The article discusses content standards and assessment standards. Methods, levels, and evaluation schemes of assessment standards are discussed. The technology of developing assessment standards and assessment tools is explained. The assessment standard checks at what level the content standard will be achieved. Assessment tools are used to examine how well students have achieved content standards and to provide summative assessments of skills acquired. Assessment through assessment standards is fair, objective, reliable and consistent.

Key words: training, content standards, assessment standards, assessment schemes

Стандарты оценивания и способы использования инструментов оценивания

Резюме

В статье рассматриваются стандарты содержания и стандарты оценивания. Обсуждаются методы, уровни и схемы оценки стандартов оценки. Объяснена технология разработки стандартов и инструментов оценивания. Стандарт оценки проверяет, на каком уровне будет достигнут стандарт содержания. Инструменты оценки используются для проверки того, насколько хорошо учащиеся достигли стандартов содержания, и для проведения итоговой оценки приобретенных навыков. Оценка с помощью стандартов оценки является справедливой, объективной, надежной и последовательной.

Ключевые слова: обучение, стандарты содержания, стандарты оценивания, схемы оценивания

ON THE GRAMMATICAL SYNONYMY OF THE MORPHEME-CA,-CE

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In summary
For a long time, one of the problems that students have had difficulties with in the teaching process is the prevailing of confused ideas related to the grammatical status of the morpheme -ca (-ce). Because we come across various theories about this morpheme in the existing scientific and methodical literature. In order to clarify where the idea of "-ca, -ce morpheme as lexical formalist or complex nitq shares (qoşma, ədat)" originates from, we use chronological succession and some scientific-methodical meanings that are suitable for the subject. We considered it important to apply.

From our research, it became clear that there are quite a few mistakes between the theoretical ideas known and accepted by everyone and the concrete analysis and presentation of language facts. The wrong presentation has sometimes become such a strong tradition that now opposing it has the effect of an unusual event. . It's a pity that wrong opinions are transferred from textbooks to textbooks, engraved in the brains, accepted as axioms, and opened a wide way to a number of existing shortcomings. Studying the grammatical nature of the morpheme -ca, -ce is of special relevance among those shortcomings. In the article, first of all, to determine the grammatical status of that morpheme, secondary and higher school textbooks since the 1960 s." We have set ourselves the goal of analyzing "scientific" grammars.

In order to determine the grammatical nature of the morpheme -ca,-ca in the theoretical and methodical literature, the possibilities of its use in different situations and justify our opinion, let's turn to the facts: First, in the book "Grammar of the Azerbaijani language" published by ANAS in 1960, the style of this morpheme- It is said that it is a suffix that forms an adverb of action, and it is written as follows: "Adverbs of correction - action adverbs are formed with the following suffixes; by joining the suffix -sa (-sə) to adjectives, for example: simply, quietly, slowly, slowly, secretly, silently. Aydemir just smiled and entered the compartment (A. Shaiq). I was standing quietly and looking at the tree (M. Jalal) etc.[1.232]

The late prof. In the book "Modern Azerbaijani language" by M. Huseynzade, two different opinions are expressed about this morpheme. Thus, in the book "Adjective", the author mentions the degree of multiplication of the adjective as a morphological sign of that suffix and writes: "The amount of a certain quality through the degree of multiplication" increases either positively or negatively, that is, the degree of determination of the adjective increases. But this kind of reproduction can be both positive and negative. For example: well, eat, big, small, small, baby, etc. [2. 104]. At the same time, in the discussion of "Adverb" of the resource, the author puts forward a different position about that suffix: "By adding suffixes to the end of simple and correct adverbs, -ca, -ja, for example: slowly - Indeed, before two minutes passed, footsteps were heard on the balcony and the door of the house was slowly opened (M. Ibrahimov) [2. 76].

As it is clear, in this section, the author characterized the suffix -ca,-ca as a lexical suffix that forms an adverb from simple and modifying adverbs. Prof. G. Kazimov, in the "Adjective" section of his book "Modern Azerbaijani language" written for higher schools, gave the example of -ca (-

ce). among the strengthening habits he listed for creating the degree of multiplication of the adjective by syntactic method. The author writes about this:" .. by increasing the habit of -ca, -ca to adjectives abundantly, well, baby, clearly, carelessly; Don't you know the milkmaid Bagdagul? She is a gentle wife (I.A) [3.122-123].

However, the author classified the suffix-ca,-ja as a lexical suffix in the "Adverbs of style" section of that resource. According to the author, the suffix -ca,-ja makes adverbs of style from both adjectives and adverbs. The author writes: ".....weakly, lightly, negligently, secretly, quietly, slowly, the root of the words consists of adjectives (weakly, lightly, secretly) and adverbs (negligently, quietly, slowly). Based on the arguments listed, the author concludes his opinion as follows: " There is a slight difference in meaning between the root of the word and the form with the suffix -ca, -ja. Compared to the root of the words, the form with the suffix -ca, -ja is stronger. While the roots of words can act as both adjectives and adverbs, adverbiality prevails in the form with the suffix -ca (-ce) and such words often appear as adverbs. However, there is little difference in meaning in many of them.

It seems that this suffix is gradually developing as a tool for the adverbization of adjectives" [3. 317-319]. Also, the author presented examples to prove his point.

In the "Morphology of the Modern Azerbaijani language" published by ADPU, another opinion about the mentioned morpheme was expressed. In the document, it is indicated that this suffix is the suffix that corrects the "redundant type" of the adjective and interpreted as follows: "Redundant type - the degree of reduplication in the Azerbaijani language is mainly fixed by the following means: 1) through the suffix -ca, -ja; well, well, little, little... etc.[4. 67]

The late prof. And Y. Seyidov denies that the adverb is corrected by adding the habit of -ca (-ce) to language names. The author justifies his opinion as follows: "....Language names are not made adverbial by adding ca, ja: Azerbaijani, Uzbek, etc. If so, if there are thousands of language names in the world, there can be as many, that is, thousands of such adverbs in the Azerbaijani language. [5. 359]

In theoretical literature, the number of this type of information can be increased as much as desired.

Ideas similar to the considerations listed above are found in the methodological literature. The late prof. B. Ahmadov in his book "Azerbaijani Language Lessons in Grade V" (a resource for teachers) tried to explain with examples the addition of the suffix "ca" to the end of adjectives to correct the degree of pluralization of the adjective.

Thus, the lexical suffix that makes the suffix -ca,-ca into an adverb of manner-action in the ANAS materials, prof. In M. Huseynzade's textbook, a suffix that forms both an adverb and an adjective plural, G. Kazimov also uses the mentioned morpheme as a lexical suffix that forms both adjectives and adverbs of manner from adverbs, and in the materials published by ADPU, it is a suffix that forms the plural form of an adjective. the idea has been put forward. In terms of diversity, the picture is obvious. The main factor that causes controversy and creates difficulty in the teaching process is related to the errors in the meaning of that morpheme in the scientific literature.

In our opinion, the morpheme -ca (-ce) cannot always be considered as an adverbial suffix. Because when these suffixes are added to words with adjectives, adverbs, numbers, and time adverbs, they do not make a new word from them, on the contrary, they create a degree sign from those words. For example; In words such as slowly, quietly, well, well, little by little, comfortably, just recently, etc., the suffix -ca(-ja), in our opinion, did not create meaning in the new dictionary. Therefore, these words can be used in the sense of adverbs of manner-movement, quantity and time when they are used together with or without these suffixes within the sentence:

ndeed, he spoke slowly. He was sitting quietly. He knew well. He spoke little. He was sitting comfortably. He had just arrived. He quickly understood slow, quiet, good, less, comfortable, new, etc. in his sentences. His words were like adverbs, He spoke slowly, He sat quietly, He knew it well. He spoke little, sat comfortably. He had just arrived. The words slowly, quickly, quietly, just now, quickly, used in the sentences he understood quickly, are also adverbs and there is no dictionary meaning difference in their content. Therefore, such words cannot be considered as modifying adverbs.

Therefore, in such conditions, it is not correct to consider the morpheme-ca(-ca) as a lexical suffix. I think that this morpheme, when added to the end of adjectives and adverbs, only creates the meaning of superiority or plurality of the sign in the word. For this reason, in such cases, it is more appropriate to consider the morpheme -ca(-ce) as a figurative habit rather than a lexical object.

We should note that prof. It can also be found in M. Huseynzade's book "Modern Azerbaijani language". Speaking about the formation of modifier adverbs, the author shows that modifier adverbs are formed by adding suffixed adverbs to the end of simple and modifier adverbs. The interesting thing is that prof. On the one hand, M. Huseynzade says that this morpheme is a suffixed habit, and on the other hand, he puts forward the idea that a corrective adverb is formed through this element

Thus, it appears that two contradictory provisions have been put forward in the same sentence. However, the adverb can never be a lexical suffix, because the adverb does not change the dictionary meaning of the word to which it is added, but only the grammatical meaning. Changing only the grammatical meaning of the word is a characteristic of adverbs. As it is known, lexical suffixes change not only the grammatical meaning of the word, but also the grammatical and lexical meaning. For example: the element -ca(-ce) added to the words well, just did not change the lexical meaning of those suffixes, but only changed their grammatical meaning, while the suffixes added to the words salty and tasteless changed the lexical and lexical meaning of the words salt and taste. changed its grammatical meaning. So, it is clear from here that when the morpheme -ca(-ce) is added to the end of the words denoting a sign, it plays the role of a lexical suffix, not a lexical suffix, it should be considered as an adverb. words form a modifying adverb that expresses a language concept. For example: Russian, Turkish, etc.

Thus, when the morpheme –ca(-ce) is added to noun stems and bases, it forms modifying adverbs and plays the role of a lexical suffix. 2. When the morpheme -ca(-ja) is added to an adjective, number and adverb, the correction does not form an adverb, it simply acts as a habit and creates a degree sign. It can be summarized that the morpheme -ca(-ja) is a grammatical homonym and has the following meaning functions.

1. As a lexical suffix, it forms attributive nouns from nouns that express language understanding: for example, Turkish, English, Azerbaijani; forms substantive nouns from verbs; thinking, entertainment, etc. When analyzing the word thinking from the point of view of the modern language, it should be divided into morphemes think and jay. That suffix serves to form a noun from a verb root.

must be admitted that in the literature related to Azerbaijani linguistics, no detailed opinion has been expressed about this couplet; none of the authors who wrote about affixes mentioned the name of that morpheme among suffixed affixes. Or they were satisfied with an episodic note.

The fact that the morpheme -ca(-ce) is a conjunction can be proved by the following facts:

a) It corresponds to the meaning of analogy and reference expressed by the addition of the morpheme -ca, -ca in the words mansabca, structure, body, etc. From this point of view, those morphemes (göre and -ca,-ja) are synonymous with each other. Let's pay attention to the examples: according to the structure, according to the purpose, according to the height, etc.

b) Like other conjunctions, the conjunction - ca, -ja does not receive stress.

c) When asking a question about compound words (especially adjacent words), the compound is included in the question; let's compare: until school-where? where are you from? with children-with whom? structurally-how? and. etc

It should also be taken into account that in the words we have shown (in terms of structure, volume, etc.), it is impossible to consider the morpheme -ca, -ca as either a lexical or a grammatical suffix. Because in this case, the morpheme does not make a new word from the words it joins and does not serve to make them grammatically connected with other words in the sentence. On the other hand, to which part of speech (noun) the word to which that conjunction is attached should be analyzed as that part of speech.

Key words: grammatical status, morpheme, degree of multiplication, manner-action adverbs, grammatical homonymy, lexical suffix...

References

1. Grammar of the Azerbaijani language, part I. (Morphology), ANAS publication, Baku, 1960, p. 232

2. M. Huseynzadeh. Modern Azerbaijan language. Azertedrisnashr, 1963, page 104.

3. Kazimov. Q. Modern Azerbaijani language (Morphology) "Science and education", Baku: 2010, p. 122-123

4. Morphology of modern Azerbaijani language, ADPU edition, Baku: 1961, p. 67.

5. Seyidov.Y. Grammar of the Azerbaijani language. Morphology (third ed.). Monographic textbook. Baku University publishing house, Baku: 2006, 371 p.

6. Ahmadov. B. Azerbaijani lessons in class V (methodical materials for teachers) "Maarif", Baku: 1977, p. 117

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ОРТА МЕКТЕП ФИЗИКАСЫН АҚПАРАТТЫҚ ТЕХНОЛОГИЯ КӨМЕГІМЕН ОҚЫТУДЫҢ МҮМКІНШІЛІКТЕРІ

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Кілт сөздер: Ақпараттық және мультимедиялық технологиялар, физика, орта мектеп, білім беру, педагогика.

Түйіндеме. Ақпараттық технологияларды қолдану орта мектепте физиканы оқытуға үлкен әсер етті, бірақ ескі идеялар, қабілетсіздік және ресурстардың жетіспеушілігі сияқты кейбір мәселелер әлі де бар. Демек, жаңа білім беру моделін зерттеуді күшейту, мультимедиялық оқу материалдарын әзірлеу, оқу ресурстарын біріктіру және оқытушының қызығушылығын арттыру қажет.

Қазіргі уақытта ақпараттық технологиялардың адам өміріндегі рөлі едәуір артты. Бұл үдеріс кез келген азаматтың ақпарат көздеріне қолжетімділігін, ақпараттық технологиялардың ғылыми, өндірістік, қоғамдық салаларға енуін, ақпараттық қызмет көрсетудің жоғары деңгейін қамтиды. Қоғамды ақпараттандыруға байланысты болып жатқан процестер ғылыми-техникалық прогресті жеделдетуге, адам қызметінің барлық түрлерін интеллектуализациялауға ғана емес, сонымен бірге адамның шығармашылық әлеуетін дамытуды қамтамасыз ететін қоғамның сапалы жаңа ақпараттық ортасын құруға ықпал етеді. Қазіргі қоғамды ақпараттандыру процесінің басым бағыттарының бірі- ақпаратты жинау, өңдеу, сақтау, тарату және оны тұтынушылардың мүдделері үшін пайдалану мақсатында интеграцияланған әдістер, процестер мен бағдарламалық-техникалық құралдар жүйесі болып табылатын білім беруді ақпараттандыру (Waiganjo, 2021).

Мақсаты: физиканы оқыту процесінде ақпараттық технологияларды қолдану жаңа ақпараттық технологияларды қолдану арқылы оқушылардың зияткерлік қызметін жандандырудан тұрады, яғни компьютерлік және телекоммуникациялық.

Орта мектеп физикасын оқытуда ақпараттық технологияны қолдану оқушылардың өз бетінше білім алуымен қатар, өзін-өзі бағалауға, білімін тәжірибеде қолдана білуге, физикалық құбылыстарды виртуалды түрде көруге және мұғалімге ақпараттық-коммуникациялық құралдар арқылы ғылыми, теориялық білім беруді толықтай оңтайландыруға мүмкіндіктер береді. Оқытудың заманауи техникалық құралдарын шоғырландыру оқу-тәрбие процесін жаңғыртуға ықпал етеді, оқушылардың ойлау қызметін жандандырады, педагогтердің шығармашылығын дамытуға ықпал етеді, Қашықтықтан оқытуға мүмкіндік береді, үздіксіз білім беру жүйесін дамытады, осылайша білім беру процесінің тиімділігін арттырады. Ақпараттық технологияны орта мектеп физикасын оқытуға енгізу процесі өте күрделі және терең түсінуді қажет етеді. Бір жағынан, олар білім беру процесінің тиімділігін қамтамасыз етуде маңызды рөл атқарады, екінші жағынан, оқушылардың материалды игеру қарқыны мәселесі туындауы мүмкін (Waiganjo, 2021).

Ақпараттық технологиялар мүмкіндік береді:

1. Орта мектеп физикасының оқу үдерісі барысында оқушылардың танымдық қызметін ұтымды ұйымдастыруға;
2. Оқушының сенсорлық қабылдауының барлық түрлерін мультимедиялық контекстке тартуға және интеллектіні жаңасымен қаруландыру арқылы оқытуды тиімдірек етуге;
3. Орта мектеп физика пәні мұғаліміне өзінің оқу траекториясын қамтамасыз ететін ашық білім беру жүйесін құруға;
4. Оқу қабілеті мен стилімен ерекшеленетін балалар санатын белсенді оқыту процесіне тартуға;
5. Оқу процесін жекелендіруге және түбегейлі жаңа танымдық құралдарға жүгінуге мүмкіндік беретін компьютердің ерекше қасиеттерін қолдануға;
6. Оқу-тәрбие процесінің барлық деңгейлерін күшейтуге.

Ақпараттық технологиялардың негізгі білім беру құндылығы - бұл мұғалімнің де, оқушының да иелігінде болатын шексіз дерлік әлеуетті мүмкіндіктері бар өлшеусіз жарқын мультисенсорлы интерактивті оқу ортасын құруға мүмкіндік береді. Оқытудың әдеттегі техникалық құралдарынан айырмашылығы, ақпараттық технологиялар орта мектеп физика пәнінен білім алушыны көп біліммен қанықтырып қана қоймай, сонымен қатар оқушылардың интеллектуалды, шығармашылық қабілеттерін, жаңа білімді өз бетінше игеру, әртүрлі ақпарат көздерімен жұмыс істеу қабілетін дамытуға мүмкіндік береді (Song et al., 2023).

Орта мектептегі ақпараттық технология, физика пәні мұғалімі және оқушы

Физика-эксперименттік ғылым, ол әрдайым демонстрациялық экспериментпен бірге оқытылады. Физиканы оқыту әдістемесі әрдайым басқа пәндерді оқыту әдістемесіне қарағанда күрделі болды. Физиканы оқытуда компьютерлерді қолдану оны оқыту әдістемесін оқытудың тиімділігін арттыруға да, жұмысты жеңілдетуге де деформациялайды (Rashid et al., 2019).

Мектеп мұғалімдері академиялық жұмыс орнындағы өзгерістердің маңызды бағыттаушылары болып табылады; олар білім берудегі өзгерістер шындыққа айналатын құрал болып табылады. Әдебиеттің кең шолуында (Mumtaz, 2000) мұғалімдердің мектепте технологияны қолдануға деген көзқарасына не әсер ететінін қорытындылады: қол жетімді және қолдануға оңай цифрлық ресурстар, өзгерістерді ынталандыру және әріптестер мен мектеп менеджерлерінің қолдауы, нақты және түсінікті мектеп және ұлттық саясат және ресми компьютерлік оқыту тәжірибесі..

(Pelgrum, 2001) АКТ-ны оқытуға интеграциялауды бағалады және үш факторды ең маңызды кедергілерге жатқызды: (1) компьютерлердің жеткіліксіздігі, (2) мұғалімдердің АКТ білімі мен дағдыларының болмауы және (3) АКТ-ны оқытуға дұрыс интеграциялаудағы қиындықтар. Сонымен қатар, мұғалімдер оқу ортасын жақсарту үшін барлық әлеуетін елемейді.

Шын мәнінде, мұғалімдерге қажет білім мен дағдылар оқытылатын мазмұнға және педагогикалық мақсатқа байланысты өзгереді. Бұл мектеп пәндері бойынша оқытудың тиімділігін арттырудан бастап, өмір бойы оқыту және оқуға деген ұмтылыс сияқты нақты дағдыларды дамытуға дейін болуы мүмкін.

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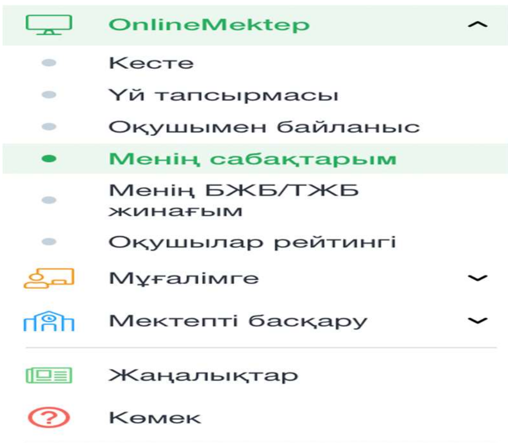
1-суретте onlinemektep.org платформасына кіріктірілген bilimland.kz платформасының Халықаралық стандарттарға негізделген курстарында (бұл сабақтар мемлекеттік сатып алу жүйесімен жүзеге асады) орта мектеп физикасын оқытуда мына бөлімдер қарастырылған:

1. Физика негіздері (51 сабақ)
2. Механика (50 сабақ)
3. Молекулалық физика
 (21 сабақ)
4. Электродинамика (48 сабақ)
5. Оптика (8 сабақ)
6. Кванттық физика (15 сабақ)

Тақырып бойынша презентациялар, видео сабақтар мен тапсырмалар, зертханалық жұмыстар қамтылып жасалынған. Оқушылар видео сабақтардан кейін тапсырмаларды орындай алады. Тапсырмалар құрылымы «физикалық диктант», «сәйкестендіру» және «есептер шығару» жасалған. Бұл тапсырмаларды оқушылар орындай отырып, тақырыпты кез келген уақытта қайталап көруге, білімін тиянақтауға көмегін береді.



2-сурет. Onlinemektep.org платформасының басты беті.

Орта мектеп физикасын оқытуда bilimland.kz платформасында дайын материалдарды қолданса, 2- суретте көрсетілгендей onlinemektep.org платформасын қолдана отырып, мұғалім өзі құраған материалдарды жүктей отырып оқушыларға материалдарды ұсына алады. Сонымен қатар, мұғалім физика пәні бойынша onlinemektep.org платформасына сабақ кестесін, күнтізбелік тақырыптық жоспарын (КТП), үй тапсырмасын, бөлім бойынша бақылау жұмысын (БЖБ), тоқсан бойынша бақылау жұмысын (ТЖБ) енгізе алады және оқушылармен СМС арқылы байланыса алады. Оқушылардың рейтингін көре алады.

Жоғарыда аталған платформалар орта мектеп физикасын оқытуда мұғалімге көмекші құрал болады. Бұл платформалар *мұғалімдерге:*

- уақытты үнемдейді;
- бір рет жасаған тапсырмалары мен видео сабақтарын паралелл басқа сыныптарға қолдана алады;
- білімі мен біліктілігін шыңдайды;
- АТ қолдануды меңгереді;
- тапсырмаларды түрлендіріп отырады;
- жаңа технологияларды меңгереді;
- үздіксіз даму үстінде болады;
- оқу сапасын арттырады;

оқушыларға:

- ұмытылған немесе түсінбеген тақырыптарын кез келген уақытта қайталап көре алады;
- пәнге деген қызығушылығы артады;
- оқушылардың интеллектуалдық деңгейін арттырады;
- өзін-өзі ұйымдастыру дағдыларын қалыптастырады;
- танымдық қызығушылығын арттырады;

Қорытынды

Орта мектеп физикасын оқытуда ақпараттық технологияларды қолдану оқу процесін жақсартуға және оқушыларды заманауи білім мен дағдылармен қамтамасыз етуге үлкен әсер етеді. Себебі қазіргі ұрпақты ақпараттық технология құралдарсыз елестету мүмкін емес. Интерактивті бағдарламаларды, виртуалды зертханаларды және онлайн ресурстарды тиімді пайдалану физика пәнін оқушылар үшін тартымды және қолжетімді ете алады. Сонымен қатар, бұл мұғалімдерге жеке оқу бағдарламаларын құруға және студенттерге күрделі физикалық ұғымдар туралы тереңірек түсінік алуға мүмкіндік береді. Жалпы, физиканы орта мектепте оқытуда ақпараттық технологияларды қолдану оқу бағдарламаларын дамытуға, оқушылардың қызығушылығын арттыруға және білім сапасын жақсартуға ықпал етуі мүмкін, бұл болашақта ғылым мен техника саласындағы мамандарды даярлауға оң әсер етеді.

Сонымен, орта мектеп физикасын оқытуда ақпараттық технологияның қолдану арқылы оқыту оқушылардың білімге деген ынтасын оятып, танымдық дағдыларын қалыптастыруға септігін тигізеді. Бұл өз кезегінде физика пәнін жетік түсіне отырып, ғылымның дамуына өз үлестерін қосуға жетелейді деп сенемін.

Әдебиеттер

Mumtaz, S. (2000). Factors affecting teachers’ use of information and communications technology: A review of the literature. *Journal of Information Technology for Teacher Education*, *9*(3), 319–342. https://doi.org/10.1080/14759390000200096

Pelgrum, W. J. (2001). Obstacles to the integration of ICT in education: Results from a worldwide educational assessment. *Computers & Education*, *37*(2), 163–178. https://doi.org/10.1016/S0360-1315(01)00045-8

Rashid, S. M. M., Yasin, M. H. M., & Sahari Ashaari, N. (2019). Undergraduate Students of Special Education’s Readiness towards the Use of Information and Technology (ICT) in Teaching and Learning the Sign Language. *Creative Education*, *10*(11), 2374–2385. https://doi.org/10.4236/ce.2019.1011169

Song, Z., Siu, Y. T., & Cheung, K.-W. (2023). Critical Reflections on the Deconvergence of Information and Communications Technology. *Intelligent Information Management*, *15*(04), 243–258. https://doi.org/10.4236/iim.2023.154012

Waiganjo, I. N. (2021). Teachers' Perceptions and Use of Information and Communication Technology in Teaching and Learning: Kadjimi Circuit, Kavango West, Namibia. *OALib*, *08*(03), 1–21. https://doi.org/10.4236/oalib.1107236

О. ДОСБОСЫНОВ ШЫҒАРМАШЫЛЫҒЫНДАҒЫ ЖАҢАШЫЛДЫҚ

Ақбаба Нұрия
Әл-Фараби атындағы Оқушылар Сарайының педагогі. Педагогика ғылымдарының магистрі, Астана, Қазақстан

Айтыс – тамыры тереңнен нәр алған, заман озған сайын жасарып, ұлтпен бірге түлеп келе жатқан жасампаз өнердің бірегей түрі. Ақындар айтысының дамуы да халықтың тарихымен тікелей астасып жатыр. Бастауын фольклордан алатын асыл өнер қазіргі таңда жаңаша сипатқа ие болып дамып келеді. «Айтыс сөздерінің молдығы мен көп жайылғандығына қарасақ, қазақ елі ақындық теңізі сияқты көрінеді. Өзге жұрттың әдебиет тарихын өлең түріне бөлгенде, айтыс өлеңі деген бөлім, не жоқ болады, не болмаса өте аз кездеседі» деп М. Әуезов айтқандай, қазақтың айтыс өнері – өзіне ғана тән ұлттық құндылық [1, 173]. Ауыз әдебиетінен нәр алған кейінгі айтыс ақындары әрқайсысы өз заманында айтыстың қалыптасқан дәстүрін ұстана отырып, жаңашылдық енгізіп отырды. Ғасырдан жеткен мұраны тәуелсіздіктің алғашқы жылдары қарқынды дамыды деп айта аламыз. Сол кезеңнің белді өкілі – Оразалы Досбосынов.

Ақын туралы: «Оразалы ескілерден қалған із, солардан қалған жұрнақ еді. Ол айтысқа түскен сайын кешегі Сүйінбай, Жамбыл, Шөже, Кемпірбай, Кенендерді көз алдыма елестетуші едім. Оразалыда жасанды сөз болмайтын. Әуені де орнықты шығатын. Ол өзінің қысқа ғана ғұмырында тыңдармандарын алдаған жоқ. Және олардың көңілінен шыға білді. Біз Оразалыдан үлкен үміт күтетінбіз. Түбі алысқа шабатын ақын еді. Өмірден ерте өтті. Бірақ Оразалы қазақтың бүгінгі айтысында жарқын ізін қалдырып кетті. Оразалыға еліктейтін ақындар қазір де аз емес. Ол қай заманда да, қай кезде де қазақ барда сонау ертеден бастап бертінгі дәуірдегі жаңа замандағы тәуелсіздікті жарқырата жырлаған ақындардың санатында болады» деген естелік айтады академик ғалым, мемлекет және қоғам қайраткері Мырзатай Жолдасбеков. Көнеден қалған ізге балағаны бекер емес екені белгілі. Себебі ақынның әрбір айтысында айтылған шумақтары фольклормен астасып, өзінен сан ғасыр бұрын өткен ақындардың дуалы сөзімен қабысып жатады. Айтыс дәстүрін еркін меңгергені айқын байқалып тұрады. Ескіден қалған есті сөзді естіген тыңдарманы таңдай қағып тамсана қол соғатын болған.

Оразалы Серік Құсанбаев пен айтысында:

Дейсің ғой, қайдан шыққан кереметсің,
Сөзіңді деп тұрғам жоқ елемеспін.
Қолға алып домбырамды шыққанымда,
Әр сөздің түбін тауып шегелеппін,
Кешегі Сүйінбай мен Құлмамбеттің
Артында қалған, шіркін, көбелекпін [2, 206], –

деп жырлап өтеді. Қазақ тарихында аты қалған сөз сүлейлерін өзінің үлгі тұтатынын айтады. Бұл оның бала кезінен ауыз әдебиетіне қанып өскенін, жыраулар мұрасын, өзінен бұрынғы айтыс ақындарының мұрасын терең меңгергендігін аңғартса керек.

«Айтысқанда екі күрескен балуандар сияқты, бірін-бірі аңдиды, бірін-бірі бағады. Күрескендегі бірін-бірі жығу үшін істейтін әдіс-амалдарды, тәсілдерді мұнда да пайдаланады. Айтысқанда жай сөзбен айтыспай, өлеңмен айтысады. Сондықтан өлеңмен ғана айтысу – айтыс деп аталады. Өлеңсіз айтыстың аты әзіл-ерегес болады. Бәлки өлең айтыста о басында әзілден, ерегестен шыққан шыққан болар. Бірақ бұл күнде айтыс деп өлең түріндегісі ғана аталады» деп жазады Ахмет Байтұрсынов [3, 13]. Қай заманда болмасын айтыс ақынының мақсаты – қарсыласын сөзден ұтуы, сүріндіру, жеңіс тұғырына көтерілу. Осы жеңіске жету үшін әр кезең ақындарына тән әдіс-тәсілдер бар. Мысалы, Жетісудың жүйрігі, «Құланаян Құлмамбет» атанған Құлмамбет өзінің өрлігін жырлап қарсыласын мұқалтуға тырысады. Өзіндік менін асыра сипаттау арқылы қарсыласын қапыда қалдырғысы келеді. Мұндай тәсіл барлық сол кезең ақындарына тән десек, артық айтқандық емес. Түбек ақынмен айтысында Құлмамбет:

Бай болсаң, бұл араға келдің нағып,
Алжығанда қайтесің өлең бағып.
Сескенетін мен емес құр сесіңнен,
Шамаң келсе жібергін жерге қағып [4, 19], –

деп қарсыласын қағыта сөйлейді. Тура осындай қағытулар Оразалы мен Ринат Зайытовтың айтысында кездеседі. Оразалы:

Жұлқынасың сахнада,
Айтақынның жынындай.
Еңкейіп алып отырсың,
Есеймей жатып бойына,
Ертоқым салған құлындай,
Түсінем қайтіп мұныңды-ай?[2,180] –

деп сынағанда, Ринат ақын былай деп жауап береді:

Монтиып бұл отырған кезіңде, аға,
Қайтесің қадамыңды қауіпті етсем.
Жұлтқынтпай көрейінші осы арада,
Қара жерге қазық қып қағып кетсең [2,183].

Бұған Оразалы ақын: «Мен сені қазық қылып қаққанымша, жақсылықпен жіберейін табыстырып» деген сыңайда жауап береді. Салыстыратын болсақ, Құлмамбет пен Түбек ақынның айтысындағы «қара жерге қазық қылып қағу» тіркесінің Ринат пен Оразалы айтысында да көрініс табуын – сәйкестік емес, дәстүр сабақтастығы деуге болатындай. Екі айтысқа да қазақтың «Қағуы келіссе киіз қазық жерге кіреді» деген мақалы негіз болып тұр. Намысқа тиіп сөйлеу, мұқалта, қағыта сөйлеу Сүйінбайдан бергі айтыс ақындарының бәріне тән әдіс десек қателеспейміз. Ақынның ішкі қуаты айтыс майданында сөз тауып айтуымен, суырып салуымен өлшенетінін ескерсек, осы дәстүрді О. Досбосынов айтыстарынан анық байқауға болады.

Айтыстағы қарсыласын ұтудың дәстүрлі әдісінің бірі: өзінің бағасын өзі көтеріп, кестелі көркем жырмен қарсыластың мысын басу екені белгілі.

Ел жатыр бізді күтіп есі қалмай,
Біз болсақ отырмайық көсіле алмай.

Қиыннан қиыстырып сөз сөйлейік,
Бит қабығымен биялай тоқығандай.

Көркем оймен көсіле сөйлеп, өзінің ақындық қуатын көрсетуді Жамбыл, Кенен сияқты бұрынғы өткен ақындардан байқаймыз. Тура сол сияқты құнарлы сөз бен тұшымды ойды өз қатарластарынан озық айта білген Оразалы Досболсынов деп бағалауға болатындай.

«Қазіргі айтыс» жинағын үш том етіп жариялатқан филология ғылымдарының докторы, профессор Мырзатай Жолдасбеков кейбір кемшіліктерді атап өткен: «Сөзге әуестену, қайталаудың көптігі, ырғақтағы кедейлік; қазіргі ақындардың өзіндік «Мені» әлсіз; өзін-өзі кемсітудің, орынсыз қорланудың бір түрі – қарсыласын мақсатсыз мақтау; Қоғамның жақсылығын көрмей, орынсыз ғайбаттау». Ораздың айтыстарын қарап отырсақ, осы айтылған кемшіліктердің ешқайсысын таба алмаймыз. Өзіндік «Мені» қалыптасқан ақын екенін біз мына жолдардан аңғара аламыз:

Мен деген, Дәулеткерейім,
Көсем сөзге келгенде,
Көк найза едім толғаулы.
Адасқан сендей оқ өтпес,
Ақ сауыт едім торлаулы.
Шынашақтай шырпымын,
Шытырлатып өртейін,
Қалыңда қара орманды! [2,73] –

деген жолдарынан баяғы батырлықтың екпіні байқалады. Өзіндік «Мені» көзге оттай басылады. Жыраулар поэзиясындағы «Мен, мен едім, мен едім» деп жырлаған Махамбеттің екпінін көргендей боламыз. «Әрбір жеке ақындар айтысының бас-басына өзіндік ерекшеліктері болғанымен, солардың көбіне ортақ бірнеше жалпылық мазмұн мотивтері де бар. Жеке айтыстарды талдауға көшпей тұрып, мұндай айтыс атаулыға ортақ сондай үнемі кездесетін жайға тоқталайық. Қай мазмұнға арнап айтысса да, жеке ақындар айтысында ең алдымен айтыстың бас геройы – ақындардың өздері туралы сөз қозғалады» [6, 27] деп М. Әуезов айтқандай, ақынның ішкі қуаты осы сөз сайысында көрінеді.

Қоғамның ақ пен қарасын айырып, тереңнен талдау жасап, жақсысын мақтап, жетпеген жерін жырымен түйреп, астарлап жеткізген адал ақындығын аңғарамыз. Өзінен бұрынғы ақындардың айтыстағы дәстүрлерін ала отырып, өз үнін жаңа заманға сай етіп жеткізген тұлға. Дәулеткерей мен Оразалының айтысында сөзбен қағыту, мысын баса сөйлеу, көркем сөзбен сес көрсету басым. Дәстүрден ауытқымай көркем сөздің көгенін ағытқан жыр сайысы болған.

Ойларың оттай ақынсың,
Оюланған тұмардай.
Менен үркіп отыр ма,
Сөзің жатыр құралмай.
Ойларың жатыр шыға алмай,
Ақсақ Темірден қашып,
Тентіреп кеткен сығандай [2,76], –

деп толғап айтқан жырларынан біз тарихты да жетік меңгерген ақын екеніне куә боламыз. Жыраулар поэзиясындағы толғау сарынының айтыста жаңаша жаңғыруы десек те болар. Бұл «сөзбен мұқалту» тәсілі қазіргі айтыста да, бұрынғы айтыста да жиі қолданылған. Қазір де қолданылып келеді. Айтыскерге тән қасиет «тапқырлық», «ұтымды сөз табу» десек, Оразалы Досбосынов сол тұғырдың биігінен көріне білген еді.

«Айтыс өлеңді сөз болған соң оған ақындық керек. Ақындықтың үстіне әдіс керек. Күресkенде күшке әдіс серік болу сияқты ақындыққада әдіс серік болады. Әдісі жоқ әйдік ақынды әдісті анау-мынау ақын жеңіп кетуі мүмкін» [6, 8] деп А.Байтұрсын ұлы нақты атап көрсеткендей айтыстың негізгі сапасы ақындықпен өлшенеді. Оразалы ақынның барлық айтысы тартысқа, ұтымды уәжге құрылған. Ауыз әдебиетін тал бойына сіңірген ақын айтысқа тыңнан түрен салды. Өзіндік сөз бедерін әкелді. Мақам жағынан да дараланып тұрды. Тілдік қолданысында эпитетттер, теңеулер жиі ұшырасады.

***Күміс сақал** шалдарға ризамын,*
Айтыс десе ат түгіл, атан түгіл,
АҚШ-тың да байлығын менсінбейтін [2, 80].

Мұндағы «күміс сақал» сөзі қазақ танымына жат ұғым емес. Әдемі айтылған әсерлі салыстыру. Осындай тағы «ақ сақал» деген сөз бар. Соның орнына осы тіркесті қолдану өте әсерлі, шынайы шыққан.

***Қойторыдай** көріндің*
Шыбындап тұра беретін
Шылбыр мінсе шарбаққа [2, 80].

Бұл жерде ақынның халықтың тұрмыс-салтын терең меңгергені көрінеді. «Қойторы» мал бағуға мінетін, өте жуас жылқы болса керек сол сипатты қарсыласқа таңып, керемет теңеу жасап отыр.

Желпінбейін жеңдім деп,
***Сүйінбайдай** бабамдай,*
Әшейін сүйкей салғаным [2, 80].

Бұл тармақтар да ақынның өзінің ішкі «Менінің» қалыптасқанын көруге болады. Дәстүр жалғастығы осыдан-ақ көрініп тұр. Қырғызды жеңген Сүйінбайды сөз ету арқылы тектіден қалған тұяқ екенін қарсыласқа жақсылап ұқтырады. Терең сөзімен лайықты мұрагер екенін дәлелдейді.

Ақынның сөздік қоры мол, ойы орамды, қиялы ұшқыр болса ғана көрерменіне керемет әсер қалдыра алады. Көптің көңілінен шығудың ең оңай жолы – айтыста адал сөйлеп, көрерменін алдамау болса керек. Айтысты басқа өнерден даралап тұрған суырыпсалмалық болса, жазып жаттап айтқан шұрайлы сөздерден сол сәтте тауып айтқан бір шумақ артық деуге толық негіз бар. Айтыс ақынының қуаттылығы да осындай сәтте танылады. Дәстүр сабақтастығын үзбей, көненің көзіндей астарлы сөздерді сахнаға алып шығып, жіпке тізгендей етіп көрерменге жеткізген ақын жырының болашаққа берері мол.

Пайдаланылған әдебиеттер тізімі:

1. Әуезов М. Әдебиет тарихы. – Алматы: Ана тілі, 1991. – 240 б.
2. Көкейтесті әдебиеттану. 3-кітап. – Астана: Күлтегін,2003,-264 б.
3. Қазіргі айтыс. 1-кітап. Құрастырушылар: И. Нұрахметұлы, С. Дүйсенғазин. – Астана: Күлтегін, 2004. – 270 б.
4. Құланаян Құлмамбет. «Сөзімнің қал сыймайды арасына...» / Құраст. Т. Әлібек. – Алматы: Ана тілі, 1998. – 224 б.
5. Қазіргі айтыс. 2- кітап / Құраст. Н. Айтұлы, С. Дүйсенғазин. – Астана: Күлтегін, 2004. – 312 б.
6. Айтыстану: ғылыми жинақ. – Астана: Жалғас-Print, 2016. – 420 б.

ПРИМЕНЕНИЕ МУЗЫКАЛЬНО-КОМПЬЮТЕРНЫХ ТЕХНОЛОГИЙ В ПРОЦЕССЕ ТВОРЧЕСКОЙ ДЕЯТЕЛЬНОСТИ СТУДЕНТОВ

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Мақалада өзіндік және әрі қарай дамуға жол ашатын, аналитикалық ойлауды жетілдіруге жағдай жасау, болашақта кәсіби және мансаптық өсуге бағытталуда негізгі рол атқаруы мүмкін екені айқындалып. Сонымен қатар, шығармашылық іс-әрекет барысында студенттердің музыкалық-компьютерлік білімін, шеберлік пен дағдыларын қалыптастыру мәселесі қарастырылған.

В статье рассматривается проблема формирования музыкально-компьютерных знаний, умений и навыков студентов в процессе творческой деятельности, открывающие пути к дальнейшему развитию и самосовершенствованию, создающие условия для выработки аналитического мышления, что в целом может оказаться определяющим для их будущего профессионального и карьерного роста.

The article deals with the problem of formation of musical and computer knowledge, skills of students in the process of creative activity, opening the way to further development and self-improvement, creating conditions for the development of analytical thinking, which in General can be decisive for their future professional and career growth.

Масштабность влияния медиатехнологий, внедрение которых специалисты рассматривают как переход на более высокую стадию информатизации, затрагивает все сферы жизнедеятельности общества и требует адекватной реакции специалистов на ее изучение. В настоящее время оцифровка образовательных программ является той сферой, где реализуются потребности обучащегося в адаптации к новым условиям жизнедеятельности общества. В значительной степени это иллюстрируют работы, которые дают широкий обзор возможностей мультимедиа и их влияния на образовательные процессы. Стоит заметить, что обращение к современным цифровым средствам, включает необходимость усвоения значительного объема научно-технических знаний, связанных с функциями, принципами работы, интерфейсом, возможностями синтеза и преобразования звукового сигнала различных виртуальных и аппаратных модулей. В период развития музыкальных цифровых технологий создано множество программных средств музыкально - компьютерного назначения, которые активно применяются в сферах музыкального искусства.

Формирование системы знаний в области компьютерных и цифровых технологий, овладение базовыми теоретическими и практическими навыками при работе с компьютером с помощью специальных музыкальных программ и применение цифровых, музыкально-компьютерных технологий в музыкальном образовании на данный момент остается актуальным и не решенным вопросом.

По мнению ученых, формирование музыкально-компьютерных знаний, умений и навыков, могут обеспечить концентрацию будущих педагогов-музыкантов на творческом процессе. Формирование музыкально компьютерных навыков в процессе творческой деятельности студентов открывает им пути к дальнейшему развитию и самосовершенствованию, создает условия для выработки аналитического мышления, что в целом может оказаться определяющим для их будущего профессионального и карьерного роста.

Сегодня для будущих педагогов-музыкантов открываются широкие возможности для творческого поиска. Перечислим лишь некоторые возможности музыкально-компьютерных технологий (МКТ): запись, редактирование, печать партитур и дальнейшее их использование при помощи звуковых карт или внешних синтезаторов, подключенных, в частности, с помощью интерфейса MIDI; оцифровка звуков, шумов, имеющих различную природу, их дальнейшая обработка и преобразование с помощью программ-секвенсоров; гармонизация и аранжировка готовой мелодии с применением выбранных музыкальных стилей и возможность их редакции вплоть до изобретения своих собственных стилей, форм, структур [1].

Многообразные возможности музыкально-компьютерных программ позволяют использовать их в области музыкального образования. Обучение в студии компьютерной музыки рассматривается нами как новая предметная область в современном музыкально-образовательном пространстве.

Внедрение минусовок в качестве аккомпанирующего звена в музыкально-образовательном процессе при правильном векторе работы может дать положительные результаты – наблюдается повышение интереса обучающихся к музыкальным предметам, что вызвано, прежде всего, погружением в сам процесс музицирования. Сопровождающая фонограмма, так называемая «минусовка», вызывает у них ощущение присутствия в концертном зале в качестве участников оркестра или ансамбля, что приводит к формированию музыкального вкуса и раскрытию творческих ресурсов.

С помощью музыкально-компьютерных программ обучающиеся смогут самостоятельно, в домашних условиях, репетировать свои партии в сопровождении качественного по уровню игры аккомпанемента, а в дальнейшем выступать на сцене уверенно как под «минусовку», так и с живым сопровождением.

В век современных технологий, когда практически у каждого человека вне зависимости от возраста и рода деятельности есть смартфон, планшет, ноутбук и другие мобильные устройства, с помощью которых можно легко воспроизвести аудиозапись, внедрение «минусовок» в образовательный процесс становится не таким сложным явлением. Фонограмму можно записать на специальный USB-носитель, MP3-плеер или другое мобильное устройство, чтобы студент мог спокойно заниматься на инструменте в домашних условиях.

Музицирование с аккомпанементом под «минус» может выполнять следующие задачи:

- использование в практических целях знаний и навыков, которые были приобретены во время занятий;
- улучшение музыкального вкуса;
- развитие музыкального слуха и чувства ритма;
- работа над исполнительской дисциплинированностью;
- повышение уровня внимания;

- соблюдение четкости и точности в области ритма, темпа, штрихов, динамики и т. д.;
- формирование чувства исполнительской ответственности, что выражается в лучшем разучивании собственной партии в произведении.

По мнению многих педагогов, работающих в музыкальной сфере, «игра под фонограмму» значительно расширяет музыкальный кругозор обучающихся, развивает умение слушать и слышать записанный аккомпанемент. Такой вид занятия вовлекает их в активную форму музицирования. Играть под фонограмму следует на протяжении всего времени обучения. Мы согласны с утверждением педагогов-музыкантов, так как исполнение солирующих партий под фонограмму «минус» воспитывает целый комплекс компетенций: чувство ритма, темпа, развитие музыкальных способностей, исполнительской чуткости и эмоциональности и т.д.

В современном образовательном процессе такая форма репрезентации музыкального произведения, как фонограмма, завоевывает все больше исполнительского внимания со стороны преподавательского состава и обучающихся. Фонограмму в формате «плюсовки» можно использовать в качестве демонстрации образца игры солирующей партии, а «минусовку» педагог может активно внедрять в течении учебных занятий в процессе работы над произведением.

По мнению исследователя Ю. Бодрикова, фонограмма являет собой «запись музыкального произведения (целиком или только аккомпанемент), содержащуюся на аналоговом или цифровом носителе, которая может быть воспроизведена на различных устройствах и использована для решения различных задач музыкального обучения» [2].

В компьютерной технологии в музыкальных студиях используются музыкальные цифровые программы такие, как Sonar, Cubase, Ableton Live, Logic Studio, FL Studio и др. Перечисленные программы не только включают в себя функции записи и воспроизведения данных, но и содержат способное к пополнению множество инструментов синтеза, обработки и создания эффектов музыкального материала. Во всех музыкально-цифровых программах есть множество технологий записи. Учеными практиками найдены различные категории, классы, типы, виды музыкальных программ, классификация которых может осуществляться по нескольким параметрам: по функции в педагогическом процессе, по функции в процессе музыкального творчества, по функции в развитии музыкальных способностей личности, по принадлежности к той или иной музыкально-цифровой технологии. Все это дает инструмент для детального анализа и обнаружения различия интерфейсов, рассмотрения главных и дополнительных функций [3]. Есть основания полагать, что подобный анализ должен привести к выявлению инвариантов, раскрытию сущностной модели того или иного продукта, что в целом ведет к повышению эффективности музыкально-творческой практики студентов. В процессе практической деятельности можно использовать современные методы и инновационные технологии обучения: структурно-типологический метод, методы структурного моделирования, компаративного анализа.

Анализ содержания сайтов музыкально-педагогических вузов показывает, что отдельные из них уже предлагают возможности получения музыкального образования в дистанционном варианте. Эти факты позволяют говорить о наличии в вузах условий для полной или частичной реализации модели информационно-образовательной среды.

Таким образом, все вышеперечисленное требует с одной стороны подготовки будущих учителей музыки, владеющих современными мультимедийными технологиями. С другой стороны необходима подготовка специалистов в области музыкальной информатики, освоивших основы общего музыкального образования и владеющих знаниями в области программирования звука, звукосинтеза, аудиоинжиниринга, звукотембрального программирования, моделирования музыкально-творческих процессов и профессионально владеющих технологиями студийной звукозаписи и компьютерными программами.

Список литературы:

1 Гарригус Скотт Р. Sound Forge 9. Звуковая студия. Официальный учебный курс. – М.: Триумф, 2008. – 480 с.

2 Горбунова И.Б., Горельченко А.В. Музыкальный компьютер в детской музыкальной школе: Учебное пособие. – СПб.: Изд-во РГПУ им. А.И. Герцена, 2013. – 65 с.

3 Горбунова И.Б., Горельченко А.В. Технологии и методики обучения: музыкально-компьютерные технологии в системе начального музыкального образования: Учебное пособие. – СПб.: Изд-во РГПУ им. А.И. Герцена, 2017. – 66 с.

МЕХАНИЗМЫ ПРОФЕССИОНАЛЬНОЙ КОМПЕТЕНЦИИ БУДУЩЕГО УЧИТЕЛЯ МУЗЫКИ В ВОКАЛЬНО-ХОРОВОЙ ДЕЯТЕЛЬНОСТИ

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Мақалада мұғалімнің кәсіби құзыреттілігінің құрылымы және педагог-музыканттың вокалдық-хор қызметінің маңызды аспектілерін көрсететін механизмдер белгіленген. Мақала авторлары болашақ маманның кәсіби қызметінің мотивациялық бағыты мен практикалық жағын ашып, оның ықпалымен арнайы білім, білік, дағды дамиды, музыкалық-педагогикалық жұмыс тәжірибесі байытылады.

В статье определена структура профессиональной компетенции учителя и ее механизмы, выступающие важнейшими аспектами вокально-хоровой деятельности педагога-музыканта. Авторы статьи раскрывают мотивационную направленность и практическую сторону механизмов профессиональной деятельности будущего специалиста, под воздействием которой развиваются специальные знания, умения, навыки, обогащается опыт музыкально-педагогической работы.

The article defines the teacher's structure of professional competence and its mechanisms, which are the most important aspects of vocal and choral activity of a teacher-musician. The authors reveal the motivational orientation and practical side of the professional activity's mechanisms of the future specialist, under the influence which develop special knowledge, skills, enriches the experience of musical and pedagogical work.

В настоящее время происходит активное реформирование образовательной системы и ее парадигмы. Это связано с большим объемом и скоростью изменения информации, обновлением социально-гуманитарных и научно-технических знаний, внедрением в практику образования новых учебных предметов и средств обучения, введением соответствующих направлений формирования личности. Одним из таких направлений признается профессиональная компетенция учителя, трактуемая отечественными и зарубежными учеными в современных моделях образования, как общая способность человека мобилизовать в ходе профессиональной деятельности приобретенные знания и умения, а также использовать обобщенные способы выполнения действий.

Перспективным в плане теоретического обоснования сущности профессиональной компетенции будущего учителя музыки представляется выделение ее механизмов в соответствии с задачами и содержанием конкретной учебной дисциплины. При этом, мотивационная направленность в данном случае связывается с конструктивно-содержательным и операционно-деятельностным началами профессиональной деятельности будущего специалиста, под воздействием которых развиваются специальные: знания, умения, навыки, обогащается опыт музыкально-педагогической работы.

Раскрывая практическую сторону механизмов профессиональной деятельности, составляющих ее структуру, отметим, что они носят обобщенный характер, отражая различные сферы педагогического процесса, свою специфику. Исходя из выдвинутых теоретических положений, нами определена структура профессиональной деятельности педагога-музыканта ее следующие механизмы:

- проявление, личностно-профессиональной позиции путем ценностного отношения к вокально-хоровой музыке;
- овладение поисковыми навыками обработки информации в области вокально-хоровой литературы;
- творческая реализация художественно-педагогических задач в освоении вокально-хорового материала;
- овладение необходимыми исследовательскими приемами в достижении новых эффективных путей решения музыкально-исполнительских задач в сфере вокально-хорового искусства.

Названные механизмы выступают важнейшими аспектами профессиональной деятельности учителя музыки, способами ее практической реализации путем применения специфических знаний, умений, мотивационно-потребностных и содержательных установок. В целом, выделенные механизмы профессиональной компетенции педагога-музыканта представляют собой действие, в постоянно меняющейся ситуации, то есть постоянную необходимость адекватно реагировать на изменения и органично в них действовать. По словам П.И. Третьякова «перед современным специалистом-педагогом стоит актуальная задача организации своей профессиональной жизнедеятельности в непрерывно изменяющихся условиях таким образом, чтобы она была не только адекватной этому времени, но и опережающей профессиональной жизнеспособностью и компетентностью» [1].

Личностная, профессиональная позиция учителя музыки проявляется, прежде всего, в способности уметь обосновать свое видение сущности, организации и проведения процесса музыкального образования. Применительно к работе с вокально-хоровым репертуаром, эта позиция сказывается в выборе произведений, в расстановке акцентов в решении музыкально-образовательных задач и реализации тех или иных музыкально-педагогических принципов, в определении приоритетных видов деятельности учащихся при обучении вокально-хоровой музыке и выборе вариантов интерпретации. Реализуемые в своеобразных сочетаниях традиционного и новаторского, педагогические ценности выступают в качестве относительно устойчивых ориентиров, по которым, осмысливаются различные аспекты профессиональной деятельности учителя музыки. На каждой стадии профессионального развития личностью осознаются, и формируются определенные цели и задачи, которые соотносятся с общественно выработанными требованиями, нормативами и реализуются в соответствии с ними и собственными «ресурсами», интересами, потребностями и ценностными ориентациями [2].

Таким образом, можно утверждать, что проявление личностно-профессиональной позиции определяется сформированностью профессиональной Я - концепции, профессиональными притязаниями, ценностным отношением к вокально-хоровой музыке, способностью к структурированию, комбинированию репертуара в зависимости от музыкально-педагогических задач.

Выбор конкретного вокально-хорового произведения, несомненно, связан с оценкой различных музыкальных материалов, процессов, требуя определенного «багажа» знаний, опыта работы с тем, чтобы выбрать наиболее удачный и ценный репертуар во всех отношениях. Поисково-теоретическая деятельность, опираясь на достаточно развитый уровень логического мышления, формирует у студентов способность методически верно ориентироваться в возникающих проблемах учебного характера, приобретать умения и навыки анализа, сравнения, сопоставления вокально-хоровых произведений, определять собственную позицию по отношению к ним, формулировать и обосновывать выводы и обобщения. Свою точку зрения по данной проблеме, Р.Р. Джердималиева высказывает, считая, что, «оперируя методическими знаниями, студенты постепенно вырабатывают умения мыслить, самостоятельно проверять осознаваемые действия, фиксировать события, явления, устанавливать между ними сходство и различие, сравнивать одни и те же факты по нескольким источникам, определять достоверность своих действий путем соотнесения теоретических положений с практическим применением» [3].

Так, в условиях работы с вокально-хоровым материалом, будущие учителя должны уметь отбирать произведение, соответствующие теме урока концерта или внеклассного мероприятия, сравнивать их по названию, содержанию, художественно-педагогической ценности и целесообразности. Поисковые навыки обработки информации в области вокально-хоровой литературы могут развиваться в разных формах: анализ и осмысление выбираемого вокально-хорового материала в целях усвоения новых знаний по предмету «Музыка» и развития вокально-хоровой техники; выявление противоречий учебного процесса (например: несоответствие репертуара и исполнительских возможностей учащихся) и нахождение оптимальных способов их разрешения. Указанные формы заданий, могут применяться во всех видах занятий: на лекциях, семинарских, практических и в индивидуальной подготовке. Такие формы, по своему содержанию, стимулируют логико-осмысленную направленность обучения и обогащают личностно-творческие способности, умения и навыки в профессиональной деятельности. Существенную поддержку в стимулировании поиска может оказать заранее продуманная постановка вопросов-заданий: «Проанализируйте репертуар хора «Елим-ай» и хора мальчиков Московского хорового училища, раскройте сходство и различие в подходах к отбору вокально-хорового репертуара», предварительно охарактеризовав жанрово-стилистические особенности.

Современному педагогу-музыканту предоставлено право на признание свободы в выдвижении своей профессиональной точки зрения, позволяя ему не только самостоятельно «выбирать позицию», но и последовательно ее отстаивать. Здесь проявляется стремление творчески реализовать себя, свой потенциал, способность к диалектическому анализу и разрешению противоречий на основе объективных (социальных) и субъективных (социальных) факторов.

По мнению Б.В. Асафьева, «по существу всякое творческое изобретение есть комбинирование по-новому прежних данных» [4]. Задания творческого характера, указывает Ю.В. Павлов, основаны не только на репродуктивной, но и на содержательно-преобразовательной, конструктивно-созидательной способности мышления человека [5]. При этом, как считает В.Л. Яконюк, конструктивная деятельность в творческом процессе связана с интенсивной деятельностью комбинирования операций и действий [6]. К важным особенностям творчества в учебном процессе он относит элементы варьирования известного в сочетании с неизвестным, ведущим к увеличению творческих элементов в овладении знаниями оперировании ими, в проявлении большей самостоятельности мысли действий обучаемых. Например, уже знакомое вокально-хоровое произведение будет звучать по-новому, если основную мелодию украсить подголосками, придумать ритмическое сопровождение, оригинальное тембровое сочетание хоровых партий и групп и т.д. Следовательно, варьирование приемов работы с вокально-хоровым материалом в самостоятельной творческой деятельности позволяет студентам увеличивать арсенал новых собственных способов, ведет к богатству и разнообразию их.

Существенное место в подготовке учителя музыки принадлежит овладению приемами исследовательской работы, так как педагогическая деятельность учителя-музыканта эффективна только в том случае, когда она основана на профессиональной компетенции самого преподавателя. Из наблюдений деятельности педагогов становится очевидным, что творческий подход к обучению во многом зависит от степени участия в нем исследовательской работы самих обучающихся. Так, включение элементов исследования в традиционные формы учебных занятий создает плодотворную базу для формирования у студентов навыков самостоятельности, инициативы, исследовательского поиска.

Реальные условия для формирования исследовательских приемов создаются и в период педагогической практики. Качественным показателем в овладении исследовательскими приемами выступает рефлексивная способность, которая проявляется в критической оценке собственной работы, самоанализе музыкально-исполнительской деятельности. Будущие учителя музыки имеют дело с целостным процессом учебно-воспитательной работы

В процессе беседы со школьниками будущие учителя выясняют произведения, каких композиторов они исполняли? Какие песни больше запомнились и понравились? Это информация расширяет кругозор студентов, т.к. иногда они слышат названия незнакомых произведений, дает представление об интересах и репертуарных предпочтениях учащихся и направление для поиска новых, песен. Слушая реальное звучание детского хора, самостоятельно изучая разнообразный музыкальный материал, студенты учатся сравнивать вокально-хоровые, произведения по тематике, жанровой принадлежности, музыкально-художественной ценности, определяют возможности и целесообразность использования их в музыкально-педагогической деятельности. Для определения эффективности процесса освоения вокально-хоровой музыки, возможно, проведение письменного (анкетирование) или устного опроса учащихся. Содержание вопросов позволяет выяснить с определенной долей объективности степень отношения учащихся к вокально-хоровой музыке, к приобретенному опыту музыкально-творческой деятельности, к разучиваемому репертуару и др.

Практика свидетельствует о том, что изучение, обобщение и распространение передового опыта, многолетняя добрая традиция педагогики. По мнению Р.Р. Джердималиевой, «передовой педагогический опыт реализует такие функции, как опережение научного знания (решение практических задач, которые научно пока не решены); достижение новых проблем в педагогической науке; проверка учебных материалов и педагогических концепций; образец хорошей работы» [4].

Как утверждает Т.И. Шамова, наблюдая за работой ведущих педагогов, будущие специалисты узнают что, «учитель, который не создает нового, а грамотно и эффективно использует достигнутое, может служить образцом для подражания и быть передовым для тех, кто еще не достиг требуемого уровня в своей работе».

Таким образом, современная школа объективно ставит учителя в положение исследователя (наблюдения за усвоением учащимися вокально-хорового репертуара, сравнительно-сопоставительный анализ музыкальных произведений и т.д.) в раскрытии тех закономерностей, которые составляют основу изучаемых педагогических явлений, соотнесение теоретических знаний с практическими наблюдениями, проверке теоретических знаний на практических фактах, анализе новых сторон изучаемых явлений. Наблюдая за вокально-хоровой работой учащихся, студенты отмечают, какие произведения более доступны с точки зрения голосовых, исполнительских возможностей, являются яркими по содержанию, музыкально-выразительным средствам и т.д.

Список литературы:

1 UNC Author Cross-cultural competence of student teachers in music education // The Journal of the Desert Skies. Symposiums Research in Music Education proceedings, 2009. – P. 128-144.

2 Арчажникова Л.Г. Теоретические основы профессионально-педагогической подготовки учителя музыки: Дис. ...докт. пед. наук. – М., 1986. – 442 с.

3 Э.Б.Абдуллин, Е.В.Николаева Музыкально-педагогические технологии учителя музыки. – М.: МПГУ, 2004. – 132 с.

4 Джердималиева Р.Р. К вопросу о развитии художественно-исполнительской компетентности будущего педагога-музыканта // Актуальные проблемы музыкальной науки и музыкального образования. Материалы юбилейной международной научно-практической конференции. – Алматы, 2005. – 792 с.

5 Асафьев Б.В. Путеводитель по концертам. 2-е издание. – М., 2008.

6 Павлов Ю.В. Мозг и психика. – М.: МПСИ, 1996. – 320 с.

7 Яконюк В.Л. Музыкант. Потребность. Деятельность. – Минск: Бел. Академия музыки, 2013. – 147 с.

БОЛАШАҚ МУЗЫКА МҰҒАЛІМІНІҢ ПЕДАГОГИКАЛЫҚ ІС-ӘРЕКЕТІНІҢ ОҚЫТУ СТІЛІНІҢ ҚАЛЫПТАСУЫ

Тұрсун Елмурат Нұрсұлтанұлы
7М01402 – «Музыкалық білім» білім беру бағдарламасының 2 курс магистранты, І.Жансүгіров атындағы Жетісу мемлекеттік университеті, Талдықорған қ.
Усенова Аида Кажмухановна
п.ғ.к., қауымдастырылған профессор (доцент), шығармашылық оқыту білім беру бағдарламаларының жетекшісі, І.Жансүгіров атындағы Жетісу университеті. Талдықорған қ.

Мақалада болашақ музыка мұғалімінің педагогикалық-ұйымдастырушылық іс-әрекетінің оқыту стилин қалыптастыру негізінде студенттердің кәсіби біліктіліктері артып, болашақ мамандардың оқыту стилінің маңыздылығы айқындалатыны көрсетілді. Авторлардың пайымдауынша, педагогикалық-ұйымдастырушылық іс-әрекет барысында студенттер оқыту стилин қолдану шығармашылықты, сыни талдау қабілетін және кәсіби құзіреттілікті қалыптастыратынын көрсетті.

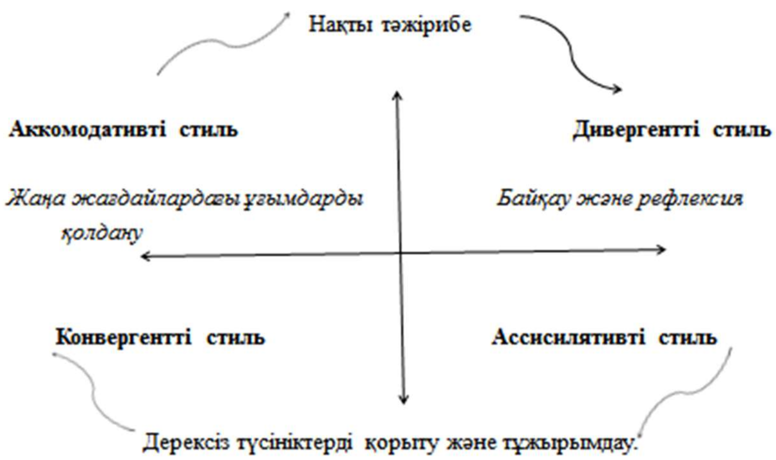
В статье рассматривается стиль преподавания будущих специалистов, формирование уровня профессиональной компетентности и стиля преподования в организационно-педагогической деятельности будуших учителей музыки. По мнению авторов, в организационно-педагогической деятельности использование студентами стиль преподавания развивает творчество, критическое мышление и уровень профессиональной компетентности.

The article deals with the style of teaching future professionals, the formation of the level of professional competence and future music teachers' style of teaching in the organizational and pedagogical activities. According to the authors, the use of teaching style by students in organizational and pedagogical activity develops creativity, critical thinking and the level of professional competence.

Қазіргі таңда білім беру жүйесінің және оның парадигмасының белсенді реформалау жүргізілуде. Бұл ақпараттың үлкен көлемі мен жылдамдығына байланысты, әлеуметтік, гуманитарлық және ғылыми-техникалық білімнің жаңаруы, жаңа оқу пәндері мен оқу-әдістемелік құралдарды білім беру тәжірибесіне енгізу, жеке тұлғаны қалыптастыру үшін тиісті бағыттарды енгізу. Осы бағыттардың бірі мұғалімнің педагогикалық-ұйымдастырушылық оқыту стилі, адамның өз кәсіби қызметінің барысында жинақталған білімі мен дағдыларын қалыптастырудың жалпы қабілеті – отандық және шетелдік ғалымдардың қазіргі заманғы білім беру моделдерінде түсіндіріп, сондай-ақ іс-әрекеттердің жалпыланған жолдарын пайдалану.

Музыка мұғалімінің кәсіби қызметінде стиль мәселесі педагогикалық өзектілік пен маңыздылыққа ие. Сондықтан болашақ музыка мұғалімінің стилі педагогикалық іс-әрекетте тәуелсіз тұжырымдама ретінде қарастырылып, педагогикалық үдерістің барлық байланыстарын паш етеді және болашақ маманның жеке басын қалыптастыруға белсене қатысады. Музыка мұғалімінің стилінде жеке және қызметтік қасиеттердің бірігуі, мұғалімнің мүмкіндіктері, қабілеттері, артықшылықтары түсініледі, осы қасиеттер болашақ музыка мұғалімінің педагогикалық-ұйымдастырушылық іс-әрекет барысында бірегей және оңай танымал етеді.

Колб моделінде оқытудың төрт стилі ерекшеленеді: *аккомодативті* (студенттер белгілі бір деңгейдегі ақпаратты қабылдауда және объективті іс-әрекеттер негізінде үйренеді, белгілі бір нәрселерді жасау сияқты тәуекел мен эксперименттен қорықпайды, қажетті ақпаратты алу үшін басқа адамдардың басшылығына және басқаруына бейім болады); *дивергентті* (әртүрлі көздерден ақпарат жинау, топтық талқылау сияқты инновацияларға бейім және өте шығармашылық, олар проблемаларды шешуге қатысуға қуаныштымыз, бірақ олар әрдайым өз жұмыстарын аяқтайды); *ассимиляторлық* (абстрактылы негізде және рефлексиялық режимде ақпаратты қабылдау, логика мен дәйекті ойлауды бағалау, теориялар тұжырымдау және фактілерді зерттеу, идеяларды зерттеу арқылы үйрену, сарапшылардың пікірлерін бағалау және талқылауға қатысуға мүмкіндік беру, өздерінің іс-әрекетін жоспарлауда жақсы қабілеттерге ие болу); *конвергенттік* (жалпы идея деңгейінде ақпараттың практикалық іске асырылуына назар аударғанда, олардың іс-әрекеттердің қалай ұйымдастырылғанын және олардың қалай жұмыс істейтінін білу, қандай да бір мәселені шешуге тырысу, теорияны сынауға тырысып, стратегиялық ойлаудан ерекшеленетін, белгісіздікке төзімді, тиімді шешім қабылдау) (1-сурет) [1].



1-сурет. Д. Колб бойынша оқыту үлгісі

Колб моделін бастапқы нүкте ретінде қолдану арқылы П. Хани мен А. Мумфорд қарапайым терминдерге: *әрекет, рефлексиялық, теориялық және прагматикалық* [2] сынды ұғымдарды қосты. Кейіннен, олар әзірлеген сауалнама деректерінің факторизациялануының нәтижелеріне қарағанда, іс жүзінде екі бағыт туралы әңгімелеу керек: *іс-әрекеттер* (тәжірибелік жағдайлардың көмегімен білім алуға және үрдістерді үйренуге бағытталған) және *аналитикалық* (логикалық талдау және теориялық негіздеуге бағдарлау).

Ақырында, А.Р. Грегорс оқытудың стильдерін анықтады, яғни студент нақты тәжірибеге немесе дерексіз білімге сүйенеді де, сондай-ақ оның оқыту стратегиясын дәйекті немесе кездейсоқ сипаты бар екендігін көрсетеді [3]. Нәтижесінде келесідей оқыту стилімен студенттердің төрт түрі анықталды: *нақты-когнитивті* (айқын көрнекі тәжірибеге негізделген және біртіндеп, қадамдық оқытуды қалайды), *нақты-кездейсоқ* (олар зерттеу жүргізеді және қателіктер негізінде оқып, оқу ісіне интуитивті және тәуелсіз түрде ерекшеленеді), *дәйекті-когнитивті* (ауызша нұсқауларға негізделген оқытуға, аналитикалық, логикалық көзқарас пен білімді жүйелеуді қалайды), *дерексіз-кездейсоқ* (оқу тәжірибесіне негізделе оқытуға біртұтас көзқарасты көрсету, білім беру ақпаратының құрылымдық емес нысанын артық көреді).

Жоғарыда сипатталған қасиеттер жиынтығы әбден еркін болғанына қарамастан, бұл жіктеу студенттің және мұғалімнің мінез-құлқының сипаттамаларын талдаудың жұмыс құралы ретінде өте ыңғайлы.

Мысалы, белгілі бір санаттардың жиынтығымен музыка мұғалімінің немесе новатор-мұғалімнің типтік «стильдік портреті» құрылуы мүмкін (ықтималдықпен, ауызша-есту қабілеті және контекстен тәуелсіз оқыту стилі, білім беру материалын «нығайту» және мінез-құлықтың импульстік стратегиясы, алдамшы, аналитикалық және сызықтық ойлау түрлеріне тәуелді болады, екіншісі визуалды және контекстен тәуелді оқыту үрдісіне, «орташалауға» және шағылыстыруға бейімділік, индуктивті, синтетикалық, сызықты емес ойлау түріне сүйену. Сонда барлық студенттер мұғалімнің өзін «айқын түрде» деп санайтын оқыту әдістерін қабылдамайтындығы және ол үшін өзі өте ыңғайлы екенін оңай түсінуге болады.

Кесте 1 – Батыс және батыстық емес білім беру тәсілдерімен студенттердің оқу стилінің ерекшеліктері

Білім беруге Батыстық тәсіл	Білім беруге Батыстық емес тәсіл
Сол жақ ми қабатының басымдығы (аудио-сөздік стиль) Сөздік түсіндіруді қолдайды және өз жетістіктерін басқарады	*Оң жақ ми қабатының басымдығы (көрнекі стиль)* Тұтас көзқарастар мен өнер элементтеріне негізделген еркін талқылауды жақсы көреді.
Контекст-тәуелсіздік Оқу материалдары жоспардан тыс жасалған; сұрақтардың жауабын таңдау еркіндігі бар бақылау; қайталау арқылы жаттау.	*Контекст-тәуелділік* Еркін тақырыпқа мазмұндама (эссе); өзіндік жұмыс; диктантты және жаттауды қолдамайды.
Күшейткіштер Ерекшелікке, бөлшектерге, айырмашылықтарға баса назар аудару; тапсырмаларды шешуге назар аударуы.	*Орталаушылар* Салыстыруға, ортақ ұқсастықты іздеуге назар аударуы; ой тудыруға ниеттілігі.
Дедуктивті ойлау түрі Түсіндіру мен ережені артық көреді; қосымша жаңа ақпаратпен жұмыс істегенді ұнатады.	*Индуктивті ойлау түрі* Мысал, ережеден алып тастауды, «әрекетте» ережесін дұрыс көреді; түсінудің толыққандылығына ұмтылады.
Аналитикалық Оқулықтағы ақпаратқа сүйену; берілген ақпараттарды талдауға және түсіндіре алуға берілген мүмкіндік.	*Синтетикалық* Түп нұсқадағы мәтіндерді зерттеу; өзіндік ойлауға және ойлап табуға берілген жалпы ойды бағалайды.
Дерексіз ойлау түрі Жазбаша жазу мен дәрісті артық көреді; дәстүрлі оқулықпен оңай жұмыс істейді.	*Деректі ойлау түрі* Экскурсия, қателесу мен жасап көру әдістерін артық көреді; дәстүрлі оқулықты қабылдамайды, жай сабақта «ұйықтап» қалады.
Сызықты ойлау түрі Дәл және дәйекті әрекеттерді таңдайды, тәртіптілікті және барлық нәрсені жасауға тырысады; анық, қатал сөйлеу.	*Сызықсыз ойлау түрі* Еркін, құрылымсыз жағдайларды жақсы көреді; типтік импровизация, өзіндік ойын білтірудің ерекшелігі, ішкі түйсікке бағыну.
Импульстілік Жылдам темпте оқиды; топта жұмыс істеуді және іс-әрекеттің жылдам ауысуын қолдайды.	*Рефлекстілік* Ойлауға уақыт қажет етеді; ұзақ уақытты проектті қалайды және бір ғана іс-әрекетке көңіл бөледі.

Студенттің оқыту стилін және осы стилге сәйкес келетін бақылау түрін талдау, маңызды тұжырым жасауға мүмкіндік береді: студенттің білімі мен дағдыларын бағалау деңгейін (оның дайындық дәрежесі немесе психикалық дамуы деңгейінде) ұйымдастыру кезінде, оның жеке танымдық стилін ескеру керек, бұл – бақылаудың ең лайықты нысанын таңдау болып келеді [4].

Студенттерді басқарудың кез-келген нысаны (жазбаша емтихан түрінде, тестілеу және т.б.) оның біркелкілігіне байланысты объективтік тұрғыдан және көзқарас тұрғысынан объективті емес, сондай-ақ нақты мүмкіндіктерді бағалауда елеулі қателіктерге толы деген көзқарас қалыптасады. Осылайша, студенттер үшін белгілі бір менталитетке ие және тиісінше, «біртұтас» басқару түрі когнитивті стильдермен қамтамасыз етілмеген бақылаудың басқа түрлері студенттер үшін қолайсыз жағдайлар жасауы мүмкін (Кесте 1).

Жеке тәжірибенің әртүрлі нысандарын біріктіру нәтижесінде оқу стиліне танымдық көзқарас стилі мен оқыту стилі сапалы жаңа теориялық деңгейде қалыптастыруға мүмкіндік береді. Когнитивтік стильдер - зияткерлік қызметті реттеудің жоғары ұйымдастырылған тетігі, оның әсері көптеген жағдайларда (білім беруді қоса алғанда) кездеседі. Оқу стилі, керісінше, адамның белгілі бір оқу жағдайының талаптарына жауап беруін сипаттайтын оқыту стратегиялары болып табылады. Осылайша, өздерінің табиғаты бойынша білім берудің стилі (немесе оқытудың өзіндік ерекшеліктері) білім беру технологиясының ерекшеліктеріне тікелей тәуелді болады (оқу жағдайының ерекшеліктері мен студентның ынталылығының ерекшеліктері, сондай-ақ оқу құралы, оқытушы ұстанымы сияқты оқыту әдістері). Өз кезегінде, оқу іс-әрекетінің жеке әдістері студентке тән когнитивті стильдердің әсерінен дамиды (ақпаратты кодтау және өңдеу стилі, мәселелерді шешу және өңдеу, әлемге деген танымдық қатынас).

Білім беру технологиясының негізгі құрамдас бөліктерінің, сондай-ақ оның танымдық стилі мен оқытудың жеке әдістері (оқыту стилі) арасындағы байланысты ескере отырып, студенттің жеке когнитивтік стилін қалыптастыру келесі түрде ұсынылуы мүмкін [5].

Алынған нәтижелерге сүйене отырып, біз музыка мұғалімінің педагогикалық-ұйымдастырушылық іс-әрекетінің оқыту стилін қалыптастыруда орындалған әдістеме төмендегі қорытындыларды көрсетті:

1. Музыкалық білім берудің педагогикасында музыка мұғалімінің оқыту стилінің ғылыми-теориялық негіздері анықталды.

2. Жоғары мәдениет пен заманауи педагогикадағы музыка мұғалімінің оқыту стилінің негізгі ұғымдарын еркін меңгерген шығармашылық және ойлаушы маманның кәсіптік қалыптасу үдерісіне айтарлықтай ықпалын тигізетін қажеттілігі анықталды.

3. Болашақ маманның кәсіби жұмысында музыка мұғалімінің оқыту стилін қалыптастырудың табысты болуын қамтамасыз ететін педагогикалық шарттар анықталды.

4. Музыка мұғалімінің оқыту стилін студенттердің меңгеру деңгейінің критерийлері мен параметрлерін, педагогикалық іс-тәжірибе барысында кемшіліктерді анықтауға, болашақ кәсіби қызметтегі педагогикалық үдерісті жетілдіруге көмектесетін мақсаттар мен міндеттерді айқындауға мүмкіндік береді.

5. Болашақ музыка мұғалімінің оқыту стилін қалыптастырудың тәжірибелі-экперименталды және ғылыми-теориялық негіздерін зерттеу болашақ музыка мұғалімінің оқыту стилін қалыптастырудың тиімділігіне ықпал ететін үлгілеу әдіснамасының тиімділігін растады, болашақ маманның кәсіби және атқарушы өсуін айтарлықтай кеңейту үшін алғышарттар жасалды.

Әдебиеттер тізімі:

1. Усачева О.В. Педагогическая интерпретация музыкального стиля //Наследие О.А.Апраксиной. Материалы юбилейной международной научно-практической конференции. – М., 2006. – с.115.
2. Деркач А.А. Личностно-профессиональное развитие конкурентоспособного специалиста в условиях реформирования системы высшего образования // Акмеология. – 2013. – №3.
3. Grunwald, Sabine; Bruland, Gregory. L. International conference on education and information systems: Technologies & Applications (EISTA 2005) - Expanding distance education in the spatial sciences. Source: 3rd International Conference on Education and Information Systems: Technologies and Applications. –Vol 1. – Published: 2015.
4. Wederif Rupert. Mind Expanding: Teaching for thinking and creativity in primary education. – UK. 2010.
5. Генезис и современные тенденции музыкально-стилевой культуры педагога-музыканта // Музыкальное искусство и педагогика музыкального образования: проблемы и перспективы развития: Сборник научных статей / под ред.: Р.Р.Джердималиева, А.К.Ахметова). – Алматы.: КазНПУ им. Абая, «Ұлағат», 2014. – 260 с. – С.137-144

РАЗВИТИЕ ПЕВЧЕСКОГО ГОЛОСА В ПРОЦЕССЕ ОБУЧЕНИЯ ВОКАЛУ

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Бұл мақалада әншілік дауыстың вокалдық-техникалық мүмкіндіктерін дамыту үшін қажетті оқытудың арнайы тәсілдері мен әдістері, сондай-ақ барлық дауыс диапазоны бойында әншілік дауыстың сапасын жақсарту және бірегей вокалдық деректерді дамыту қарастырылған, дауыс табиғатта салынған.

В статье рассматриваются специальные приемы и методы обучения, необходимые для развития вокально-технических возможностей певческого голоса, улучшение качества певческого голосообразования на протяжении всего диапазона голоса и развитие уникальных вокальных данных, заложенных в природе голоса.

The article describes special techniques and methods of training that are necessary for the development of vocal and technical possibilities of the singing voice, the quality of singing voice formation throughout the range of voice and the development of unique vocal data inherent in the nature of voice.

Казахстанский приоритет постиндустриально-инновационного развития страны предполагает наличие процесса модернизации во всех областях экономики, культуры и образования. Для решения данной задачи на сегодня актуальным становится наличие высококвалифицированных кадров, соответствующего уровня и профиля, конкурентноспособных на рынке труда, компетентных, свободно владеющих своей профессией, ориентированных в сложных областях деятельности, способных к эффективной работе по специальности на уровне международных стандартов [1].

Ввиду широчайшей популярности и сильного эмоционально-психологического воздействия на слушателей, равно, как и на самих поющих, вокальное искусство по праву считается наиболее действенным средством нравственно-эстетического воспитания, духовного и физического оздоровления широких народных масс. Таким образом, вокальное искусство – сильнейшее средство гуманизации общества. Это понятный всем на земле музыкальный язык «эсперанто», язык добрых чувств и эмоций, способствующий межнациональному взаимопониманию и единению людей.

Наряду с этим вокальное искусство (особенно оперно-концертного академического жанра) представляет весьма большие трудности для профессионального овладения. Причина кроется в исключительной сложности работы голосового аппарата певца.

При всем разнообразии вокальных индивидуальностей общим для всех певцов является следующий основной принцип развития голоса: свободное проявление индивидуального тембра, ясное формирование гласных звуков, легкая подача звука, упругая и гибкая дыхательная его поддержка и полная свобода гортани и голосовых связок в певческом процессе. Основной же технический принцип настройки голоса и нормальной организации певческого дыхания - одинаково минимальный расход звуковой и дыхательной энергии на всех ступенях высоты и силы звука.

Изучение работы артикуляционного аппарата в речи и пении проводили Н.И. Жинкин, Л.Б. Дмитриев, Р. Юссон и другие исследователи. Известные педагоги и певцы всегда уделяли большое внимание мастерству певческой декламации, четкости дикции, правильности выговора, пропевания слов и фраз [3].

Всемирно известный певец Э. Карузо по этому поводу говорил следующее: «…многие певцы, к сожалению, пренебрегают хорошей дикцией; слушатели часто не понимают языка, на котором поют певцы на сцене, и довольствуются лишь тем, что знают в общих чертах содержание представления [4].

Процесс пения требует использования иных артикуляционных установок, так как высота, сила и продолжительность звучания гласных и согласных звуков в пении иные, чем в речи.

Указанные различия свидетельствуют о том, что формирование певческого голоса осуществляется при особой, отличной от речи, координации голосового аппарата.

Для достижения совершенной вокальной дикции артикуляционный аппарат у студента должен быть всегда свободен, а рот и губы – активными для четкого оформления согласных. Для того чтобы пение не было монотонным, следует стараться речевую интонацию переносить на пение, вкладывать мысль в вокальную фразу, правильно вокально членить слова на слоги, протягивая гласный звук на длительность заданного нотного интервала.

Наряду с этим, будущему учителю музыки важно дыхание, связанное с пением. Профессиональное пение – это, прежде всего, пение на хорошей певческой опоре. Певческая опора объективно характеризуется особой организацией выдыхательного процесса во время пения. Именно певческая опора придает голосу присущий ему певческий тембр, большую силу, полетность, а главное – неутомимость. И еще очень значительное указание: «Певцу следует по окончании музыкальной фразы сбрасывать остаток воздуха. Это способствует естественному расслаблению мышц, снятию лишних напряжений» [5].

Распространенной ошибкой студентов является пение на так называемой дыхательной опоре, путем форсировки, сильного давления воздушного потока на связки. Когда же от него начинают требовать нюансировки, выразительной интонации, филировки, пения *piano*, обнаруживается, что это сделать не удается: меняется тембр голоса, нарушается интонация. К сожалению, у большинства студентов пение связывается с представлением о чем-то громком и напряженном. В результате на пение затрачиваются усилия, во много раз превышающие действительную потребность. Утверждение, о необходимости большой затраты энергии при пении ошибочно, так как нормально организованный певческий процесс, являясь, в сущности, омузыкаленной речью, в его биологической основе требует энергии не больше, чем речь. Лечащие врачи-ларингологи единогласно утверждают, что главной причиной заболеваний голоса является повышенное сверх нормы подсвязочное давление. Самочувствие певца вообще, и в особенности в начальный период работы имеет большое контрольное значение: легкость, неутомляемость и удовольствие является признаком неперегруженности нервной системы ученика и, следовательно, нормальным ходом работы.

Не менее важным в пении является работа резонаторов: грудного и головного. В педагогической практике существует много приемов для направления звука в резонаторы:

1. Прежде всего - это правильный вдох. При скрытом зевке поднимается небная занавеска, слегка расширяются ноздри, язык отходит от зубов и это создает высокую позицию в пении.

2. Когда звуковая волна попадает в верхние резонирующие полости, то певческий голос приобретает необходимую ему звучность и красивую окраску. Поэтому ощущать звук надлежит не в передней части рта, откуда он уже выходит, а несколько выше, то есть в той части резонаторов, где он формируется.

3. Прием Фелии Литвии. Сделайте «маленькую рыбку», то есть откройте рот и выдвиньте верхнюю губу наподобие полки над камином. Так вы создадите благоприятные условия для попадания голоса в маску [6].

Голос «находится в маске» - старый термин, указывающий, что вибрационные раздражения возникают в области лица, закрываемой маскарадной маской [7].

4. Прикрывать звук означает получить более собранный, резонирующий, темброво обогащенный звук. Маэстро Барра рекомендовал двумя пальцами придерживать углы рта, слегка сближая их, чтобы получилась фигура, приближающаяся к цифре 8.

5. Нужно научиться направлять звук в верхний резонатор с поднятым небной занавеской. Маэстро Барра учил придерживать крылья носа в приподнятом положении указательным и большим пальцами. (Прием на занятиях в классе) [8].

6. Грудное резонирование находится следующим образом: используя слуховой и мышечный контроль, мы находим ту установку дыхания, то положение и напряжение дыхательных мышц в области «подложечного круга», при котором у данного певца, на данной высоте лучше всего проявляется грудной резонанс.

Вибрационные раздражения отражают работу резонаторов и, следовательно, певец, ориентируясь на эти вибрационные раздражения, может сознательно управлять настройкой резонаторов и корректировать эту настройку в процессе звучания.

Вибрационные ощущения оказываются доминирующими в ощущении певческой опоры, так как объективным признаком «опоры» является особая мышечная деятельность дыхательного аппарата и особая организация всей резонаторной системы.

Исходя из сказанного, можно сформулировать основные принципиальные положения в вокальной педагогике:

1. Кантилена в пении - основа основ, и овладение ею должно стоять на первом месте. Кантилена - плавно и ровно льющееся движение голоса.

2. Акустическая ровность вокальных гласных достигается значительным физиологическим единообразием механизма образования гласных в пении. Чем совершеннее певческая техника, тем ровнее по силе оказываются гласные.

3. Артикуляция согласных должна быть четкой, но не нарушающей вокальную позицию. которая отличается стабильностью положения голосообразующих органов.

4. При всяком метре первая доля такта бывает сильнее остальных, поэтому очень существенно при пении ясно чувствовать ее и опираться на нее в ритмическом движении.

5. Акустические законы говорят, что звук голоса можно «собрать», «направить», «сконцентрировать». Это используется в овладении различными отдельными приемами, например: филировка звука, трель...

Необходимо отметить, что исполнитель - будь он студент-музыкант или актер - должен обладать рядом качеств: творческой страстностью, иначе говоря, творческой способностью ярко, эмоционально, страстно воспринимать художественное произведение; сосредоточенностью; рельефным представлением («видением» или внутренним слышанием); гибким воображением; пылким и сильным желанием воплотить и передать воплощенное другим; творческим эстрадным самочувствием; высоким интеллектуальным уровнем, общей и специальной, связанной со спецификой данного искусства, культурой; техническим мастерством. В этом и содержится сущность самого исполнителя и исполнительского мастерства в целом.

Среди специальных методов обучения в процессе развития голоса можно выделить метод темповой и регистровой вариативности и метод установки на резонаторную настроенность голоса, который применяется во время пропевания различных вокальных упражнений и используется для выработки певческой реакции для исполнения вокальных произведений разного характера, типа, жанра. Также данный метод способствует воспитанию певческого внимания и развитию реакции на малейшие внутренние акустические и мышечные изменения и сопоставлению их со звуковысотными изменениями.

Иногда при смене регистров студенту бывает сложно сопоставить разные вокально-слуховые представления о звуковысотности, что сразу сказывается на чистоте интонации. При описании данного метода рассмотрим сначала применение темповой вариативности, затем регистровой.

Убыстрение или замедление зафиксированного темпа какого-либо вокального упражнения приводит к смене позиционных привыканий, в том числе негативных либо тормозящих дальнейшее развитие. Каждое вокальное упражнение, как правило, исполняется в определенном темпе, с незначительными отклонениями в сторону убыстрения или замедления, пропевая данное упражнение в течение нескольких уроков, обучающийся невольно привыкает к темпу, предложенному педагогом. Неожиданная смена привычного темпа приводит к стиранию наработанных вокально-акустических и мышечных стереотипов, к развитию певческой реакции, к активизации певческого внимания и мышечной работы всего голосового аппарата, а также к изменениям в позиционных ощущениях в распределении привычных музыкальных интервалов.

Регистровая вариативность предполагает следующее. Одно и то же упражнение полезно петь не постепенно вверх или вниз по тональностям, а как бы «перескакивая» из регистра в регистр, пропуская несколько тональностей, как вверх, так и вниз. Например, начать в грудном регистре, потом резко сразу перейти в головной регистр и пропеть несколько тональностей, затем спуститься на переходный участок, потом снова в грудной регистр, затем можно в смешанный или головной и так далее, в любых различных вариантах. Главное, чтобы это было неожиданно и непредсказуемо для обучающегося, и непременно на каждом уроке это должны быть новые комбинации, чтобы мышечная память обучающейся не смогла зафиксировать подобную регистровую смену. В результате этого стираются приспособления голосового аппарата к звуковысотности и нарабатываются новые внутренние вокально-слуховые представления и ощущения. Еще один важный момент: студент не должен видеть клавиатуру фортепиано (в каком регистре и тональности играет педагог). Это общеизвестный прием в вокальной педагогике, его используют для воспитания новых звуковысотных вокально-слуховых ощущений, а также для устранения психологического барьера перед верхними нотами.

Метод установки на резонаторную настроенность голоса предполагает корректировку психологической и физиологической настроенности на головной или грудной резонатор. Для качественного певческого звукообразования любого типа голоса необходимо равномерное отзвучивание головного и грудного резонаторов, поскольку превалирование одного из резонаторов приводит к вокальным недостаткам.

Для усиления звучания головного резонатора, как правило, используют пропевание упражнений на гласную «И», а также активизируют работу гортани посредством атаки звука. Для активизации работы гортани в целях усиления головного резонатора при работе с голосами расширенного диапазона целесообразно использовать вокальные упражнения на активную, быструю атаку первой верхней ноты (упражнения пропеваются последовательно по тональностям сначала снизу вверх по диапазону и начинаются со смешанного или головного регистра). Например, атака с верхней ноты и далее нисходящий мелодический ход, к которому можно добавить еще мелодический ход наверх; либо после атаки с верхней ноты добавляются терция или квинта вверх по диапазону для удлинения мелодического спуска. Также можно использовать вокальные упражнения, начинающиеся сразу с большого интервала вверх (квинта, секста, септима или октава), то есть с резкого «скачка» вверх по диапазону с акцентом на верхней ноте, в качестве данного упражнения можно использовать соответствующие фразы из вокальных произведений.

Для усиления звучания грудного резонатора можно использовать вокальные упражнения, которые начинаются с восходящего мелодического хода, а заканчиваются пропеванием нисходящего хода или гаммы, с добавлением после нисходящей гаммы несколько тонов вниз, ниже тоники, с последующим возвратом в тонику либо с добавлением после нисходящей гаммы опевания тоники по вводным тонам. А также в любом вокальном упражнении при нисходящем мелодическом ходе можно увеличить длительность (до половинных или целых) нижних нот в конце пропевания каждой тональности, особенно при спуске в грудной регистр. Для синхронизации работы грудного и головного резонаторов можно использовать в качестве вокального упражнения пропевание интервалов в октаву снизу вверх и сверху вниз с добавлением к нижней и верхней нотам октавы нескольких дополнительных тонов в размере опевающего вводного тона, секунды или терции.

Таким образом, все рассмотренные выше специальные приемы и методы развития голоса применяются в комплексе в процессе обучения и направлены на то, чтобы в целом сделать процесс обучения голоса расширенного диапазона более активным и интенсивным, а также максимально сжать временные рамки обучения.

Список литературы:

1 Государственная программа развития образования и науки Республики Казахстан на 2020 - 2025 годы. – Астана: Акорда. 05. 09. 2020.

2 Дмитриев Л.Б. Постановка голоса. – М., 2006. – с.84.

3 Назаренко И.К. Искусство пения. – М., 2015. – с.97.

4 Жинкин Н.И. Механизмы речи. – М., 2018. – с.26.

5 Плужников К.И. Механика пения. – СПб: Композитор, 2006. – с. 88.

6 Аникеева З.И., Аникеев Ф.М.. Как развить певческий голос. – Кишинев, 2010. – с.42.

7 Максимов С.Е. Музыкальная грамота. – М., 2011. – с.53.

8 Тимохин В.В. Мастера вокального искусства XX века / Очерки о выдающихся певцах современности. – М.: Музыка, 2014. – Вып. 1. – 175 с.

FEATURES FOR TEACHING SCHOOL MATHEMATICS THROUGH STEM EDUCATION

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Annotation. This article presents a review of research papers in which a school examined a mathematics course on the necessity and effectiveness of teaching through STEM education. The main purpose of the study- to examine the benefits and necessity of using STEM education in teaching mathematics and the effectiveness of determining how it affects mathematics teaching.
Key words: mathematics teaching, interdisciplinarity, STEM education, science, engineering, technology.

Introduction. Today's educational programs require students to learn so that they can respond to real-world problems, as opposed to traditional learning by heart. To create a society that is scientific, engineering, mathematically and technologically literate enough to respond to real-world problems and challenges, the issue of developing and strengthening STEM education across the state is at the top of the list. In the concept of development of preschool, secondary, technical and vocational education for 2023-2029 to improve STEM education in teaching and learning in our state, “the realization of new methodology of education, personal-activity, competence-based approaches and their integrated innovative STEM approach involves transformation of the content and methodological foundations of school education.

Including, increasing the effectiveness of education in natural and mathematical disciplines, as well as strengthening the educational component based on national values and culture of the Kazakh people” [1]

STEM education is a new approach to learning that emphasizes teaching science, technology, engineering and mathematics by solving specific real-world problems.

In general, although the acronym STEM is associated with science, technology, engineering, and math, there are different perspectives on the nature and extent of integration between disciplines [2].

While some scholars believe that it is sufficient to create STEM learning from the fusion of only two disciplines, some research scholars believe that all STEM disciplines should be integrated [3-5]. For example, if math teaching is only related to physics, such teaching can be considered as STEM learning.

Main part. Modern society requires schools not only to provide children with as much knowledge as possible, but also to ensure their overall cultural, personal and cognitive development, equipping them with such an important skill as the ability to learn constantly and independently, which is a condition for achieving high quality education. In fact, this is the main task of the new educational standard. Any innovation in education is based on the use of classical teaching methods and their transformation. Education should be advanced, corresponding to the trends of society's development in the future. In addition, the knowledge obtained by children today should be useful to them in the unpredictable future. Since modern professions make high demands on the intelligence of workers, when educating children it is necessary to teach them to adapt in the modern information society, to lay the foundations of modern information culture, which in the future will become an integral part of the general culture of modern schoolchildren and adults.Of great importance is the choice of such modern educational technologies that contribute to the creation of conditions for quality assimilation of knowledge and formation of competencies of students.

The solution to the problem may be the innovative direction of STEM education development, thanks to which children will be able to form the basic skills of the 21st century: communication, cooperation, critical thinking, creativity.

Schoolchildren's interest in mathematics in general is declining due to insufficient and proper understanding of its connection in life. This is why the vast majority of high school students find math boring, irrelevant, and too difficult. This can be seen in the decline of students' interest in math while in school. STEM education is an opportunity to engage students in math by tapping into their interests in other areas of study. High school students prefer to learn math through hands-on, interactive, or technology-based lessons rather than traditional methods. This fits well with the blended STEM approach. Mathematics is a fundamental discipline for many majors, especially in science, technology, and engineering. However, because math is a “difficult” subject for students, most students are not interested. Thus, using STEM method to teach mathematics can increase students' interest in reading and improve critical thinking skills [6]. It is not difficult to observe in the experimental experiments of educational scientists that when students realize the relevance and application of mathematics in real life, their attendance and performance improve and become more active. The STEM-based educational process showed that students developed skills and research ability to work in groups, which significantly improved their mathematical literacy [7]. Consequently, linking tasks to the real world in mathematics learning increases students' interest in the environment by knowing how they understand and use mathematical concepts. Therefore, in today's fast-paced technological world, STEM-based mathematics education is key.

The most important problem facing STEM - education is the problem of curriculum integration. In integration, the content and knowledge relationships should be specific and it should reflect the importance of mathematics. The effectiveness of STEM education will depend on the combination of tasks and learning activities used in the integration process [8].

When we consider math as a tool in STEM education, it is used to solve a problem in science or to design something in engineering processes. Students can see that their mathematical knowledge can be used in other contexts, even if they have not yet mastered new mathematical concepts, competencies. And if STEM education considers mathematics as a core subject, the goal at this point will be to develop students' mathematical skills and mathematical competencies [9]. If mastering mathematics is the main goal, then in these actions, science, engineering, technology are the context for learning mathematics.

In order to improve the teaching and learning of mathematics, the mathematics teacher should make efforts for students to combine the traditional method and modern approach with the use of new technologies. The use of modern technology in mathematics teaching can improve the learning process and make the subject more interesting, that is, make learning come alive. Technology tools also develop computational thinking, systems thinking, creativity, and problem solving, i.e., 21st century skills. Consequently, students can translate abstract concepts of math and science into real-world applications.

High school students view math as abstract and unnecessary in life, often questioning its usefulness and use. When teaching math using a STEM approach, the teacher needs to connect the lesson to other sciences to show students the importance of mastering a particular math concept. This is when students realize the importance of mathematical knowledge to other subjects. The integration of science and math is critical to motivate and engage students in meaningful and effective learning.

In general, the method of teaching mathematics focuses on learning and memorizing facts and procedures while this method hinders thinking and problem solving because students do not realize the importance of mathematics in everyday life, they just memorize mathematics.

Integrated science and math education provides students with meaningful knowledge through real classroom activities.

It is important to use engineering to enhance the teaching and learning of mathematics. Engineering is the most natural pillar of STEM integration because engineering is interdisciplinary and addresses real life problems. The use of engineering in mathematics instruction is critical for deeper learning of mathematical concepts.

Conclusion. STEM education integrates knowledge and skills from many fields and content from different subjects to solve real-world problems and promotes problem-solving, self-learning by students in groups. For example, game-based learning through mathematical modeling, engineering design problems, programming, and robotics has proven effective in engaging students in mathematics through an integrated STEM approach. Based on the research of many scholars, the benefits and challenges of using STEM technologies can be summarized as follows: STEM-technologies allow more experimentation and practical knowledge, provide active involvement of students in the learning process and organize productive activities, provide accessibility of necessary information and develop important skills of working with information sources, provide communication skills of students and develop sociability, wit and creativity. In the process of applying STEM technology, there is a need to integrate several educational areas, but this is difficult if there is funding for new technologies, training in the use of new technologies, lack of a unified curriculum that uses STEM technologies, and lack of knowledge of how to effectively use them as a learning tool. Also, teachers' lack of motivation to adopt innovative technologies can be a significant barrier.

We believe that students should feel the need for math in their lives, so we should implement STEM education at all levels of math instruction. If STEM education is implemented properly, we will see students grow in terms of scientific literacy, mathematical literacy, and achievement.

Reference list

1. Resolution of the Government of the Republic of Kazakhstan dated March 28, 2023 No. 249 (Қазақстан Республикасы Үкіметінің 2023 жылғы 28 наурыздағы № 249 қаулысы.)

2. Stohlmann, M. (2019). Three modes of STEM integration for middle school mathematics teachers. *School Science and Mathematics, 119*(5), 287–296. https://doi.org/10.1111/ssm.12339

3. Moore, T. J., Stohlmann, M. S., Wang, H.-H., Tank, K. M., Glancy, A. W., & Roehrig, G. H. (2014). Implementation and integration of engineering in K-12 STEM education. In J. Strobel, S. Purzer, & Cardella (Eds.), *Engineering in precollege settings: Research into practice* (pp. 35–60). Rotterdam, The Netherlands: Sense Publishers.

4. Akiha, K., Brigham, E., Couch, B. A., Lewin, J., Stains, M., Stetzer, M. R., et al. (2018). What types of instructional shifts do students experience? Investigating active learning in science, technology, engineering, and math classes across key transition points from middle school to the university level. *Front. Educ.* 2:68. doi: 10.3389/feduc.2017.00068

5. Boaler, J. (2016). Mathematical Mindsets: Unleashing Students' Potential through Creative Math, Inspiring Messages and Innovative Teaching. Stanford University.

6. Ilyas M, Meiyani E, Ma'rufi M and Kaewhanam P (2022) Improving students' ability in learning mathematics by using the science, technology, engineering, and mathematics (STEM) approach. *Front. Educ.* 7:966687. doi: 10.3389/feduc.2022.966687

7. Nugent, G., Barker, B., Grandgenett, N., & Adamchuk, V. I. (2010). Impact of robotics and geospatial technology interventions on youth STEM learning and attitudes. *Journal of Research on Technology in Education, 42*(4), 39–408.

8. Prospects of using the augmented reality application in STEM-based Mathematics teaching, Tetiana H. Kramarenko, Olha S. Pylypenko and Vladimir I. Zaselskiy, Educational Dimension. 2019. Issue 1 (53). P. 199–218

9. Stohlmann, M. (2020). STEM integration for high school mathematics teachers. *Journal of Research in STEM Education, 6*(1), 52–63. https://doi.org/10.51355/jstem.2020.

Action Research как инновационный подход к качеству образования для устойчивого развития

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Аннотация

Эта статья написана в рамках грантового научного проекта ИРН: AP14872311 «Теория и технология развития исследовательской активности преподавателей вуза на основе интеграции в практику неформальных форм исследований как Action Research». Статья посвящена анализу возможностей интеграции неформального метода исследований Action Research в профессиональную практику преподавателей педагогических университетов Республики Казахстан. Дается общая характеристика метода и опыт его внедрения в образовательный процесс.
Ключевые слова: неформальные методы исследования, Action Research, саморефлексия, педагог-исследователь, рефлексивный практик.

Аңдатпа

Бұл мақала IRN гранттық зерттеу жобасы аясында жазылған: AR14872311 «Action Research ретінде зерттеудің бейресми нысандарын тәжірибеге біріктіру негізінде университет оқытушыларының ғылыми-зерттеу қызметін дамытудың теориясы мен технологиясы». Мақалада Қазақстан Республикасының педагогикалық жоғары оқу орындары іоқытушыларының кәсіби тәжірибесіне Action Research бейресми зерттеу әдісін енгізу мүмкіндіктерін талдауға арналған. Әдістің жалпы сипаттамасы және оны оқу-тәрбие процесіне енгізу тәжірибесі берілген.
Кілттік сөздер: бейресми зерттеу әдістері, Action Research, өзіндік рефлексия, мұғалім-зерттеуші, рефлексивті практик.

Annotation

This article was written within the framework of the IRN grant research project: AR14872311 “Theory and technology for the development of research activity of university teachers based on the integration into practice of informal forms of research as Action Research.” The article is

devoted to the analysis of the possibilities of integrating the informal research method Action Research into the professional practice of teachers of pedagogical universities of the Republic of Kazakhstan. A general description of the method and experience of its implementation in the educational process is given.
Keywords: informal research methods, Action Research, self-reflection, teacher-researcher, reflective practitioner.

Организация экономического сотрудничества и развития (ОСЭР) в качестве одного из важных условий устойчивого развития называет наращивание инновационного потенциала организаций высшего образования с учетом вызовов глобализации [1]. В связи с этим тенденцией развития высшего образования становится повышение наукоемкости образовательного процесса и развития исследовательской активности всех субъектов образовательного процесса. Университеты нацелены всячески поддерживать исследовательскую активность преподавателей и вовлечение в этот процесс студентов за счет организации и финансирования программ и проектов, которые зачастую носят международный характер.

Одним из трендов мировой образовательной политики становится актуализация неформальных методов обучения и исследования, которые способствуют восполнению профессиональных дефицитов за счет привлечения внутренних скрытых ресурсов образовательного процесса и за счет инициативы со стороны самих преподавателей.

Одним из неформальных методов исследования, получившим признание во всем мире, является Action Research – исследование в действии. Распространение данного метода обусловлено его применения на разных уровнях системы образования, возможностью привлечения участников независимо от их возраста, профессионального статуса, достаточной экономичностью. Важным условием успешности данного исследовательского подхода является объединение усилий, синергия, командная работа на основе единства целей, общности взглядов при выработке стратегии и программы решения исследовательского вопроса. Помимо активного сотрудничества, важными характеристиками Action Research являются исследование в ходе самого процесса обучения без отрыва от практики, а также публичное обсуждение и анализ результатов, а при необходимости, осуществление повторного исследования.

По своей структуре Action Research имеет спиралевидный характер, отражающий непрерывный процесс развития за счет взаимосвязи профессиональной практики научного исследования [2]. В результате разворачивания спирали происходит постоянное усовершенствование деятельности, углубление и расширение профессиональных знаний. На деле, процесс внедрения Action Research представляет собой экспериментальную площадку непосредственно на рабочем месте, в образовательной среде для проведения цикла исследования по улучшению собственной профессиональной практики. В итоге, по мере овладения неформальными методами исследования, у преподавателя значительно расширяется ролевой репертуар, он переходит от роли практика к роли рефлексивного практика-исследователя. Повышается уровень профессионализма за счет теоретической подготовки, внедрения новых технологий, методов обучения, сотрудничества со студентами и обмена опытом с коллегами, саморефлексии.

J. Aimers обосновывает методологию данного подхода, раскрывая принципы и основные положения:

- равный удельный вес действий и исследований;
- раскрытие развивающего потенциала исследовательского процесса;

- цикличность процесса, включающего создание основы в качестве развития отношений между участниками как соисследователей, сбор и анализ данных контроль, корректировка и оценка результатов;

- вовлечение заинтересованных участников вовсе аспекты исследовательского процесса [3].

J.Whitehead выделил несколько этапов, которых следует придерживаться при проведении исследовании в действии:

1) выделить проблему, на основе которой можно сформулировать исследовательский вопрос;
2) определить ожидаемый результат;
3) сформировать план действий, направленный на решение поставленных задач;
4) оценить свой результат;
5) провести анализ действий по достижению результата, проблем, возникших на пути своего исследования [4].

В рамках проекта «Теория и технология развития исследовательской активности преподавателей вуза на основе интеграции в практику неформальных форм исследований как Action Research» были организованы курсы повышения квалификации для молодых преподавателей и ученых Казахского национального педагогического университета имени Абая «Action Research – основа формирования модели педагога-исследователя». После прохождения обучения анализ данных анкетирования позволил констатировать рост уровня мотивации к исследовательской деятельности: количество респондентов с высоким уровнем выросло на 11,6%. Подавляющее большинство респондентов (92,2%) намерены внедрять Action Research в свою профессиональную практику. Значительно расширились знания о методологии исследования на основе Action Research: слушатели курсов назвали все основные методологические подходы и принципы реализации данного неформального метода. Освоение данного метода по мнению преподавателей позволит совершенствовать профессиональную практику (29,7%), применить знания при написании диссертации (25%), осуществить групповой исследование при решении педагогических проблем (23,4%), изменить практику (10,9%) и стать рефлексивным практиком (10,9%). Обучающиеся в ходе обратной связи отметили о необходимости поддержки при внедрении Action Research в педагогическую практику через: организацию обучающих методических семинаров, мастер-классов, тренингов, обеспечение доступности материальных и электронных и информационных ресурсов, сопровождение исследования научным ментором, предоставление льгот (грантов и финансирования исследовательских проектов, учет и включение исследовательской работы в общую нагрузку, возможность работать в лабораториях, создание экспериментальных площадок) и др.

Таким образом, анализ и обобщение развития Action Research на уровне профессиональной деятельности преподавателей университетов становится в настоящее время актуальным направлением исследований. Идеи Action Research отвечают целям реформирования системы высшего образования, вписываются в планы государства по развитию исследовательских университетов и формированию новой формации вузовских преподавателей.

Литература:

1. ОЭСР. Будущее образования и навыков 2030: «Компас обучения ОЭСР 2030», серия концептуальных записок. 2019. https://www.oecd.org/education/2030-project/teaching-and-learning/learning/all-concept-notes/

2. Hatten R., Knapp D., Salonga R. (1997) Action Research: Comparison with the concepts of ‘The Reflective Practitioner’ and ‘Quality Assurance’http://www.aral.com.au/arow/rdr.html

3. Aimers J. (1999) 'Using Participatory Action Research in a Local Government Setting' in Hughes I (Ed) Action Research Electronic Reader [online] The University of Sydney, available http://www.behs.cchs.usyd.edu.au/arow/reader/aimers.htm (download date)
4. Whitehead J. (1985) An analysis of an individual's educational development - the basis for personally oriented action research. Published in Shipman, M. (Ed.) Educational Research: Principles, Policies and Practice, Falmer; London. - pp. 97 – 108.

PRODUCTIVE WAY OF TEACHING FOREIGN LANGUAGE

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Abstract.
The article discusses a productive way of teaching a foreign language, used to implement a form of development of productive educational interaction between teacher and students through problem-based learning (PBL). PBL contributes to the disclosure and realization of the personal and creative potential of students, the creation of a personally significant educational product, as well as the orientation of students towards independently acquiring the knowledge necessary to solve specific problems that arise before them or are posed by the teacher, and the subsequent accumulation of experience in using them in educational activities.

Keywords: productive method, problem-based learning (PBL), foreign language communication, situation, motivation

Introduction

In modern conditions, foreign language communication is becoming a significant component of a specialist's future professional activity, and the importance of the "Foreign Language" discipline in non-linguistic universities is significantly increasing. Studying a foreign language at a non-linguistic university involves increasing the initial level of foreign language proficiency and students mastering the necessary level of foreign language communicative competence to solve social and communicative problems in various fields of professional, scientific, cultural spheres of activity when communicating with the people from the country whose language they study, ensuring the development of general cultural and scientific competencies, including respect for the spiritual values of different countries and peoples around the world, development of cognitive and research skills in a foreign language, increasing foreign language culture of students. It is carried out through communicative competence (speech, language, sociocultural). The realization of communicative competence also depends on the problem of productive learning. Productive learning is a personality-oriented activity aimed at obtaining practical results valuable for self-education of personality development.

In recent years, various aspects of productive interaction have been actively studied by scientists. The scientific works reflect such issues as acmeological factors of productive interaction between a teacher and students, preparing future teachers for productive interaction in the learning process, organizing the study of a foreign language based on the development of productive learning activities of the student, a system for organizing productive interaction between teachers and students [1].

The use of productive educational technologies in the process of teaching a foreign language allows us to ensure an optimal balance between reproductive and productive types of work in order, on the one hand, to create a solid base of linguistic means and methods of communicative activity. [2].

Nowadays, one of the most productive educational technologies is the technology of problem-based learning (PBL), used in teaching a foreign language in the education process.

Problem-based learning aims to create a problem situation and control the student's knowledge in solving the problem. The theory of problem-based learning (PBL) was introduced by John Dewey (1859–1952), an American scientist. Later S. Rubinstein, V. Kudryavtsev, I. Lerner, M. Makhmutov, A. Matyushkin, M. Skatkin, D.Vilkeev, and others studied extensively in their works. Scientists believe that the function of thinking in teaching is not only to gain new knowledge but also to increase new ways to achieve the goal. M.Makhmutov proposed an original systemic concept of problem-based learning and developed its methodological basis. In I.Ya. Lerner's opinion M. Makhmutov created an entire encyclopedia of problem-based learning. Makhmutov's theoretical justification for problem-based learning is focused on the formation of the student's mental activity. He said that the interrelationship between knowledge and the act of learning became tight only when a student got acquainted with something he did not know and sought a way out of the contradictions that arose when he tried to understand it. After all, he would research and act to master new knowledge According to Matyushkin, all the knowledge systems and actions in human life may be the result of his ability to think. A person's knowledge is a reflection of his thinking, that is, the main cognitive tool [3].

Discussion. Problem-based learning technology is a teaching system in which the teacher offers a problematic situation during the lesson, and the students resolve it themselves. Problem-based learning includes students' mastering knowledge systems and methods of mental and practical activity, turning cognitive freedom and creative abilities into skills, and increasing students' ability to think independently.

In the course of problem-based learning, a problematic situation is created under the guidance of a teacher, in which students have the opportunity to participate actively. This technique promotes the acquisition of creative knowledge and the development of thinking skills.

Problem-based learning often develops the student's thinking skills, how to get out of a problem situation, solve problems, and develop cognitive interest.

Problem-based learning (PBL) has been widely adopted in diverse fields and educational contexts to promote critical thinking and problem-solving in authentic learning situations [4].

PBL is a pedagogical approach that enables students to learn while engaging actively with meaningful problems. Students are given the opportunities to problem-solve in a collaborative setting, create mental models for learning, and form self-directed learning habits through practice and reflection. Hence, the underpinning philosophy of PBL is that learning can be considered a "constructive, self-directed, collaborative and contextual" activity [5].

Each specific situation may contain a problem – the student realizes that it is impossible to resolve the difficulties and contradictions that have arisen in this situation using the knowledge and experience he has had. The use of the problem-based learning method involves the teacher creating actual problem situations/tasks that require solutions, the active independent cognitive activity of students, who are placed in the position of subjects of the learning process, as a result of which they acquire new knowledge and master new ways of operating language tools. Three conditions must be met to create and solve a problem: 1) the presence of a cognitive need in the subject, 2) the relationship between the given and the sought, and 3) the presence of definite intellectual and operational capabilities for the solution [2].

Problem-based learning methods are implemented in combination with certain forms of learning: problem presentation, a frontal form of learning, heuristic method – a group form of learning, and research method- a collective or individual form of learning [5].

PBL has several features that can promote conceptual change: activating prior knowledge, group discussion and critical analysis of arguments, and encouraging a deep understanding of information [6].

Problem-based learning consists of three stages: 1) when successfully implementing problem-based learning, it is better to develop in advance the topic of problematic questions that will be offered to students, 2) it is important to consider that not every question is a problematic topic, 3) the student must find the answer to the problematic question himself. Perhaps the problematic question does not correspond to the student's level of knowledge, and this ignorance can arouse his interest and desire to learn. This is the first stage of problem-based learning. In the second stage, the student internally feels his knowledge and the need for additional data sources. In the third stage, the student acquires new knowledge and methods correctly to solve the problem question. It reaches a happy state. In the later stages, the correct answer is checked, and compared with the first hypothesis, the acquired knowledge and skills are summarized and summarized.

The essence of the problem-based learning method is the art of creating problematic situations and finding ways to solve them. The hardest thing in this method is to create the right problem situation. Firstly, the problem proposed to the students should be accessible to students of this age. Secondly, the problem should not be solved with the help of existing knowledge and skills. It should encourage the development of new ideas and the search for new knowledge. Thirdly, the situation should contain a contradiction. Fourthly, the situation should arouse interest in its unusualness, and non-standardness [7].

By forming a problematic situation for the learning process, the teacher may leave unknown the semantic essence, language, or speech material, as well as methods of constructing thought through a foreign language. The practice of teaching a foreign language shows that a problem situation can be modeled when working on any aspect: speaking, reading, listening, introducing lexical and grammatical material, as well as during its subsequent consolidation. Since classes in a non-linguistic university in a foreign language are complex, then the creation of a problematic situation in each case depends on the specific weight of the corresponding type of work. To conduct classes using the technology of problem-search tasks, exercises may be given in which methods of formulating individual remarks, evaluative statements, and some methods of expressing modality and clichés are learned, which allows increasing interest in completing tasks and helping successfully cope with them. One can also give different tasks to develop and improve skills, for example, ask different types of questions or conduct an interview, answer the questions posed, conduct quizzes, and social surveys, solve the problem of lack of words by paraphrasing, explaining, approximate replacement, literal translation from the native language, using words of the native language, and the problem of not knowing some grammar rules - by simplifying or changing the structure, formulating the phrase element by element, ignoring the error. Students can express their point of view on a particular issue, comment on it, entering into a dialogue with other students. This encourages them to make comparisons, generalizations, and conclusions from the situation under consideration. Students can also be offered tasks in which they will have to compare various facts, rank concepts differently according to their importance and usefulness, formulate questions to generalize, justify, and specify certain information, problem tasks with several answer options, deliberate mistakes, vagueness in the formulation of the question, insufficient, contradictory, or excessive initial data, etc. All tasks are performed individually and in small and large groups, with subsequent discussion by the whole group. Tasks aimed at developing the ability to use dictionaries can be especially highlighted. For this, exercises aimed at developing the ability to navigate a complex system of dictionary construction, avoid language and speech errors, and correct one's speech with their help can be performed. When completing them, students can work independently, selecting the most effective and acceptable strategies and techniques for working with the dictionary, assessing the correctness of completing the tasks and their achievements in studying the foreign language, as well as in pairs or small groups, which helps to include students in joint activities and develop communication skills.

As tasks containing elements of the problem, one can also use some exercises, for example, compare proverbs in a foreign and native language and determine their similarities and differences; combine proverbs with opposite or mutually exclusive meanings into antonymic pairs; select an appropriate proverb for the text heard/read; combine proverbs with their explanation and several others, find a proverb that could be the motto of their life and justify their answer [1].

Taking into account all the above arguments, we can imagine the structure of a lesson using the problem-based learning method, according to which we will get the following table (Table- 1).

Table 1.

Problem-based learning sequence

1	Statement of a problem situation, question
2	Awareness of the problem by students and its formulation
3	Finding a solution to the problem
4	Selecting an optimal solution
5	Application of new knowledge and reflection of new knowledge and reflection
6	Testing, knowledge control

Problem-based learning often forms a student's thinking skills. How to get out of a problematic situation, he shows interest in solving it and increases his cognitive interest. A feature of problem–based learning is that the student is not provided with ready-made knowledge but is required to solve problems through search. The strengths of problem–based learning include the ability of students to think logically, increase interest in studying, teach students to consciously work on themselves, and bring knowledge to a definite result in learning [8].

Problem-based learning is practically accessible to everyone. However, the level of problem and the degree of cognitive independence will vary greatly depending on the age and individual characteristics of the students, the degree of their training in problem-based learning methods, etc.

Problem-based learning cannot be considered either as a special teaching method or a new teaching system. It would be most correct to consider it as a particular approach to organizing learning, manifested, first of all, like the organization of the cognitive activity of students. Undoubtedly, not every material can serve as a basis for creating a problem. Non-problematic elements of educational material include all specific information containing digital and quantitative data, facts, dates, etc., which cannot be “discovered” [9].

Conclusion. The productive teaching method is aimed at developing skills in planning and solving tasks that require reasoning, inference, and self-analysis. In other words, it is a method of teaching in which subject knowledge and universal learning activities are acquired by the student in the process of creative activity. Using the problem-based learning method is quite complex and labor-intensive- work in the organization of the educational process. However, practice proves that such lessons are valuable for developing creative thinking. Students remember the material better, are more actively involved in the process, and the most important thing is their motivation for learning increases.

References

1. Severina V.F., Novoselova A.A. (2016). Application of productive educational technologies in the process of developing productive educational interaction in teaching a foreign language. World of Science, Volume 4, № 2.

2. Koryakovtseva N.F. (2010). Theory of teaching foreign languages. Productive educational technologies. Moscow: Academy. – 192 p.

3. Safiullina I.A. The concept of problem-based learning M.I. Makhmutov as a didactic system. Abstract of the dissertation for the degree of candidate of pedagogical sciences. Kazan, 2001.

4. Yew E. H.J., Goh K. (2016). Problem-Based Learning: An Overview of its Process and Impact on Learning. Health Professions Education.Volume 2, Issue 2,- P. 75-79.

5. D. Dolmans, W. De Grave, I. Wolfhagen, C.P.M. van der Vleuten. Problem-based learning: future challenges for educational practice and research. Med Educ, 39 (7) (2005),- P. 732-741 (p39)

6. Loyens S. M.M., Jones S.H., Mikkers J., Gog T. (2015). Problem-based learning as a facilitator of conceptual change. Learning and Instruction. Volume 38. – P. 34-42.

7. https://ttransp56.ru/web_ms/prepod/m_prepod/metod_po.pdf

8. Competencies and education: models, methods, technologies (2015). Monograph. Part IV. /Scientific editor. Ph.D. E. V. Shutova.- M.: Pero Publishing House.- 134 p.

9. Porodenko A.S. Techniques and methods of problem-based learning technology in biology lessons / A. S. Porodenko.- Text: direct // Young scientist.- 2020.- No. 3 (293).- P. 447–450.

БИОЭТИКА В ГУМАНИТАРНОЙ ПОДГОТОВКЕ БУДУЩИХ ВРАЧЕЙ В СОВРЕМЕННОМ ОБЩЕСТВЕ

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Медицина и философия не чужды друг другу. Вопросы, возникающие из циклов рождения, жизни, счастья, страдания, боли и смерти, являются важнейшими вопросами человеческого существования. С ними профессионально занимаются различными методами философии, этики и медицины. В этом контексте классическая медицинская философия имеет дело с метафизическими концепциями места человека в природе, его или ее отношения к божественному, здоровью и болезней и эпистемологических и методологических концепций диагностики, классификации, оценки риска и лечения. Классическая медицинская этика имеет дело с суждениями, касающимися отношений пациента и врача, «наилучших интересов» пациента и набора добродетелей, требуемых от хорошего врача.

Сегодня медицинская практика руководствуется этическими принципами, которые, в свою очередь, основаны на философских концепциях. Среди этих этических принципов — nil nocere («не навреди») и bonum fucere («сделай добро пациенту»). Большинство классических медицинских текстов указывают на ограничения целей медицины и случаи, когда использование медицинских знаний невозможно. Традиционно медицинская этика и экспертные знания неразрывно связаны между собой. Этика без экспертизы никогда не сможет быть эффективной, а экспертиза без этики вряд ли послужит на благо пациента [1].

Прогресс медицинских технологий и рост плюралистического общества породили комбинацию факторов, ответственных за особый набор приоритетов, преобладающих в медицинской философии и этике по мере приближения XXI века. Современная медицина позволяет нам продлевать жизнь некоторых пациентов в отделениях интенсивной терапии до такой степени, что нам приходится задаваться вопросом, требуется ли такое продление медицинским идеалом и его гордой традицией. «Трансплантация органов», «экстракорпоральное оплодотворение», «интенсивная терапия», «реанимация» и «психофармакопия» — вот некоторые из новых терминов, предполагающих повышенную моральную ответственность, возникающую из-за возросших технических возможностей, в то время как другие термины, такие как «работа в команде», «Медицинские специалисты», «сменная работа», «страхование по болезни» и «системы здравоохранения» указывают на организационные изменения в традиционных отношениях врача и пациента. В этом контексте такие термины, как «автономия пациента» и «информированное согласие», возникли в результате тенденции к более «эмансипированному» образу жизни и индивидуальному само пониманию образованных граждан.

Существуют разные взгляды на систему принципов нравственности врачей, их называют принципами медицинской этики, а иногда и принципами биоэтики. Этика и мораль определяют систему норм нравственного поведения в обществе. Врачебная этика – часть общей этики, определяющая моральные принципы поведения врача в его сфере деятельности.

Медицинская этика включает в себя совокупность норм поведения и морали, создает основу чувства долга и чести, моральных преимуществ врача. Прежде всего следует отметить, что в нравственности как целостном структурном образовании выделяются следующие три основных элемента: нравственное сознание, нравственная деятельность и нравственные отношения. Несмотря на определение морали, ее невозможно представить без морального сознания. Нравственность – это характеристика определенных человеческих поступков, поведения и человеческой деятельности в целом. Там, где ее нет, там просто не приходится говорить о морали. Также мораль, конечно, возникает и существует только в контексте конкретных человеческих отношений. Это могут быть не только отношения между людьми, но и отношение человека к природе, культуре и ее ценностям и т.д. вне отношений нет морали.

Биоэтика уделяет большое внимание меняющейся роли и обязанностям врача, но имеет тенденцию пренебрегать ролью образованного гражданина как пациента, стража хорошего здоровья и предотвращения рисков для здоровья. Традиционно от пациента требовались только две добродетели: уступчивость и доверие. Низкий уровень образования и средств для обеспечения хорошего здоровья не позволял рядовому гражданину участвовать в принятии медицинских решений, предотвращении рисков для здоровья или ответственности за здоровье.

Будущее медицины - а также здоровья и счастья - будет зависеть от тщательного и взвешенного анализа, оценки и решения философских вопросов, а также от развития моральных знаний, связанных со здоровьем и благополучием, точно так же, как на протяжении последних ста лет хорошая и успешная медицина зависела от тщательного анализа, оценки и управления. обладающий техническими знаниями [3].

Однако будущее биоэтики будет зависеть от прогресса, которого она сможет достичь в установлении и подтверждении этики как врача, так и пациента - этики образованных и ответственных людей, которые, как утверждал Аристотель в прошлую эпоху, являются наиболее важными составляющими мирного, счастливого и культурно богатого общества. Здоровье будущих людей и будущих обществ будет зависеть от того, в какой степени накопленные философские и этические знания смогут быть применены на практике - сначала образованными гражданами, а затем и медицинским сообществом. Это также станет окончательной проверкой того, являются ли автономия, ответственность и благотворительность просто словами из клятв, заявлений и философских книг, или же они являются неотъемлемой частью нашей человеческой натуры - натуры, которая, по общему признанию, все еще нуждается в совершенствовании и культивировании, но склонна к подлинным актам благотворительности, утешения, исцеления, и поддержки.

Профессиональная мораль характеризуется как таковая, характеризующая общечеловеческие моральные ценности (нормы, принципы, понятия) в конкретных профессиях. Его суть заключается в отражении особенностей профессиональных отношений. Сочетание моральных качеств с профессиональными знаниями, умениями и опытом создает своеобразную доминанту, которая реализуется при исполнении профессионального долга. В моральных обязательствах, которые регламентируются профессиональной этикой, отражается отношение человека определенной профессии к объекту своей деятельности, к коллегам, партнерам, обществу в целом. Важно, чтобы у будущих врачей развивались любовь и ответственность за свою и чужую жизнь, стремление к гармонии знания и нравственности [4].

Медицинская этика изучает специфику медицинской морали работника, при этом играя особо важную роль в формировании принципов, на которых базируется моральный кодекс работников здравоохранения. Быть квалифицированным врачом – это значит не только отлично владеть теоретическими знаниями и практическими навыками, но и иметь правильный кругозор, основой которого должны быть гуманизм, высокая культура, коммуникабельность, чувство гордости за свою причастность к медицинской отрасли, помогать людям.

Формирование морально-этических принципов в медицинской деятельности осуществляется в процессе изучения таких дисциплин, как биоэтика, медицинская деонтология, гигиена и др. Однако большую роль здесь играют гуманитарные дисциплины. В процессе гуманитарной подготовки будущих врачей важно последовательно реализовывать гуманистическую идею, для которой целью воспитания и обучения является прежде всего человеческая личность с высокой нравственностью и высоким уровнем профессионализма.

Многие ученые отмечают, что использование философских приемов при преподавании социальных и гуманитарных дисциплин, культурной, творческой, социологической рефлексии с учетом профессиональных особенностей студентов-медиков ориентирует их на идеальные ценности в сознании для производства моральных норм, отводя ведущую роль в жизнедеятельности духовным ценностям [2].

Поэтому изучение гуманитарных дисциплин не только улучшает коммуникативные навыки, но и развивает кругозор будущего врача. Изучение оригинальной литературы разных стран, диалоги на профессиональные темы, чтение профессиональных статей и журналов, научные доклады, симпозиумы, конференции выполняют не только образовательную, но и важную мировоззренческую функции.

Действующие правила этики и деонтологии, которые должны изучить будущие врачи, включают:

– строгая дисциплина, субординация, то есть подчинение младшего старшему;

– корректность и внимательность к пациентам;

— терпение, умение установить контакт и взаимопонимание с пациентами и коллегами;

— профессиональное и чуткое общение с пациентами;

– сохранение медицинской тайны;

– уважительное отношение к коллегам (недопустимость критики, оценки действий, замечаний коллег в присутствии пациентов);

– открытость, коллегиальность, учет советов коллег;

– демократические отношения со средним и младшим медицинским персоналом, привлечение их на свою сторону для сохранения врачебной тайны, воспитание чувства долга, ответственности, доброжелательности; предоставление им необходимых знаний и навыков;

– построение тактики врача, его поведения в зависимости от характера больного, уровня его культуры, тяжести заболевания, особенностей психики;

– установление взаимоотношений с родственниками (правильный разговор при наличии осложнений и др.). Установлено, что для эффективной реализации будущей профессиональной деятельности студенту-медику необходимо не только знать и соблюдать этические принципы профессиональной деятельности, но и иметь положительное отношение к выбранной профессии, что лежит в основе личностно-эмоционального компонента профессиональной деятельности, профессионально-этическая культура будущих врачей.

Гуманитарные науки ставят перед собой разные задачи: сформировать у студентов систему научных знаний, понятий и умений; осознавать профессиональную направленность содержания образования; формировать у студентов научное мировоззрение и творческое мышление, воспитывать экологическую культуру и ценностное отношение к науке, раскрывать гуманитарные аспекты познания и научной деятельности. Также при изучении гуманитарных наук будущие врачи работают над совершенствованием коммуникативного компонента, задачей которого является развитие профессиональных и коммуникативных навыков посредством изучения языков, культур и обычаев, знание которых влияет на взаимопонимание между врачом и пациентом.

Студенты-медики всегда участвуют в общении с другими. Основа эффективного общения – толерантность, уважение к другому человеку, самоуважение. Ю. Колисник-Гуменюк отмечает, что целью изучения социально-гуманитарных дисциплин является формирование современного мировоззрения студентов, развитие их порядочности, ответственности, настойчивости, сострадания, человечности, гуманистической направленности [5].

Гуманистическая ориентация студентов-медиков предполагает понимание и внутреннее принятие целей и задач своей будущей гуманитарной деятельности, интересов, идеалов, взглядов, убеждений. Врач должен быть гуманным, высокоморальным человеком с чувством ответственности. Выявлено, что отбор предметов в рамках гуманитарной подготовки осуществляется на основе следующих принципов: личностно ориентированное содержание образования; практическое направление образования; использование форм и методов обучения, основанных на высокой активности учащихся; диалогический подход во взаимодействии преподавателя и студента; использование групповых методов работы.

Таким образом, анализ роли гуманитарных наук в процессе профессиональной подготовки будущих врачей позволяет сделать вывод, что гуманитарные науки играют важную роль в формировании моральных устоев будущих врачей.

Процесс подготовки будущих врачей должен органично сочетать в себе две составляющие – профессиональную и нравственную, под влиянием которых закладываются основы отношения будущего врача к профессиональной деятельности. На протяжении всей гуманитарной подготовки важно сохранять и развивать это органичное сочетание.

1. Hans-Martin Sassi Bioethics: Its Philosophical Basis and Application // https://iris.paho.org/bitstream/handle/10665.2/27131/ev24n4p372.pdf?sequence=1

2. Медицинская этика и деонтология: сб. / под ред. Г. В. Морозова, Г. И. Царегородцева. – М.: Медицина, 1983. – 270 с.

3. Rider, E. A., Gilligan, M. A., Osterberg, L., Branch, W. T. Healthcare at the Crossroads: The Need to Shape an Organizational Culture of Humanistic Teaching and Practice.// URL: https://www.researchgate.net/publication/325031279_Healthcare_at_the_Crossroads_The_Need_to_Shape_an_Organizational_Culture_of_Humanistic_Teaching_and_Practice.

4. Балмуханова А. В. Совершенствование системы подготовки врачей клиницистов // В сборнике: Серия конференций ЗКГМУ имени Марата Оспанова. 2017. – С. 18–20.

5. Петров С.В., Балахонов А.В., Молитвин М. Н., Фионик О. В. Современные проблемы высшего медицинского образования. Часть 1. Государственные стандарты высшего профессионального образования и высшее медицинское образование. // URL: https://cyberleninka.ru/article/n/sovremennye-problemy-vysshego-meditsinskogo-obrazovaniya-chast-1-gosudarstvennye-standarty-vysshego-professionalnogo-obrazovaniya-i

Social-Emotional Learning. Methodology of Assessment of Non-Cognitive Skills

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Abstract. This work outlines the methodology for assessing non-cognitive skills among students at Shymkent Public Middle School. The document begins with an introduction that highlights the significance of non-cognitive skills, backed by extensive research linking these skills to higher levels of well-being and academic performance. The proposed methodology for assessing students' non-cognitive skills includes an analysis of international experience, justification of the conceptual framework, and the construction of a system for assessing non-cognitive skills.

Introduction

In the global educational community, there is a growing interest in the skills related to the personal, social, and emotional development of students. It is assumed that mastering such skills contributes to the self-regulation of behavior and emotions of students, improves their interaction with peers and teachers, and also facilitates adaptation to the school environment, allowing for higher educational results (Doolittle, 2017; Farrington et al., 2012; Goleman, 1998; Jones & Lechner et al., 2019)

Interest in Personal, Social, and Emotional Development Skills

There is a growing interest in personal, social, and emotional development skills within the global educational community. It is assumed that mastering such skills contributes to students' self-regulation of behavior and emotions, improves their interactions with peers and teachers, and facilitates adaptation to the school environment, allowing them to achieve higher educational outcomes (Doolittle, 2017; Farrington et al., 2012; Goleman, 1998; Jones & Lechner et al., 2019). Modern approaches to curriculum development reflect this trend, shifting from a sole focus on academic achievements to the development of a broader set of non-cognitive skills as important learning outcomes (OECD, 2015).

Extensive research in development shows that effectively mastering non-cognitive skills is associated with higher levels of well-being and better school performance. In contrast, failure to achieve competence in these areas can lead to various personal, social, and academic difficulties (Bradshaw & Guerra, 2008; Coatsworth & Masten, 1998; Eisenberg, 2006; Greenberg & Weissberg, 1998).

Despite international recognition of the necessity to develop non-cognitive skills in students, there is much debate about what they represent, how we should assess them (Berg et al., 2017; Humphrey et al., 2011; MacCann et al., 2019; Soto et al., 2022), and what the relationship is between non-cognitive skills and learning outcomes, including academic achievements (Durlak et al., 2011; Mella et al., 2021; Taylor et al., 2017; Wang et al., 2019).

A literature review revealed three aspects of the current scientific discourse on non-cognitive skills that require further study and could advance perspectives on a more holistic approach to student development.

The first aspect is related to the complex nature of non-cognitive skills, which includes a wide range of functional abilities, potentially determined by personal characteristics, preferences, and values (Jones et al., 2013; Soto et al., 2022). Given this multifactorial complexity, teachers need to determine which skills have the greatest impact on students' academic performance (Portela-Pino et al., 2021). According to modern research, there are many constructs positively correlated with performance (Soto et al., 2022). However, the degree of correlation varies across studies, indicating a potentially complex relationship between different non-cognitive skills and academic performance (Humphrey et al., 2007; Portela-Pino et al., 2021). Therefore, this methodology aims to develop a conceptual framework for defining and assessing non-cognitive skills based on their relationship with students' academic performance.

The second aspect involves analyzing methods that take into account contextual diversity, as the environment plays a significant role in the development of non-cognitive skills (OECD, 2015). As Berg et al. (2017) note, when studying non-cognitive skills, it is important to consider contextual features, as students' life circumstances can influence the formation and manifestation of their competencies. Additionally, some relationships between variables can be adequately interpreted only in the context of cultural aspects and characteristics of the studied individuals (Berg et al., 2017). This highlights the importance of a culturally oriented approach to understanding and developing non-cognitive skills, considering the diversity of people's backgrounds and life experiences, as well as their unique ways of interacting with others. Thus, the proposed methodology seeks to provide a more comprehensive perspective by taking into account such contextual factors as the specifics of the advanced science and mathematics education program and the academic environment of high-achieving students.

The third aspect highlights that existing research in this field primarily focuses on specific monitoring or research work, underscoring the need for assessment mechanisms adapted for school practice and capable of being implemented systematically and long-term. The lack of systematic mechanisms and schools' awareness of effective development and assessment programs creates a significant gap between research work and practical measures to develop non-cognitive skills (Durlak et al., 2011). Therefore, the presented methodology considers the assessment of students' non-cognitive skills as a promising direction that can significantly benefit the further development of the educational strategy of Shymkent Public Middle School.

Thus, the above three aspects form a critical problem in theoretical understanding, leading in practice to the fact that, despite the broad recognition of non-cognitive skills as expected educational outcomes, they often remain invisible in educational processes and are vaguely defined in various contexts. This emphasizes the need to create our own methodology for assessing students' non-cognitive skills at Shymkent Public Middle School, aimed at:
- Harmonizing the conceptual framework and assessment tools with the SHYMKENT PUBLIC MIDDLE SCHOOL-Programme educational program;
- Ensuring the objectivity, reliability, and validity of the applied assessment tools;
- Developing a continuous assessment system for non-cognitive skills, allowing for monitoring students' progress over time and making methodological adjustments as needed.

The proposed methodology for assessing students' non-cognitive skills includes an analysis of international experience, justification of the conceptual framework, and the construction of a system for assessing non-cognitive skills. The latter includes selecting appropriate tools for data collection, determining analysis procedures, creating management mechanisms, and more. In a broader perspective, the fundamental task of developing and implementing the presented methodology at Shymkent Public Middle School is to expand the scope of assessment in pedagogical practice. This, in turn, will help enhance the impact of the assessment process on the development of students' academic and personal potential by applying holistic development strategies.

Definition of Non-Cognitive Skills

Many researchers, noting the increased interest in non-cognitive skills, mention the significant terminological variation in this field (Gresham et al., 2020; Soto et al., 2022). In conducted meta-analyses, authors use various synonyms for selecting studies, including social and emotional skills, social and emotional learning, competence, positive youth development, social skills, emotional intelligence, non-cognitive skills, and others (Durlak et al., 2011; Humphrey et al., 2011; MacCann et al., 2019). According to Boon Falleur et al. (2022), the use of different terms and theoretical frameworks is due to the interdisciplinary nature of non-cognitive skills research, covering areas from economics to psychology and involving specialists from academics to practitioners. For example, the term "non-cognitive skills" is often found in economic literature, "character skills" in education, and "social-emotional skills" in psychological literature (Boon Falleur et al., 2022, p. 1).

Gutman et al. (2013) define "non-cognitive skills" as a set of attitudes, behavior patterns, and strategies believed to underlie success in school and work. The term "non-cognitive skills" also covers a wide range of meanings, including those skills that are opposed to IQ tests and cannot be measured by conventional testing. "Skills" imply qualities that can be learned, unlike the term "traits," which suggests constancy or heredity of personal characteristics (Kautz et al., 2014).

Humphrey et al. (2017) report that the differences between terms are not as significant as the similarities in characteristics and that these terms are largely interchangeable. Therefore, in this study, the term "non-cognitive skills" is also considered in a broader context, allowing for an expanded theoretical review encompassing synonymous concepts. Table 1 presents a range of definitions we reviewed.

Term	Definition	Source
Social, emotional, and behavioral skills	The ability of individuals to maintain social relationships, regulate emotions, and manage goal-directed and learning-oriented behavior	Soto et al., 2022
Social-Emotional skills	A set of non-academic skills necessary for goal-setting, behavior management, relationship building, as well as processing and remembering information. These skills and competencies develop throughout life and are essential for success in school, work, home, and society.	Harvard Graduate School of Education, 2022
Soft Skills	Personal qualities that enable effective and harmonious interaction with others in a professional environment, such as business, management, and organizational psychology	Heckman & Kautz, 2012
Non-cognitive skills	Patterns of thinking and behavior that develop throughout life and are integrated into the learning process. These skills include the individual's personal characteristics related to social-emotional and behavioral manifestations and influence the formation of cognitive skills	Gutman et al., 2013; Humphrey et al., 2017; Kautz et al., 2014
Life skills	A combination of knowledge, attitudes, values, and skills that collectively enable individuals to achieve their goals. Life skills are primarily aimed at planning and solving everyday tasks	Pierce, 2016

Big 5 Personality traits	A stable set of psychological traits that characterize a person and manifest in specific situations. They form the basis for social-emotional skills. Personality traits may include qualities such as openness to experience, persistence, tolerance for uncertainty, sociability, etc.	Goldberg, 1981
21st century skills	Refers to knowledge, life and career skills, habits, and qualities that are crucial for students' success in the modern world, especially as they transition to college, enter the workforce, and step into adulthood	National Research Council, 2011

The definitions of skills outlined in Table 1 share several common characteristics, such as being non-academic and noting their positive influence on long-term success. Regardless of the term used, many of these skills fall under a clearer definition of executive functions and self-regulation. Although these skills necessary for a healthy and productive life are called "non-cognitive," they are fundamentally based on cognitive processes. These mental processes enable us to regulate emotions, control anger or strong emotional reactions, and remain calm under pressure in accordance with the demands of a specific context. These areas of brain function have a rich history of research in human development, spanning disciplines from psychology and neuroscience to behavioral economics (Scorza et al., 2016).

Thus, despite potential contradictions in the use of the term "non-cognitive skills," we choose it for its broad acceptability and ability to encompass various aspects of personal development related to success in life that go beyond a narrow understanding of academic skills.

System for Assessing Students' Non-Cognitive Skills

The system for assessing students' non-cognitive skills is aimed at providing a comprehensive view of students' performance and development, going beyond traditional academic indicators such as grades and exam results. According to international literature in this field, non-cognitive skills are crucial for success both academically and in real life (Bar-On, Elias, & Maree, 2007).

The goal of assessing non-cognitive skills is to obtain relevant information on the development of students' non-cognitive skills, providing it to all interested participants for the further holistic development of the student.

Objectives of non-cognitive skills assessment:
- Develop, adapt, and pilot assessment tools for students' non-cognitive skills;
- Process the obtained data from the assessment of students' non-cognitive skills;
- Provide assessment results to interested parties;

Principles of assessing non-cognitive skills at Shymkent Public Middle School:
1. Validity and Reliability. A valid assessment tool measures what it is supposed to measure and provides meaningful and relevant results. A reliable assessment tool provides stable results when used repeatedly under similar conditions.
2. Continuous Assessment. Assessment is conducted regularly to provide timely and comprehensive information on students' non-cognitive skills. These skills are not fixed and can be improved through experience and learning. Assessment at different stages can ensure a comprehensive understanding of students' progress.
3. Ethical Principle. The assessment process supports confidentiality and avoids bias or discrimination. Assessment should be fair and free from any prejudice related to gender, culture, or background.

Tools for Assessing Non-Cognitive Skills

Given that any integration (e.g., using multiple tools), modification (e.g., reducing questions), and/or adaptation (e.g., language adaptation) of assessment tools can raise questions about their reliability and validity, it is mandatory to conduct statistical checks for the reliability and validity of the adapted versions (Soto & John, 2019).

There are a number of generally accepted rules for creating or adapting questionnaires for schools. For example, words used in statements should be understandable to all respondents and their meanings should be universal. Secondly, the wording of questions should avoid bias, which occurs when a question prompts the respondent towards a specific answer. Overall, it is necessary to enhance the reliability and validity of the questions and minimize the burden on respondents (Krosnik, 1999). Various methods a...

According to conducted studies, the most effective method of assessing non-cognitive skills is self-assessment (Krosnik, 1999), as most indicators are based on data where the respondent provides information about their typical behavior, thoughts, and feelings. This method provides a simple and effective way to collect information from a representative sample (Duckworth, Tsukayama, & May, 2010). Additionally, to obtain the most objective information about the level of development of non-cognitive skills an...

Self-assessment and assessment of students' non-cognitive skills by teachers are part of the triangulation method. This method also includes comparing the results with students' academic achievements. It provides an opportunity to obtain objective information and ensures the validity and reliability of the obtained assessment results.

Assessing students' non-cognitive skills involves:
1. Student self-assessment using a composite questionnaire (180 statements) based on adapted versions of questionnaires in Kazakh and Russian (Appendix B):
- "Self-awareness" and "social awareness" from the Collaborative for Academic, Social, and Emotional Learning (CASEL);
- Researchers from Colby College and the University of Illinois at Urbana-Champaign ("Social, Emotional, and Behavioral Skills: BESSI");
- "Grit: The Power of Passion and Perseverance" (Duckworth, 2018);
- "Brief Description of Growth and Fixed Mindsets" (Dweck, 2007);
- "Metacognitive Awareness Inventory (MAI)" (Schraw and Dennison, 1994).

2. Assessment of students' non-cognitive skills by teachers (5 statements) (Appendix C).
The tools were translated from English into Kazakh and Russian using the back-translation method to ensure a high degree of reliability and language equivalence.

Assessing students' non-cognitive skills involves:

The analysis indicates several key findings:
Average Scores: The average scores for non-cognitive skills, as reported by students and their teacher, show variations. This discrepancy suggests differing perceptions of students' abilities in areas such as self-awareness, social awareness, perseverance, growth mindset, and metacognitive awareness.
Standard Deviations: The standard deviations in the assessments reveal a significant variability in the scores. This indicates that while some students consistently exhibit certain non-cognitive skills, others may vary widely in their abilities.
Perception Differences: The differences between students' self-assessments and the teacher's assessments highlight the importance of using multiple perspectives to gain a comprehensive understanding of students' non-cognitive skills. These differences could be attributed to subjective biases, differing observation contexts, or varying evaluation criteria.
Triangulation Method: Employing the triangulation method, which includes self-assessment, teacher assessment, and comparison with academic achievements, enhances the validity and reliability of the results. This method ensures a well-rounded evaluation of students' non-cognitive skills.
Continuous Assessment: Regular assessment is crucial for providing timely and comprehensive information about students' non-cognitive skills. These skills are not static and can be developed through targeted interventions and educational programs.
Ethical Considerations:
The assessment process upholds confidentiality and strives to be free from biases related to gender, culture, or background. This ensures fairness and objectivity in evaluating students' non-cognitive skills.
Recommendations Based on the findings, the following recommendations are proposed:
Holistic Development Programs: Develop and implement programs that focus on enhancing students' non-cognitive skills alongside academic achievements. Such programs should be tailored to address the specific needs identified through the assessment process. Teacher Training: Provide training for teachers to better understand and evaluate non-cognitive skills. This will help in aligning the perceptions of students' abilities and improving the accuracy of assessments. Parental Involvement: Engage parents in the assessment process to provide additional perspectives and support the development of non-cognitive skills at home.
Continuous Monitoring: Establish a system for continuous monitoring and assessment of non-cognitive skills to track students' progress over time and make necessary adjustments to educational strategies. Further Research: Conduct further research to explore the underlying factors contributing to the discrepancies between students' self-assessments and teacher assessments. This will help in refining the assessment tools and methodologies. By integrating these recommendations into the educational framework, Shymkent Public Middle School can foster a more holistic development environment that supports both academic and non-cognitive growth, ultimately preparing students for success in school and beyond.

References

Bar-On, R., Elias, M. J., & Maree, J. G. (2007). Educating people to be emotionally intelligent. Praeger Publishers.
Berg, J., Osher, D., Same, M., Nolan, E., Benson, D., & Jacobs, N. (2017). Identifying, defining, and measuring social and emotional competencies. *American Institutes for Research.*
Bradshaw, C. P., & Guerra, N. G. (2008). Linking the prevention of problem behaviors and positive youth development: Core competencies for positive youth development and risk prevention. *New Directions for Child and Adolescent Development,* 2008(122), 17-33.
Coatsworth, J. D., & Masten, A. S. (1998). The development of competence in favorable and unfavorable environments: Lessons from research on successful children. *American Psychologist*, 53(2), 205-220.
Doolittle, J. (2017). Social and emotional learning in schools: From programs to strategies. *Educational Psychology Review*, 29, 269-293.
Duckworth, A. L. (2018). Grit: The power of passion and perseverance. *Scribner*.
Duckworth, A. L., Tsukayama, E., & May, H. (2010). Establishing causality using longitudinal hierarchical linear modeling: An illustration predicting achievement from self-control. *Social Psychological and Personality Science*, 1(4), 311-317.
Durlak, J. A., Weissberg, R. P., Dymnicki, A. B., Taylor, R. D., & Schellinger, K. B. (2011). The impact of enhancing students' social and emotional learning: A meta-analysis of school-based universal interventions. *Child Development*, 82(1), 405-432.
Eisenberg, N. (2006). Emotional development in childhood. In N. Eisenberg (Ed.), Handbook of child psychology: Vol. 3. *Social, emotional, and personality development* (6th ed., pp. 646-718). Wiley.
Farrington, C. A., Roderick, M., Allensworth, E., Nagaoka, J., Keyes, T. S., Johnson, D. W., & Beechum, N. O. (2012). Teaching adolescents to become learners: The role of noncognitive factors in shaping school performance—A critical literature review. Consortium on Chicago School Research.
Goleman, D. (1998). Working with emotional intelligence. *Bantam Books.*
Greenberg, M. T., & Weissberg, R. P. (1998). Social and emotional learning: A new initiative in educational reform. In A. S. Canter & S. A. Carroll (Eds.), *Children's needs II: Development, problems, and alternatives* (pp. 138-155). National Association of School Psychologists.
Gresham, F. M., Elliot, S. N., Vance, M. J., & Cook, C. R. (2020). Comparative study of the social skills improvement system–rating scales: Overview and selected psychometric properties. *Assessment for Effective Intervention,* 45(1), 46-55.
Gutman, L. M., & Schoon, I. (2013). The impact of non-cognitive skills on outcomes for young people. Institute of Education, University of London.
Heckman, J. J., & Kautz, T. (2012). Hard evidence on soft skills. Labour Economics, 19(4), 451-464.
Humphrey, N., Kalambouka, A., Bolton, J., Lendrum, A., Wigelsworth, M., Lennie, C., & Farrell, P. (2008). Primary social and emotional aspects of learning (SEAL) small group interventions: A qualitative study. *School Psychology International*, 29(4), 447-462.
Jones, S. M., & Lechner, C. (2019). A comprehensive approach to SEL in the classroom: Taking the evidence base to school. In D. J. Schonert-Reichl (Ed.), *Handbook of social and emotional learning: Research and practic*e (pp. 79-94). Guilford Press.
Krosnick, J. A. (1999). Survey research. *Annual Review of Psychology*, 50(1), 537-567.
MacCann, C., Jiang, Y., Brown, L. E. R., Double, K. S., Bucich, M., & Minbashian, A. (2019). Emotional intelligence predicts academic performance: A meta-analysis. *Psychological Bulletin*, 145(2), 150-172.

Mella, N., Fagot, D., de Ribaupierre, S., & de Ribaupierre, A. (2021). Personality, cognitive abilities, and academic performance in a longitudinal study of adolescents. *Learning and Individual Difference*s, 85, 101948.

National Research Council. (2011). Assessing 21st century skills: Summary of a workshop. National Academies Press.

OECD. (2015). Skills for social progress: The power of social and emotional skills. OECD Publishing.

Pierce, J. (2016). Life skills: What are they, why do they matter, and how can they be developed?. UNESCO.

Portela-Pino, I., Tortosa-Edo, V., González-García, R. J., & Calabuig-Moreno, F. (2021). Impact of non-cognitive skills on academic performance: A case study on primary school students. *International Journal of Environmental Research and Public Health*, 18(4), 1651.

Schraw, G., & Dennison, R. S. (1994). Assessing metacognitive awareness. *Contemporary Educational Psychology*, 19(4), 460-475.

Scorza, P., et al. (2016). The ethics of assessing non-cognitive skills. *American Journal of Public Health*, 106(7), 1159-1161.

Soto, C. J., & John, O. P. (2019). The Next Big Five Inventory (BFI-2): Developing and assessing a hierarchical model with 15 facets to enhance bandwidth, fidelity, and predictive power. *Journal of Personality and Social Psychology*, 113(1), 117-143.

Taylor, R. D., Oberle, E., Durlak, J. A., & Weissberg, R. P. (2017). Promoting positive youth development through school-based social and emotional learning interventions: A meta-analysis of follow-up effects. *Child Development*, 88(4), 1156-1171.

Wang, M. T., Fredricks, J. A., Ye, F., Hofkens, T. L., & Linn, J. S. (2019). Conceptualization and assessment of adolescents' engagement and disengagement in school and peer contexts. *Child Development*, 90(5), 917-937.

Impact of Parental Care and Social Emotional Learning on Academic Performance: A Case Study on Middle School Students

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Abstract
This study investigates the impact of parental care and social emotional learning (SEL) on the academic performance of middle school students. The research involved a focus group of 20 students, utilizing surveys and academic performance records to gather data. Quantitative analysis revealed significant positive correlations between parental care and academic performance (r = 0.65), SEL and academic performance (r = 0.70), and the combined effect of parental care and SEL on academic performance (r = 0.80). Descriptive statistics further highlighted moderate to high levels of parental involvement (mean = 3.8, SD = 0.5) and strong SEL skills (mean = 4.0, SD = 0.6) among participants, with generally good academic performance (mean = 85, SD = 7). Qualitative analysis identified themes of increased academic motivation, higher self-efficacy, and positive school experiences among students with high levels of parental involvement and SEL skills. The findings underscore the critical role of both parental care and SEL in enhancing academic performance, suggesting that fostering these factors can lead to improved educational outcomes. This study highlights the importance of collaborative efforts between educators and parents to support students' academic success through enhanced parental involvement and SEL initiatives.

Introduction

Background and Significance

The academic performance of middle school students is influenced by various factors, including parental care and social emotional learning (SEL). Parental care encompasses the involvement, support, and guidance that parents provide to their children. SEL refers to the process through which children acquire and apply the knowledge, attitudes, and skills necessary to understand and manage emotions, set and achieve positive goals, feel and show empathy for others, establish and maintain positive relationships, and make responsible decisions.

Purpose of the Study

This study aims to investigate the impact of parental care and SEL on the academic performance of middle school students. Understanding this relationship can help educators and parents develop strategies to improve student outcomes.

Research Questions

1. How does parental care influence the academic performance of middle school students?
2. How does SEL influence the academic performance of middle school students?
3. What is the combined effect of parental care and SEL on academic performance?

Literature Review

Parental Care and Academic Performance

Research from 2015 onwards has consistently shown that parental involvement is a significant predictor of academic success. According to Hill and Tyson (2015), parents who actively engage in their child's education by attending school meetings, helping with homework, and encouraging academic aspirations contribute to better academic outcomes. Similarly, Wilder (2015) found that parental expectations and support positively correlate with students' academic achievements.

Social Emotional Learning and Academic Performance

SEL programs have been found to improve students' social skills, behavior, and academic performance. A meta-analysis by Durlak et al. (2015) demonstrated that students who participate in SEL programs are more likely to have better emotional regulation, leading to improved classroom behavior and academic achievement. Moreover, Jones, Greenberg, and Crowley (2015) found that SEL interventions positively impact students' attitudes toward school and their academic performance.

Interplay of Parental Care and SEL

The combined influence of parental care and SEL on academic performance is a growing area of interest. Studies suggest that when parents support SEL initiatives and reinforce these skills at home, students are more likely to excel academically (Weissberg et al., 2015). Furthermore, Elias (2016) noted that a supportive home environment that emphasizes emotional intelligence and academic responsibility leads to holistic student development and better academic results.

Methodology

Participants

The study involved 20 middle school students from a local school focus group. The participants were selected based on their willingness to participate and their parents' consent.

Data Collection Methods

Data were collected through surveys and academic performance records. The surveys included questions on parental involvement and SEL skills. Academic performance was measured using students' grades and teacher evaluations.

Data Analysis Procedures

Quantitative data were analyzed using descriptive statistics, while qualitative data were analyzed thematically to identify common patterns and themes.

Results

Quantitative Data Analysis

The data revealed a positive correlation between parental care and academic performance ($r = 0.65$). Similarly, a positive correlation was found between SEL and academic performance ($r = 0.70$). The combined effect of parental care and SEL on academic performance showed an even stronger correlation ($r = 0.80$).

Table 1: Correlation between Parental Care, SEL, and Academic Performance

Variable	Correlation with Academic Performance
Parental Care	0.65
SEL	0.7
Combined Effect	0.8

Table 2: Descriptive Statistics

Measure	Mean	Standard Deviation
Parental Care	3.8	0.5
SEL	4.0	0.6
Academic Performance	85.0	7.0

Qualitative Data Analysis

Thematic analysis of the survey responses indicated that students who reported higher levels of parental involvement and better SEL skills also reported higher levels of academic motivation and self-efficacy.

Summary of Results

Quantitative Data Analysis

The study found significant positive correlations between parental care, social emotional learning (SEL), and academic performance among middle school students. Specifically: -

Parental Care and Academic Performance:

A correlation coefficient of 0.65 indicates a strong positive relationship between the level of parental involvement and students' academic success. This suggests that students who receive higher levels of support, engagement, and guidance from their parents tend to perform better academically.

SEL and Academic Performance:

The correlation coefficient of 0.70 shows an even stronger positive relationship between SEL skills and academic performance. Students with better emotional regulation, empathy, and positive relationship skills tend to achieve higher academic grades.

Combined Effect of Parental Care and SEL:

The combined correlation coefficient of 0.80 underscores the compounded positive impact of both parental care and SEL on academic performance. This highlights that when both factors are present, students are likely to experience even greater academic success.

Discussion

Interpretation of Findings

The findings suggest that both parental care and SEL significantly influence academic performance. When combined, these factors have an even greater impact on students' academic outcomes.

Implications for Practice

Educators and parents should collaborate to promote SEL and parental involvement in education. Schools should implement SEL programs and encourage parents to support these initiatives at home.

Recommendations for Future Research

Future research should explore the long-term effects of parental care and SEL on academic performance and include larger and more diverse samples.

Conclusion

This study highlights the critical role of parental care and SEL in enhancing the academic performance of middle school students. By fostering strong partnerships between parents and schools, we can create supportive environments that promote student success.

References

Durlak, J. A., Weissberg, R. P., Dymnicki, A. B., Taylor, R. D., & Schellinger, K. B. (2015). The impact of enhancing students' social and emotional learning: A meta-analysis of school-based universal interventions. *Child Development*, 82(1), 405-432.

Elias, M. J. (2016). Social-emotional and character development and academics as a dual focus of educational policy. Educational Policy, 20(2), 133-144.

Hill, N. E., & Tyson, D. F. (2015). Parental involvement in middle school: A meta-analytic assessment of the strategies that promote achievement. *Developmental Psycholog*y, 45(3), 740-763.

Jones, S. M., Greenberg, M., & Crowley, M. (2015). Early social-emotional functioning and public health: The relationship between kindergarten social competence and future wellness. *American Journal of Public Health*, 105(11), 2283-2290.

Weissberg, R. P., Durlak, J. A., Domitrovich, C. E., & Gullotta, T. P. (2015). Social and emotional learning: Past, present, and future. *The Guilford Press.*

Wilder, S. (2015). Effects of parental involvement on academic achievement: A meta-synthesis. *Educational Review*, 67(3), 377-397.

Legal Sciences

THE HISTORY OF THE PRESUMPTION OF INNOCENECE

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Abstract
The article scrutinizes the history of the presumption of innocence based on different court cases and views of jurors. The history of the presumption of innocence dates back to ancient Rome an Greece. Interesting views and suggested laws by Ammianus Marcellinus, Henry de Bracton, Sir William Blackstone, Sir John Fortescue, Sir Matin Hell, Stummer A, Bennet A, Foster M, Bayramov N, Akbarov R and others have been discussed in detail in the article. The article emphasizes that It is better to save ten guilty persons from punishment than to suffer one innocent person which is a slogan of justice.
Key words: presumption of innocence, evidence, proof, juror, guilty, punish, crime

The history of the presumption of innocence goes back to ancient times. The origin of this principle can be attributed to Ancient Babylon [13, p.42]. Thus, Hammurabi's laws stated: "Probability is always in favor of the innocence of the accused." [9, p.210]

The presumption of innocence is also found in the laws of Athens and Sparta in Ancient Greece.

In ancient Rome, the presumption of innocence was important in the legal system during the imperial period, and this phrase became famous with the saying "Ei incumbit probatio qui dicit, non qui negat" ("The burden of proof is on the affirmer, not the one who denies"). The idea of "the accuser must prove", which is considered the main element of the presumption of innocence, is an ancient concept from the Roman era [16, p.1].

It is interesting to view a classic example of the presumption of innocence in Roman history. Thus, during the trial of Numeri, the former viceroy of Narbonne Gaul, who was convicted for looting in 359, the 63rd Roman emperor Flavius Claudius Iulianus (Flavius Claudius Iulianus) later entered the criminal procedural cycle and made a judgment which was quoted by all courts in relevant cases. The event written by the ancient Roman historian Ammianus Marcellinus happened as follows: *The emperor holds an open court on the accusation, and personally hears the case and listens carefully to the parties. During the trial, Numeri stubbornly denies his guilt and he cannot be exposed. Seeing the paucity of evidence, the accuser Delphidius addresses the emperor with the following question: "Majestic emperor, if it is not enough to deny the accusation, then can anyone be considered guilty?" The emperor immediately answered him: "If it is not enough to accuse him, then can anyone be considered innocent?"* [12, p.145].

It should be noted that in the 4th book of the Justinian Code ("The Code of Justinian") (L, IV, T., XIX, 1, clause 25) it was declared that "Let all accusers understand that they should not make any accusations without being proved by relevant witnesses and documents that do not raise doubts or by evidence that is irrefutable and clear as day." [16, p.1].

In the "Digest of Justinian" it was said: "It is better not to punish someone who is guilty of a crime than to condemn an innocent person." [7].

Taken as a whole, we can say that the ideas of Roman law regarding evidence laid the foundation of the principle that "a person cannot be convicted without clear evidence" [16, p.3].

In contrast, we can say that at the beginning of the early Middle Ages, the principle of presumption of innocence was not followed. Thus, in 1184, inquisition courts were established by the Council of Verona for those who opposed the doctrine of the Catholic Church, millions of people were tortured and killed by the Holy Roman Catholic Church, and in 1215, these atrocities were legalized by the Fourth Lateran Council.

The main features of the inquisition judicial system were the cruel execution of members of the sects that the church saw as a threat by forcing them to confess their guilt by using torture methods [18]. At that time, the inquisitor conducting the investigation used punishment methods ranging from relatively mild methods to more severe methods to achieve the goal - confession. The confession of the convicted person meant not only the full acceptance of the committed mistakes, but also included the desire to be reformed. Correction began without confirming that he was worthy of punishment.

In the chapter of the book "History of the Inquisition" devoted to preliminary detention, there are embarrassing reports about the "experience" of two inquisitors [17]. An inquisitor named David of Augsburg said, "If he (the accused - Y.X) is exposed by witnesses, no mercy should be shown to him. It is not only necessary to carry it to death; it is necessary to give him some food so that fear does not conquer him. Or another example. In 1325, an inquisitor from Carcassonne kept a man in prison "until he tells the fuller truth".

Both cases mentioned above are examples of absolute presumptions of guilt [1, p.21]. Because the attitude to the case was based on the fact that the suspect's guilt had already been fully proven, and various tortures and punishments were given to him without a court verdict.

The medieval continental legal system also adopted the method of confession obtained by torture to secure evidence of guilt. In the early days, the presumption of innocence in the continental legal system was accepted more in theory than in practice [11], . Later canon lawyers turned to Roman law as a valuable source for considering the principles of proof and the provision that guilt must be established by proof rather than by presumption [16]. Thus, in the 1250s, the English lawyer Henry de Bracton (1210-1268), who was strongly influenced by Canon law, wrote in his work "Laws and Customs of England" (original title: "De Legibus et Consuetudinibus Angliae") [10, p.91]: It is likely that the contrary "Every person is innocent until proven guilty." [15]. In later medieval England, in court proceedings, the accused was not required to provide evidence of his innocence, and this was considered the duty of the accuser [3].

At that time, in England, jurors were used to make a final decision about the guilt of a suspect.

From the beginning of XV century, English legal scholars openly supported the principle "it is better to acquit the guilty than to condemn the innocent" contained in the "Justinian Collection" [7].

The aforementioned principle, which has already become a saying in English law in XVIII century, was expressed by the famous English lawyer and judge Sir William Blaxton (1723-1780) [6, p.352]: "It is better to save ten guilty persons from punishment than to suffer one innocent person". This statement of his, pointing to the great injustice of convicting the innocent, really carries a deep meaning, which includes the need to prove guilt in every case.

Similar statements can be found in the works of a number of other English lawyers. For example, Sir John Fortescue, who was the Chief Justice of the Kingdom of England Bench, wrote in his "Praise of the Laws of England" (original title: "De Laudibus Legum Anglie"): "I really prefer to save twenty guilty persons from death by mercy, than to condemn one innocent person unjustly." [14, p.65].

An influential English lawyer, Sir Matthew Hale, said: "It is better to free five guilty persons from punishment than to kill one innocent person." [16, p.3].

From the middle of XVIII century, the defense council in England began to use the concept of presumption of innocence, taking into account the need to prove guilt. It is no coincidence that in 1753, in the Morphy case, it was stated for the suspect that "My lord, a person is presumed innocent by law until proven guilty." [16, p.3].

Judges slowly accepted this principle, even admitting that a suspect's guilt should be given the benefit of the doubt. Jurors in a number of cases came to the conclusion that "if you believe that he is guilty, you will find him guilty, if you don't, then you will not find him guilty."

It should be noted that in 1803, during the treason-related court proceedings in Dublin, decisions resulting in acquittals were made many times by the judges due to the guilt arising from any doubt.

In 1856, at William Palmer's trial for poisoning, Lord Campbell addressed the jury: "English law differs from other countries. Everyone is presumed innocent until proven guilty. It allows a person's guilt to be established only by evidence that is directly related to the charge against him... You have to have a very strong case in your mind to say that he is guilty of this crime. If you have even a reasonable doubt in your mind, then you should resolve the doubt in his favor." [5, p.307].

During XIX century, especially in England, the presumption of innocence was recognized and accepted both by the courts and in scientific works. Even the mentioned principle was referred to in civil cases.

Despite what was said above about the presumption of innocence, we must note that the burden of proof during court proceedings in England has not always fallen on the prosecutor [15, p.133].

Blackstone wrote that in cases of murder, "it is incumbent on the convict to prove all the circumstances, ... grounds of acquittal, good reasons, mitigating circumstances to convince the court and the jury." [6].

There was a tendency to justify placing the burden of proof on the suspect in homicide cases before the court, so that the evidence presented by the prosecutor eliminated the "presumption" against the suspect.

Regarding the presumption of innocence, it would be interesting to take a look at the Wolmington decision of the English House of Lords in 1935. The suspect in that case, Reginald Walmington, was accused of murdering his estranged wife. He stated in his statement that he went to his wife's mother-in-law's house to convince her to return home. He hid the gun under his clothes and said that when she refused to return, he threatened to shoot her himself. At that time, he unbuttoned his top and raised the gun above his waist. When he did so, the gun was accidentally fired and his wife Vilolet was shot in the heart.

J. Swift, the judge of the court in the case, tells the jurors that the presence of presumption of malice indicates that the victim died as a result of the act of the suspect [20]. This presumption exists even if the suspect can prove that his sentence was commuted, justified, or pardoned. As a result, Wolmington is burdened with the obligation to prove that this murder was an accident. He is convicted of manslaughter and appeals on grounds of false notification (misleading the jurors).

Justice Swift's guidance on the presumption of intent arose from the famous Crown Act (1762) [8, p.255] and was confirmed by numerous other cases. However, the House of Lords indicated that it was quashing the conviction on the basis that the jury had been misled [21]. Viscount Sankey makes the following remarkable speech: "English criminal law is built on such a 'golden thread' that it is the prosecutor's duty to prove the guilt of the criminal, as I mentioned earlier, to ensure the protection of the mentally ill and to provide for other statutory exceptions. It does not matter what the charge is or where the court is, the principle that the prosecutor must prove the guilt of the offender is part of the common law of England, and it is not acceptable to ignore it." [16, p.7].

The elements of "benefit of the accused" and "resolving the doubt in favor of the accused", which are the basis of the presumption of innocence, were explained in detail in the work "Crimes and Punishments" by the famous Italian jurist Cesare Beccari (1738-1794), and the importance of those elements was emphasized as follows: "From the judge's decision no one can be called guilty before. "Society cannot demonstrate behavior that makes a person an object of condemnation unless there is a decision confirming the violation of accepted public rules."[4, p.85].

Article 1156 of Chapter XXXIX (about evidence, false testimony, etc.) of the "Bovezi customs", which includes the customary legal norms of the county of Beauvais in northeastern France and codified by the prominent medieval jurist Philippe Beaumanoire (1247-1295), stated: ... one can present a case so clearly that it is considered presumptively proved. "The other one looks suspicious, but the crime is not proven at all.".

According to Article 22 of the "Carolina" dated 1532 (full name: "Constitutio Criminalis Carolina"), which is considered a partially civil, mainly crime and criminal procedure code of medieval feudal Germany, "No one shall be subjected to any punishment based on signs of suspicion. It is possible to convict a person definitively of criminal punishment not by any suppositions or assumptions, but by his personal confession or testimony, that is, by irrefutable evidence [2, p.447].

It is known that in modern times the word "constitution" has been adopted by almost most countries of the world as the name of the supreme legislative act. Article 63 of the Constitution, which currently has supreme legal force in the Republic of Azerbaijan, is called "presumption of innocence" and this article states [19]: "Everyone has the right to the presumption of innocence. Every person accused of committing a crime shall be considered innocent if his guilt has not been proven in accordance with the law and there is no legally binding court verdict" (part one), "If there are reasonable doubts about a person's guilt, it is not allowed to find him guilty "(second part), "A person accused of committing a crime is not obliged to prove his innocence" (third part), "Evidence obtained by violating the law cannot be used during the execution of justice" (fourth part), "If there is no court verdict, someone is guilty of a crime cannot be counted" (fifth part).

It is clear from what has been said that the presumption of innocence has gone through a long historical development.

References

1. Bayramov N. "Təqsirin və təqsirsizliyin prezumpsiyaları: dialektikadan praktiki nəticələrə". Azərbaycan Prokurorluğu. Elmi-praktiki jurnal, №3, 2013, s. 21.
2. Əkbərov R, Nəzirov C. Xarici ölkələrin dövlət və hüquq tarixi. Bakı, Qanun, 2005
3. Məlikova M., Nəbiyev E. Xarici ölkələrin dövlət və hüquq tarixi. I hissə. B., Qanun, 1997.
4. Cesare B. Suçlar ve Cezalar Hakkında. İmge Kitabevi, Ankara, 2004, s. 85-86.
5. Bennett A. The Queen v Palmer: Verbatim Report of the Trial of William Palmer at the Central Criminal Court, Old Bailey, London, may 14, and following days, 1856 (J.Allen, London, 1856)
6. Blackstone W. Commentaries on the Laws of England. Book the Fourth (Clarendon Press, Oxford, 1769), pg. 352.
7. Digest of Justinian. Book 48, Title 19, Clause 5, Book 50, Title 17, Clauses 56, 155.2, 192.1. Translation from T.Mommsen, P.Krueger & A.Watson (eds). The Digest of Justinian, Vol 14 (University of Pennsylvania Press, Philadelphia 1985).
8. Foster M. Crown Law (Clarendon Press, Oxford, 1792)
9. Godbey A.H. "The Place of the Code of Hammurabi" (1905). 15 The Monist.

10. Henry de Bracton (d. 1268) De Legibus et Consuetudinibus Angliae. Translation from SE Thorne (ed). Bracton on the Law and Customs of England. Vol III (Harvard University Press, Cambridge 1977)
11. M.Fraher R. "The Theoretical Justification for the New Criminal Law of the High Middle Age: "Rei Publicae Interest ne Crimina Remaneant Imputia" " (1984). University of Illinois Law Review 577. Cf Pennington (see n 7 above) 118 fn 31.
12. Marcellinus A. Res Gestae. Book XVIII, 1.4. Translation from JC Rolfe Ammianus Marcellinus, vol 1 (Harvard University Press, Cambridge 1935)
13. Sassoon J. Ancient Laws and Modern Problems: The Balance between Justice and a Legal System (Third Millenium, London, 2001)
14. Sir John Fortescue. De Laudibus Legum Anglie. Translation from SB Chrimes (ed). De Laudibus Legum Anglie (CUP, Cambridge, 1942), ch. XXVII, pg. 65.
15. Smith B.P. "The Presumption of Guilt and the English Law of Theft, 1750-1850" (2005), 23 L Hist Rev 133; B.P.Smith. "Did the Presumption of Innocence Exist in Summary Proceedings?" (2005) 23 L Hist Rev 191. N.Landau. "Summary of Guilt and the Development of the Penal Law" (2005) 23 L Hist Rev 173.
16. Stumer A. The Presumption of Innocence Evidential and Human Rights Perspectives. Hart Publishing. Oxford and Portland, Oregon, 2010
17. Мейкок А.Л. История инквизиции (пер. с. англ. М.В.Келлер. – М., ОЛМА-ПРЕСС, 2002)
18. http://tr.wikipedia.org/wiki/Engizisyon
19. Yunis, K. (2024). CONCEPTS ABOUT THE SOURCE OF THE WORD "CONSTITUTION" AND ITS MODERN MEANING. Scientific Research and Experimental Development, (6).
20. Yunis, K. (2024). THE PROHIBITION OF THE USE OF ILLEGAL EVIDENCE AT THE LEVEL OF DECISIONS OF THE EUROPEAN COURT AND THE PRESUMPTION OF INNOCENCE. German International Journal of Modern Science/Deutsche Internationale Zeitschrift für Zeitgenössische Wissenschaft, (74).
21. Vidmachenko, A., Ignatenko, O., Tomchuk, V., Semenov, A., Kharak, R., Bychkov, Y., & Skrypnyk, V. FOREST ECOLOGY.

Technical Sciences

Colloid mills for finely dispersed meat processing

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Abstract

The meat industry in Kazakhstan is experiencing significant growth, necessitating the adoption of innovative technologies to enhance production efficiency and product quality. This research focuses on the development and application of advanced food grinding machinery, specifically colloid mills, which are crucial for finely dispersed meat processing. Colloid mills operate by grinding materials between a stationary stator and a rotating rotor, ensuring high-quality minced meat production. Colloid mills, such as the K6-FKM and Seydelmann KontiKutter, offer features like variable speed settings and advanced cutting mechanisms, providing precise control over product texture.

Introduction

The meat industry of the Republic of Kazakhstan is increasing production rates, expanding the range of meat products. It is necessary for domestic producers to solve the problems of creating a wide range of meat products in order to strengthen their impact on the food market of the country. Wide introduction of innovative technologies into production, manufacturing of new types of modern equipment of Kazakhstani production, will contribute to its more rational use, increase the volume of production, as well as improve the efficiency of production in the meat industry [1].

The meat industry is one of the largest branches of the food industry. It is intended to provide the population with food products, which are the main source of proteins, to meet the demands of consumers in the quantity and, most importantly, on the quality of meat products. To increase the production of meat and meat products, meat processing plants are annually reconstructed and launched. There is an ongoing process of technical re-equipment and outfitting of the country's agro-industrial complex's meat sector enterprises with modern technological apparatus and cutting-edge machinery, alongside comprehensive mechanization and automation of these facilities. Substantial efforts are being undertaken to enhance quality, improve, and diversify the range of meat products [2].

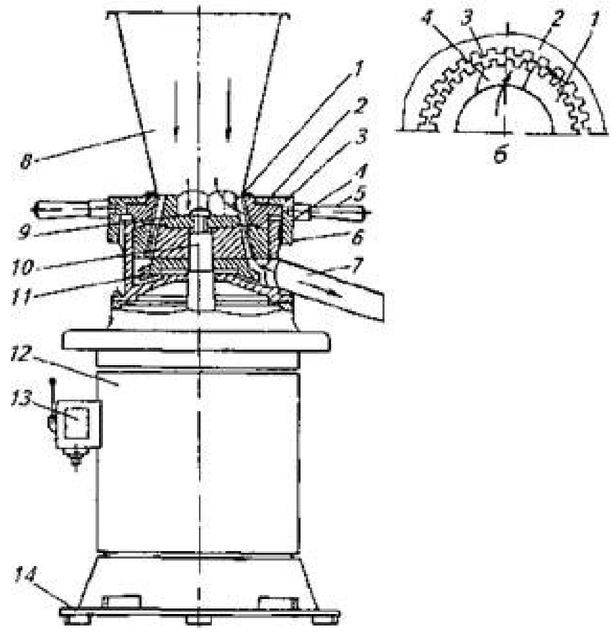
One of the main tasks facing the food industry is the creation of highly efficient technological equipment, which, based on the use of advanced technology, significantly increases labor productivity, reduces the negative impact on the environment and contributes to the saving of raw materials, fuel, energy and material resources. Currently it is important to develop domestic equipment for processing meat and secondary raw materials, which will allow enterprises to replace the imported equipment with cheaper equipment of domestic production, which is not inferior in technical characteristics.

Principle of operation of colloidal mills

In the late 1970s, colloidal mills were used in manufacturing enterprises to obtain finely dispersed products after processing on rollers and meat cutters. Their principle of operation is based on grinding the product in the gap between the stationary stator and the rotating rotor (3000 min-1 and more). The stator and the rotor have the form of truncated cones with toothed rifling made at an angle to the cone's form and with decreasing tooth depth. The processed product, falling on the rotor, is thrown by centrifugal force to the periphery and is carried away by the rotating rotor with the greater speed, the closer it is to its surface in the gap. The difference in velocity of the product particles depends on the forces of their adhesion between themselves and with the walls of the stator and rotor, as well as on the size of the gap between the latter. As a result of collision of particles and grinding caused by the difference in their velocity in the gap zone, the product is minced [3].

A colloid mill consists of a housing, grinding mechanism, a hopper, a discharge mechanism for the ground product and an electric motor. In most colloidal mills grinding mechanism is made in the form of rotor and stator. The rotor is a set of disks, mounted on the shaft of a vertically located electric motor and have a threaded outer diameter The stator is assembled from two stapled rings, which are inserted into the body and have a threaded inner diameter. The raw material pre-crushed on the meat grinder and mixed with the necessary minced meat components is fed into the loading hopper (Figure 1).

As a result of the pressure difference between the raw material in the hopper and the unloading device, the minced meat enters the rotor's receiving disk, is captured by its blades and is channeled to the stator. Here it fills the hollows of its cutting, as well as the gap between the rotor and the stator. The latter determines the degree of grinding and is regulated by the head. The ground product is discharged by the discharge blades into the nozzle for further processing. Some types of colloidal mills have a pre-milling mechanism made in the form of a knife with a grid, which allows one machine to produce medium and fine grinding of raw materials [4].

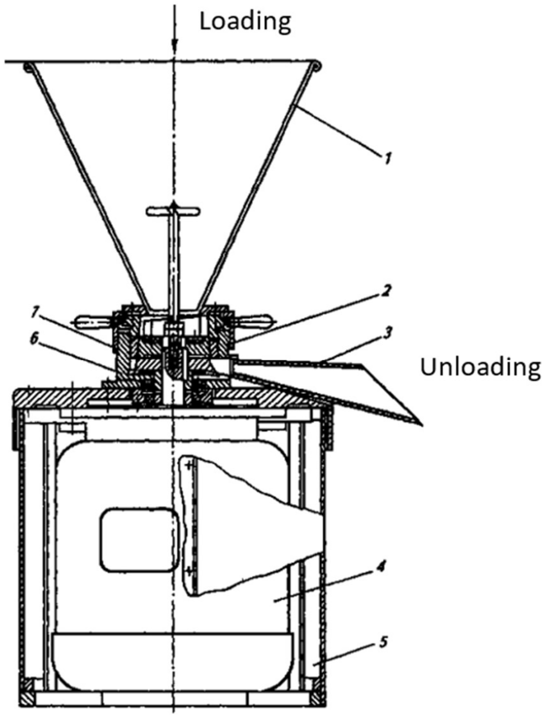


a - general view: 1-movable cone of coarse grinding; 2 - fixed cone of coarse grinding; 3-movable cone of fine grinding; 4-channel of feeding raw materials; 5-handle; 6-adjusting head; 7-unloading nozzle; 8-loading hopper; 9-stop screw; 10-shaft; 11-unloading cup; 12-electric motor; 13-lever on; 14-support plate;
b-mechanism of grinding: 1- movable cone; 2-unmovable cone; 3-tooth; 4-channel of feeding raw material.

Figure 1 - Colloidal mill

Overview of different colloidal milling machine designs

The colloid mill K6-FKM (Fig. 2) consists of a loading hopper, a screw paddle, a coupling nut, a cutting mechanism, a nozzle and a drive. The hopper is cone-shaped. A coupling nut connects the hopper to the cutting mechanism, which consists of a rotor and a stator. The rotor includes upper, middle and lower disks. The mill capacity depends on the degree of grinding of the raw material. It is regulated by changing the annular gap between the rotor and stator. The limits of regulation of the gap between the rotor and stator are 0.05-1.5 mm. It is driven by an electric motor. The product is loaded into the hopper. Under the action of gravity it enters the cutting mechanism, passes through the gap between the rotor and stator, is ground and discharged through the nozzle [5].



1 - hopper; 2 - grinding mechanism; 3 - discharge nozzle; 4 - electric motor; 5 - frame; 6 - grinder body; 7 - coupling nut

Figure 2 - Colloidal mill K6-FKM

The Seydelmann KontiKutter type KK 250 AC-6 meat grinder in robust stainless steel is an emulsifier with a completely new grating/cutting plate system (Figure 3). The Konti-Kutter is the ideal machine for producing emulsions as well as minced meat in perfect quality. The more cutting disks and/or the smaller the holes in the disks, the finer the cut. There can be up to seven plates in a set of cutting disks, for example four cutting disks and three discs with holes. Accordingly, fewer plates and/or larger plate holes produce coarser sausages. The centrifuge protects the cutting set from damage by foreign particles. Hard parts such as metal clips as well as cartilage will be safely collected in the centrifuge before the cutting set [6].

Figure 3 - Seydelmann KontiKutter fine meat grinder type KK 250 AC-6

The capacity of the KK 140 AC-6 is 350,000 cuts per second, while the capacity of the KK 250 AC-6 and KK 254 AC-6 reaches 700,000 cuts per second. Thus, Konti-Kutter produces extremely fine and perfectly homogeneous emulsions. Depending on the desired product, the rotational speed in Konti-Kutters with AC-6 motor drive can be set in continuous mode. The ultra drive offers two speeds: fast for fine emulsions and slower for coarser grained finished products.

The KS M248 / M320 grinder (Figure 4) is a vertical machine equipped with the proven KS cutting system, made entirely of stainless steel. It is equipped with a large rotating outlet for easy cleaning and a 35 liter loading hopper. The KS grinder is available in two versions - type 212 M248 with a Ø 248 mm housing and a 4.7/6 kW motor with two speeds, and the heavy-duty type 220 M320 with a Ø 320 mm housing and a 9/11 kW motor with two speeds [7].

Figure 4 - Grinder KS M248 / M320

It is known rotary hydraulic mill [8], containing a body with inlet and outlet pipes, stator and rotor installed in the body as removable disks with alternating hollows and ledges on the working surfaces. The ledges and hollows of the movable disk move at a high speed, disrupting the pulp flow, breaking its continuity and creating a cavitation zone. A high-pressure zone is created in front of the moving ledges and hollows, and behind them - a zone of flow rupture and low pressure. In the latter, cavitation bubbles are formed and grow. At the moment of contact between the high and low pressure zones, the bubbles burst (collapse), resulting in the release of their accumulated kinetic energy, which destroys the particles of solid material that are in the vicinity at that moment.

KLM GlobeCore colloidal mill for wet grinding, LLC "Plant UKRBUDMASH" is known [9], containing rotating and stationary working bodies, in the gap between which the grinding of the product takes place. On the working surfaces of the stator and rotor, facing each other, are formed complex geometric reliefs in the form of cylindrical oblique-radially profiled teeth. The teeth create increased turbulence and conditions for hydrodynamic cavitation, which contributes to high intensity of material grinding.

There are several manufacturers of colloid mills, including:

1. Hosokawa Alpine: A leading manufacturer of colloid mills and other powder grinding equipment.
2. Netzsch: A German company offering a range of colloid mills for a variety of applications. https://grinding.netzsch.com/ru
3. Powrex: American manufacturer of colloid mills and other powder processing equipment.
4. Sturtevant: American company offering a variety of colloid mills for pharmaceutical, food and other industries.
5. Mikro Pulverisers: Indian manufacturer of colloid mills and other powder processing equipment.

Conclusion

The review of literature and existing technologies highlights the evolution and current capabilities of colloid mills, which play a pivotal role in the finely dispersed processing of meat products. These mills operate on the principle of grinding materials in the gap between a stationary stator and a rotating rotor, a process that ensures the efficient production of high-quality minced meat. Modern colloid mills, such as the K6-FKM and Seydelmann KontiKutter, offer advanced features like variable speed settings and sophisticated cutting mechanisms, enabling precise control over the texture and consistency of the final product.

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Reference

1. Skokov, R., & Dyussegalieva, B. (2023). Current state of livestock economy in Kazakhstan. In E3S Web of Conferences (Vol. 462, p. 01023). EDP Sciences.

2. Bekeshova, G.; Ibragimov, N.; Kakimov, A.; Suychinov, A.; Yessimbekov, Z.; Kabdylzhar, B.; Tokhtarov, Z.; Zhumadilova, G.; Abdilova, G. Effect of Rotational Speed and Gap between Rotating Knives of the Grinder on the Yield Stress and Water-Binding Capacity of Fine Ground Chicken Bone. *Appl. Sci.* **2022**, *12*, 3533. https://doi.org/10.3390/app12073533

3. Budrik V. G., Agarkova E. Yu. M. Equipment for grinding and dispersing. Food industry. - 2011. - №10. - p.18-22.

4. Abilmazhinov, Y., Abdilova, G., Rebezov, M., Zalilov, R., Nesterenko, A., Khayrullin, M., Morozova, L., Mikolaychik, I., Ponomarev, E. and Kulikov, D. Technical characteristics and construction features of meat grinders. Journal of Experimental Biology and Agricultural Sciences, 2020, 8(2), S361 - S367.

5. Duda, A.I. Technological equipment of meat processing industry. Saratov.: Publishing house of N.I. Vavilov SAU, 2000. - 360 p.

6. https://www.reiser.com/pdf/SeyCookVacCutter.pdf

7. https://www.directindustry.com/prod/karl-schnell-gmbh-co-kg/product-96123-1756969.html

8. Patent RU 2081701, MPK: B02C 7/00, B29B 17/02. Publ. 20.06.97

9. http://globecoremill.com/ru/

ЭКСПЕРИМЕНТАЛЬНОЕ ИССЛЕДОВАНИЕ ИНГИБИРОВАНИЕ КОРРОЗИИ УГЛЕРОДИСТОЙ СТАЛИ В БУРОВОМ РАСТВОРЕ С ИСПОЛЬЗОВАНИЕМ ВОДНЫХ ЭКСТРАКТОВ АЛОЕ ВЕРА И ПОЛЫНИ

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Аннотация. Исследование процессов коррозии и разработка методов защиты металлов относится к актуальным научно-техническим задачам. Одним из распространенных методов защиты является применение ингибиторов, позволяющих снизить скорость коррозии металлов и сплавов, которые контактируют с агрессивной средой в производственных условиях. Разработка доступных, нетоксичных и дешевых ингибиторов коррозии на основе растительного сырья для защиты металлов и сплавов с применением экологически чистых технологий на сегодняшний день является одним из ведущих трендов в области «зелёной» химии. В настоящей работе гравиметрическими и электрохимическими методами исследована антикоррозионная эффективность водного экстракта Алое Вера и Полыни по отношению к углеродистой стали СТ3СП2-ГП2 в в буровом растворе 1,0 моль/л. Эффективность ингибитора изучена при стандартных условиях окружающей среды в диапазоне концентраций 0,1-2,0 г/л. Установлено, что высокая эффективность действия достигается за счёт самопроизвольной физиосорбции ингибитора на поверхности стальной пластинки, также увеличение концентрации ингибитора приводит к увеличению эффективности.

Ключевые слова: ингибитор, коррозия, скорость коррозии, буровой раствор, эффективность ингибирования, ингибирующая смесь, металлы, сплавы, природные ингибиторы.

В настоящее время человечество ежегодно теряет сотни тысяч тонн высококачественной конструкционной стали по причине выхода ее из строя в результате коррозии. Поэтому вопросы, связанные с защитой сталей от коррозии и исследования в области удаления с поверхности изделий продуктов разложения металла является весьма *актуальной задачей*.

Проблема коррозии металлических труб остро стоит в области бурения и эксплуатации нефтедобывающих скважин. Технический прогресс тормозится из –за ряда нерешенных проблем с коррозией. В результате коррозии ежегодно теряются десятки миллионов тонн металлов, приходит в негодность огромное количество аппаратуры, оборудования, приборов, инструментов [1].

Установлено, что коррозия является главной причиной повреждения бурильных колонн. К сожалению, в отечественной практике при бурении практически не уделяется внимание коррозии. В мировой практике за коррозией бурильных труб следят при помощи стальных колец, установленных в специальных проточках в муфте бурильного замка. Через определенное время воздействия бурового раствора определяют снижение массы этих колец. Часто выявление вида коррозионного воздействия оказывается более важным, чем контроль потери веса труб. Так, точечная коррозия не вызывает большой потери веса, но может стать причиной аварии. Причиной слома бурильных труб может служить водородное охрупчивание. Вот почему при составлении программ по буровым растворам следует учитывать источники корродирующих веществ, их состав и обязательно включать в состав бурового раствора ингибиторы ожидаемых видов коррозии [2].

Коррозия — это самопроизвольное разрушение металлов и сплавов в результате химического, электрохимического или физико-химического взаимодействия с окружающей средой. Причиной коррозии служит термодинамическая неустойчивость конструкционных материалов к воздействию веществ, находящихся в контактирующей с ними среде [3].

Одним из основных подходов к защите металлов от коррозии является снижение активности коррозионной среды при помощи ингибиторов. Образуя плёнку на поверхности металла, они снижают скорость коррозионного разрушения, становясь физическим барьером между защищаемым металлом и агрессивной средой. В последние годы наблюдается повышенный интерес к разработке новых эффективных ингибиторов коррозии на основе растительного сырья. Прежде всего, это связано с активно растущей тенденцией применения принципов «зелёной» химии, подразумевающей разработку и применение экологически чистых и безопасных материалов и технологий их производства. Растения являются богатыми источниками биологически активных соединений, которые, помимо значительной физиологической активности, могут обладать и ингибирующими свойствами. Ингибиторы коррозии на основе природных источников имеют ряд очевидных преимуществ, таких как доступность, возобновляемость, экологическая безопасность и низкая стоимость, что делает их наиболее перспективными объектами для изучения в этом направлении [4].

Наиболее широко применяемые в настоящее время ингибиторы коррозии, содержат в своём составе комплекс неорганических и органических соединений. Несмотря на довольно высокую эффективность, их применение очень часто оказывает крайне негативное влияние на окружающую среду и здоровье человека, а также практически всегда связано с дорогостоящими многоступенчатыми технологиями синтеза, сопровождаемое повышенными требованиями безопасности к условиям хранения, применения и производства. В связи с этим, исследователями ведётся активный поиск более экологически безопасных, доступных и простых в производстве ингибиторов коррозии. Растительные экстракты являются в этом отношении более безопасными и экологически чистыми альтернативами традиционным синтетическим ингибиторам, а использование для их получения воды, в качестве наиболее доступного «зелёного» растворителя, способствует дополнительному снижению негативного влияния производственных процессов на окружающую среду [5].

Растения являются богатыми источниками биологически активных соединений, которые, помимо значительной физиологической активности, могут обладать и ингибирующими свойствами [6]. Ингибиторы коррозии на основе природных источников имеют ряд очевидных преимуществ, таких как доступность, возобновляемость, экологическая безопасность и низкая стоимость, что делает их наиболее перспективными объектами для изучения в этом направлении [7].

Обычно синтетические ингибиторы используются в промышленности. Поскольку последние несколько десятилетия исследователи подчеркивали введение «зеленых» (природных) ингибиторов из-за негативное воздействие синтетических соединений на работники и окружающая среда. Натуральные экстракты оказываются дружелюбными к природе, хотя проведение антикоррозионных мероприятий. Тем временем, зеленые ингибиторы встречаются в природе, легкодоступный, биоразлагаемый по своей природе, экономически эффективны и не имеют никаких огромное влияние на здоровье и окружающая среда [8]. Итак, коррозия ингибирование различных металлов, несколько зеленых ингибиторы изучались в различных условия окружающей среды. Как гуммиарабик, Масличная пальмовая ветвь, экстракт хны и алоэ вера. растительные экстракты изучаются в различных среды для различных металлов. И чтобы поддерживать такой тип экологически чистых ингибиторов экологическое законодательство также отдали предпочтение использование «зеленых» ингибиторов в промышленности. сектор [9]. Кроме того, экстракт алоэ вера Зеленый ингибитор изучался многими исследователи последнего времени, такие как Абиола и Джеймс изучал алоэ вера в 2 М HCl на предмет цинка. в котором эффективность Алоэ Вера была увеличивается по мере увеличения концентрации [10]. Сингх и др. изучал коррозию ингибирование воздействия экстракта Алоэ Вера на мягкую сталь в среде 1 М HCl и заметил, что эффективность составила 90% при концентрации 200 ppm. [11], а также эти исследователи Mehdipour et ал. также изучал Алоэ Вера для нержавеющей стали в 1 М H2SO4, в котором электрохимическое исследование показали, что по мере увеличения концентрации эффективность ингибитора также возросла [12].

Artemisia gmelinii Webb & Stechmann, также известная как полынь Гмелина, является одним из более чем 500 видов рода *Artemisia* (*Asteraceae*). Это многолетнее растение, достигающее 50-150 см в высоту, обильно разветвленное, серовато-коричневого цвета, сильно деревянистое у основания. Стержневой корень толщиной 3-5 см. Листья толстые и покрыты мхом, особенно с нижней стороны, но слабо с верхней. Соцветия шаровидные (20-30 в головке), мелкие, слегка поникающие, плотно расположенные, собраны в короткие метелки. Плод - семянка (1,5 мм), мелкополосчатая, коричневого цвета. Они цветут с августа по октябрь [13, 14].

Экспериментальная часть

Экспериментальное исследования по определению скорости коррозии гравиметрическим методом

Стальные пластинки. Испытания проводились на пластинах углеродистой стали марки СТ3СП2-ГП2 (ГОСТ 535-2005). Химический состав (масс.%): C – 0.22, Mn – 0.65, Si – 0.3, P – 0.04, S – 0.05, Cr – 0.3, Ni – 0.3, Cu – 0.3, N – 0.01, As – 0.08, остальное – Fe.

Коррозионная среда. В работе был приготовлен глинистый буровой раствор с солями, кислотами и основаниями, в который в качестве ингибиторов коррозии добавлены экстракты полыни и алоэ вера, изучена коррозионная агрессивность среды.

Приготовление экстракта. 10 г высушенного и измельченного растительного материала переносили в колбу Эрленмейера на 250 мл и экстрагировали 3 раза по 100 мл в течение 6 часов бидистиллированной водой при нагревании на водяной бане при 60°C. Температуру поддерживали с помощью водяного термостата TW-2,02 с точностью ±0,1°C. Полученные экстракты объединяли и упаривали. Твердый остаток сушили при 40°C до постоянной массы и хранили в темных герметичных флаконах при температуре 4°C и использовались для последующих антикоррозионных испытаний.

Проведение коррозионных испытаний

Метод потери массы стальной пластики. Стальные пластинки размером 25 x 50 x 5 мм последовательно обрабатывали наждачной бумагой (120-1200 меш) до блеска. Затем промывали бидистиллированной водой, спиртом, ацетоном и высушивали на воздухе. Пластинки измеряли с помощью штангенциркуля I типа (ЩЦ-1-150-0,1, класс точности 2, ± 0,1 мм), взвешивали на аналитических весах ANG60G AXIS профессиональные-5-00295 (± 0,1 мг) и помещали в коррозионную среду при доступе воздуха. Испытания проводили в химических стаканах, содержащих 100 мл коррозионной среды с добавкой и без добавки ингибитора. После заданного времени экспозиции пластинки вынимали и очищали от легко отделяемых продуктов коррозии с помощью щетки с полимерной щетиной средней жесткости под струей водопроводной воды. Трудноотделяемые продукты коррозии удаляли выдерживанием пластинки при комнатной температуре в течение 10 минут в растворе соляной кислоты 1:1 содержащей уротропин 3,5 г/л [12]. Затем пластинки промывали водой, спиртом, ацетоном, высушивали на воздухе и повторно взвешивали на аналитических весах с точностью до ±0,1 мг. Среднюю скорость коррозии $\upsilon_{ср}$ г/м²·час определяли по потере массы стальных пластинок за время экспозиции и рассчитывали по формуле:

Среднюю скорость коррозии $\upsilon_{ср}$ г/м²·час определяли по потере массы стальных пластинок за время экспозиции и рассчитывали по формуле:

$$V_{\text{кор}} = \frac{365 \cdot (m_1 - m_2)}{S \cdot t \cdot \rho}, \text{мкм/год} \quad (1)$$

где m_1 – масса стальной пластинки до опыта, г;
m_2 – масса стальной пластинки после опыта, г;
S – площадь поверхности образца, м^2;
τ – время экспозиции, час;
ρ – плотность стальной пластины, г/см^3.

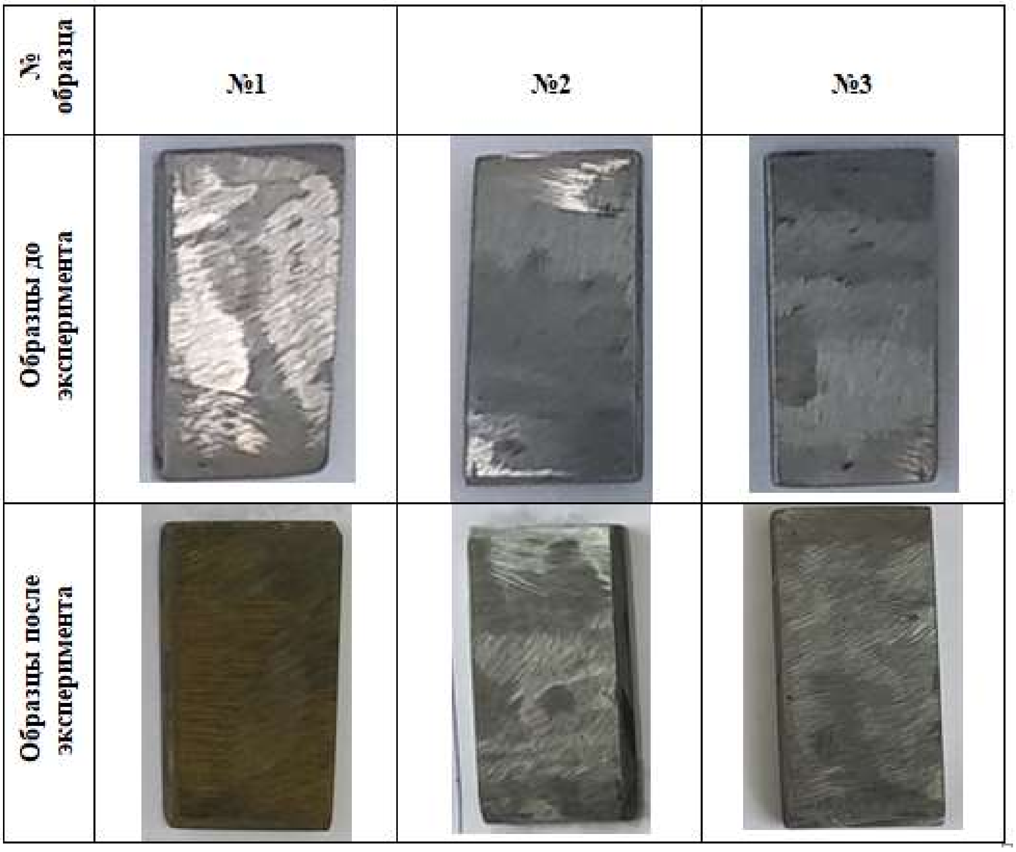

Рисунок 1. –Стальные пластины до и после эксперимента

Результаты экспериментальных исследований приведены в таблице 1.

Таблица 1. Определение антикоррозионных свойств растительных реагентов

№ Образца	Исследуемый раствор	Начальная масса пластины, г	Масса пластины после проведения	Площадь поверхности пластины, м^2,	Длительность эксперимента,	Плотность стальной пластины, ,	Скорость коррозии, $V_{кор}$, мкм/год
1	2	3	4	5	6	7	8
№1	Буровой раствор	45,8161	45,7858	0,325	15	7,8	29.085
№2	Буровой раствор +экстракт полыни	45,3796	45,3583	0,0.325	15	7,8	20.446
№3	Буровой раствор +экстракт алое вера	46,5898	46,5682	0,0.325	15	7,8	20.734

Вывод

По результатом экспериментов можно сделать следующие выводы:

1. На стальной пластине №1 образовался слой продуктов коррозии.

2.На стальных пластинах №2 и №3 следы коррозии металла визуально неопределимы.

3. Антикоррозионный слой оказался наиболее стойким при добавлении в состав бурового раствора растительного ингибитора.

Гравиметрические испытания по оценке ингибирующей способности показали, что разница между средней скоростью коррозии, измеряемой индикатором, и потерей массы образцов металла составила более 80%.

Литература

1. Лазуткин, Е. А. Исследование влияния природной пластовой воды на коррозию стальных труб, используемых при строительстве и эксплуатации нефтедобывающих скважин // Молодой ученый. - 2017. - № 16 (150). — С. 184-187. 2. О. О. Штырев, Причины разрушения тела бурильных труб в процессе эксплуатации и преимущества бурильных труб с внутренним защитным покрытием. № 12 Декабрь 2014 ТЕРРИТОРИЯ НЕФТЕГАЗА
3. Nikiforov V.M. Metal technology and structural materials. - M.: Higher School, 1980.
4. Abiola O. K., Otaigbe J. O. E. The effects of Phyllanthus amarus extract on corrosion and kinetics of corrosion process of aluminum in alkaline solution // Corros. Sci. 2009. T. 51. № 11. C. 2790–2793.
9. T. Popoola, Corros. Rev., 37 (2019) 71. http://doi:10.1515/corrrev-2018-0058.
10. O. K. Abiola and A. O. James, Corros. Sci.,52 (2010) 661. http://doi:10.1016/j.corsci.2009.10.026.
11. A.K. Singh, S. Mohapatra and B. Pani, J. Ind. Eng. Chem., 33 (2016) 28
12. M. Mehdipour, B. Ramezanzadeh and S.Y. Arman, J. Ind. Eng. Chem., 21 (2015) 318.
13. Yuan H.D., Jin G.Z., Piao G.K. Hepatoprotective effects of the active component from Artemisia sacrorum Ledeb. Against acetaminophen-induced toxicity in mice. J Ethnopharmacol. 2010;127:528–33.
14. Chen YL, Chen YS. Asteraceae from the family Shi, Z., Flora of China. Science Press (Beijing) and Missouri Botanical Garden Press (St. Louis), 2011, volume 20-21, 688.

Agricultural Sciences

Влияние прайминга на рост и развитие люпина узколистного *(Lupinus angustifolius)*

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Аннотация. Зернобобовым культурам характерна твердокаменность семян, что значительно затрудняет их прорастание. Для прорастания семян требуется 150-170 % влаги от сухой массы семени. В условиях Северного Казахстана влага является лимитирующим фактором. Поэтому это требует тщательного подхода в разработке подготовки семян к посеву, повышающие посевные качества. Одним из таких способов является прайминг. В статье представлены результаты исследований влияния гидропрайминга и прайминга в питательных растворах на рост и развитие люпина узколистного в условиях степной зоны Северного Казахстана.

Ключевые слова: прайминг, гидропрайминг, Мегамикс Семена, продуктивность, полевая всхожесть, сохранность.

В условиях интенсификации земледелия совершенствование технологии возделывания полевых культур является важным аспектов в повышении продуктивности и качества культур. В последние годы остро стоит проблема биологизации земледелия, предусматривающая снижение доз минеральных удобрений и химических средств защиты. Стало активно распространяться применение биопрепаратов. Альтернативным методом могут быть другие способы предпосевной подготовки, активирующие физиологические процессы в семени. Одним из таких является прайминг.

Имеются различные классификации видов прайминга, основанные на повышении энергии прорастания и всхожести. Различают следующие виды прайминга:

-физический – магнитное, ультрафиолетовое, микроволновое излучение;

-термический – нагревание в воде или горячими парами, охлаждение до отрицательных температур;

-гидропрайминг – замачивание семян в воде;

-нутрипрайминг – прайминг в питательном растворе;

В опытах применялось два вида прайминга – гидропрайминг и нутрипрайминг. Гидропрайминг – замачивание семян в воде; нутрипрайминг – замачивание семян в питательных растворах, в нашем случае это регулятор роста Мегамикс Семена.

Применение прайминга сокращало период вегетации, в сравнении с контролем разница составила – 3-5 дней. Это связано с тем, что замоченные семена до посева были обеспечены достаточным количеством влаги и питательными веществами, что способствовало более быстрому прорастанию и последующему развитию растений.

Разница между двумя видами прайминга была не более двух дней и длительность в среднем составила 78-80 дней. По графику (рис.1) видно, что в контрольном варианте был значительно затянут период цветение-плодообразования, что увеличило количество дней вегетации.

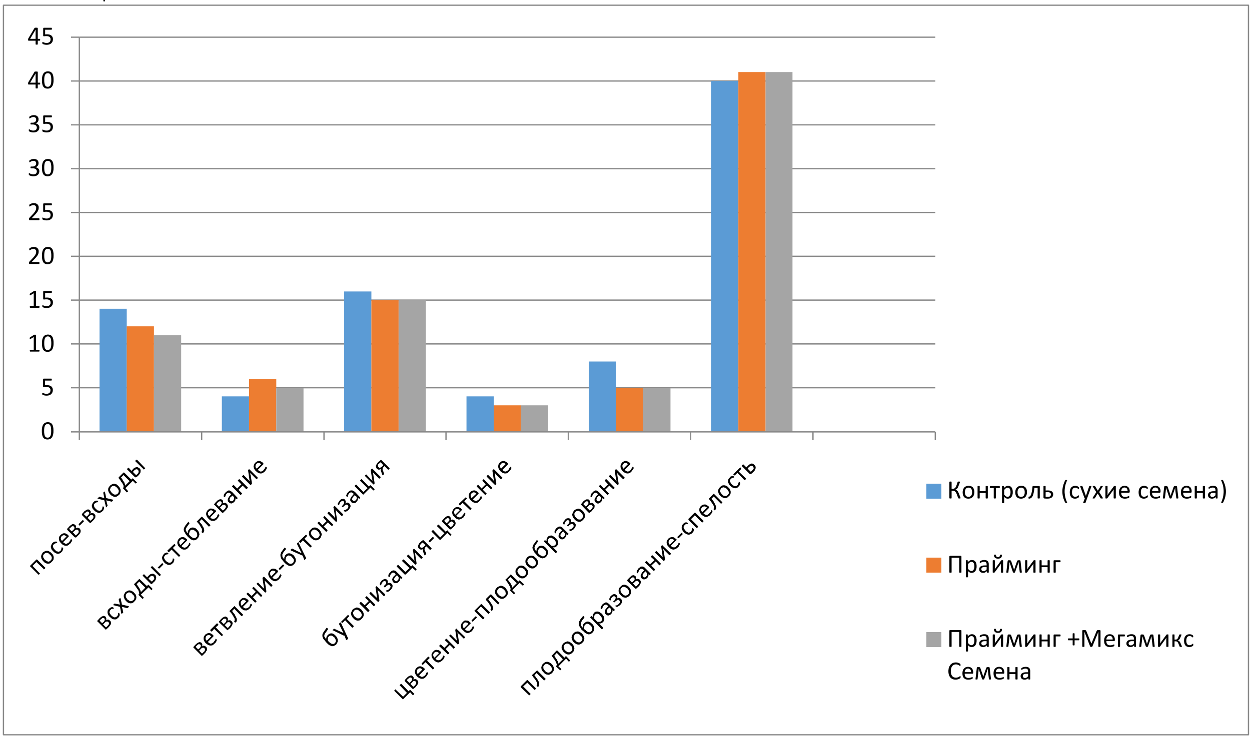

Рис.1 – Длительность периодов вегетации люпина узколистного в зависимости от применения прайминга

Предпосевное замачивание семян значительно повысило полевую всхожесть, в среднем на 21 %. Растения формировались с мощной вегетативной массой и корневой системой. Прайминг в растворе Мегамикс Семена обеспечил высокую сохранность растений – 98% (таблица 1).

Таблица 1 - Формирование густоты стояния люпина в зависимости от прайминга

вариант	густота стояния растений по всходам, шт./м^2	полевая всхожесть, %	густота стояния растений перед уборкой, шт/м^2	сохранность, %
Контроль (сухие семена)	62	62	59	95
Прайминг (водный)	83	83	79	96
Прайминг в растворе Мегамикс Семена	83	83	82	98
$НСР_{05}$	2,6	-	2,5	-

Предпосевное замачивание семян в водном и питательном растворах значительно ускоряло созревание и способствовало лучшему нарастанию вегетативной массы. Так по сравнению с контролем в фазу стеблевания площадь листьев была на 4,2-5,1 см^2 больше. Такая тенденция сохранилась до конца вегетационного периода. В данном опыте размер листьев увеличивался до фазы созревания. Прайминг в питательном растворе вода+ Мегамикс Семена способствовал увеличению площади листовой поверхности уже с начала вегетации, максимальный прирост отмечался в фазы цветения и плодообразования -54,1 см^2 и 58,2 см^2 (таблица 2).

Таблица 2 - Площадь листовой поверхности люпина узколистного на растение в зависимости от прайминга, см^2

Вариант	Фенологическая фаза				
	стебле-вание	бутони-зация	цветение	плодообра-зование	созрева-ние
Контроль (сухие семена)	8,4	9,7	10,6	25,4	15,5
Прайминг	12,6	17,7	50,3	54,4	35,7
Прайминг + Мегамикс Семена	13,5	19,8	54,1	58,2	37,1

Прайминг значительно повысил продуктивность люпина. Урожайность была не ниже 10 ц/га. Варианты с применением прайминга отличались большим количеством семян на растении – 6,1-6,5 шт. Прайминг в комплексе с Мегамикс Семена обеспечил урожайность 11,4 ц/га.

Таблица 3 - Структурные элементы продуктивности люпина узколистного в зависимости от применения прайминга

вариант	число раст. осенью, шт/м^2	высо-та, см	число семян с раст., шт.	масса семян с раст., г	масса семян с м^2, г	масса 1000 семян, г	урожай-ность, ц/га
Контроль (сухие семена)	61	24	5,6	1,1	67,1	112	6,7
Прайминг	79	27	6,1	1,8	102,2	125	10,2
Прайминг + Мегамикс	82	28	6,5	2	114	129	11,4

ЭФФЕКТИВНЫЕ СПОСОБЫ ЗАЩИТЫ РЕМОНТАНТНОЙ МАЛИНЫ: СЕКРЕТЫ УСПЕШНОГО УХОДА

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Ремонтантная малина, с ее способностью приносить урожай несколько раз в сезон, стала популярным выбором для садоводов. Однако, как и любое растение, она нуждается в заботе и защите. В этой статье мы рассмотрим систему защиты ремонтантной малины, которая поможет обеспечить ей благоприятные условия для роста и развития.

Первый шаг в создании эффективной системы защиты – выбор подходящего места для посадки малины.

При выборе места для посадки ремонтантной малины следует учесть несколько важных факторов:

- Малина лучше всего процветает на участках, получающих полный дневной свет. Солнце способствует формированию качественных плодов и укрепляет растение, делая его более устойчивым к болезням.
- Застой влаги вокруг растений может способствовать развитию грибковых инфекций. Выбирайте места с хорошей вентиляцией, чтобы предотвратить задержку влаги в зоне корней и листвы.
- Сильные ветры могут повредить нежные побеги и цветоносы малины. Выбирайте участки, защищенные от сильных ветров, либо устанавливайте естественные или искусственные барьеры.
- Малина не терпит застоя воды, поэтому выбирайте участки с хорошей дренажной системой. Это особенно важно, чтобы избежать гниения корней и развития грибковых заболеваний.

У ремонтантной малины есть особые требования к почве, и правильная подготовка играет ключевую роль в формировании здорового корня и обеспечении урожайности. Почва должна сочетать в себе оптимальные свойства для удержания влаги, обеспечения доступа к кислороду и питательным веществам.

Перед посадкой ремонтантной малины необходимо определить ее pH, структуру, содержание питательных веществ и другие важных параметров. Это поможет точно определить необходимые поправки.

Ремонтантная малина не переносит избыточной влаги, поэтому важно обеспечить хорошую дренировку почвы. Это можно достичь путем добавления песка или создания возвышенных гряд для предотвращения застоя воды.

Добавление компоста или перегноя – отличный способ улучшить структуру почвы и обогатить ее питательными веществами. Это особенно важно перед посадкой, так как малина требует плодородной почвы для активного роста.

Перед посадкой важно провести рыхление почвы для создания мягкого и рыхлого грунта. Это улучшит проницаемость корням, а также обеспечит легкость прорастания саженцев и доступ к влаге.

Обрезка – ключевой элемент ухода за ремонтантной малиной. Регулярное удаление старых побегов и сухих ветвей помогает улучшить вентиляцию и солнечное освещение. Кроме того, это снижает риск развития грибковых заболеваний.

Вредители, такие как клещи и ягодные мухи, могут нанести серьезный вред ремонтантной малине. Использование натуральных инсектицидов или механических методов контроля может помочь предотвратить повреждения.

Болезни малины, такие как антракноз и малиновая мошка, могут угрожать урожаю. Регулярные осмотры растений и применение фунгицидов в соответствии с инструкциями помогут предотвратить распространение болезней.

Ремонтантная малина нуждается в регулярном поливе, особенно в периоды сухости. Однако стоит избегать излишней влаги, чтобы не создавать благоприятные условия для развития грибковых инфекций.

Покрытие почвы мульчой – отличный способ сохранения влаги, подавления сорняков и предотвращения брызганья грязи на нижние части растений. Это также может помочь в предотвращении контакта плодов с почвой, что уменьшает риск заражения.

Заключение

Система защиты для ремонтантной малины включает в себя комплексный подход, начиная от правильного выбора места посадки и заканчивая регулярным уходом и контролем за вредителями и болезнями. Следуя этим простым рекомендациям, садоводы могут наслаждаться богатым и качественным урожаем малины на протяжении всего сезона.

Литература

1.Атрощенко, Г. П. хозяйственно-биологическая оценка сортировки ремонтантной малины в условиях Ленинградской области / Г. П. Атрощенко, Г. В. Щербакова // современное садоводство – Contemporary Horticulture. - 2013. - № 4. - С. 1-4.

2. Атонин, А. А. Поливарианты побегов Salix viminalis на фоне избыточного атмосферного воздействия / А. А. Афонин / / Эхо вузов. Зона единства. Естественные науки.– 2020. – № 4 (32). - С. 44-53. DOI 10.21685/2307-9150-2020-4-5

3. Батуев, А. Р. Иркутский атлас развития / А. Р. Батуев, В. Н. Богданов, Д. А.// Галес: Иркутск, География. Сибирского отделения Российской академии наук В. Б. Сочавы.- 2011г. - 131 С.

4. Барт, А. А. климат Иркутска / А. А. Барт, Н. С., Брекен, В. И. Каменщикова; ред. Ц. А. Швер, Н. П. Форманчук, л.: Гидрометеоиздат. - 1981. - 246 С.

ФОТОСИНТЕТИЧЕСКИЙ ПОТЕНЦИАЛ ЛЬНА МАСЛИЧНОГО В ЗАВИСИМОСТИ ОТ ПРИМИНЕНИЯ МИНЕРАЛЬНЫХ УДОБРЕНИЙ В УСЛОВИЯХ СТЕПНОЙ ЗОНЫ СЕВЕРНОГО КАЗАХСТАНА

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Фотосинтез является основным фактором, определяющим урожайность сельскохозяйственных культур, а эффективность, с которой культура улавливает свет и преобразует его в биомассу в течение вегетационного периода, является ключевым фактором, определяющим конечный урожай [1]. Известно, что лучшее использование климатических, почвенных ресурсов, а также приемов агротехнического воздействия происходит в посевах с оптимальной листовой поверхностью. Для многих зерновых культур оптимальный индекс листовой поверхности считается 4-5 $м^2/м^2$, когда как у льна он колеблется от 2,5 до 13 $м^2/м^2$ [2]. Это связано с тем, что поверхность стебля льна начинает вносить свой вклад в формирование фотосинтетического поверхностного потенциала с момента всходов. В фазе елочки поверхность стебля составляет 37 % от общей поверхности растения, а в фазе зеленой спелости — более 60 % [3].

С целью повышения продуктивности льна масличного, как одной из основных масличных культур Северного Казахстана, ставилась задача изучить фотосинтетический потенциал и продуктивность фотосинтеза у сорта Кустанайский янтарь при разных условиях минерального питания. Опыты проводились на базе Северо-Казахстанской сельскохозяйственной опытной станции на обыкновенном черноземе с нормой высева 6 млн.всх.семян на гектар. Опыт закладывался с соблюдением зональной агротехники по методике Б. А. Доспехова (1985). Ассимиляционная площадь листьев льна масличного в вариантах полевого опыта определялась экспресс-методом с помощью прибора CID Area Meter.

В первой половине вегетации, особенно в период быстрого роста растений льна, возрастает суммарная площадь листьев за счет увеличения их числа и размеров. Максимальной величины листовая поверхность достигает к фазе «бутонизация-цветение». После этого под влиянием аттрагирующего воздействия органов плодоношения листья начинают быстро отмирать. К фазе желтой спелости лен практически полностью лишается зеленых листьев. Следует отметить, что площадь листовой поверхности льна масличного на вариантах с применением удобрений значительно превышала контроль, максимального значения этот показатель достиг на варианте с применением NPKS на втором сроке посева с осенним внесением аммофоса 15478 м^2/га (табл.1).

Таблица 1. Листовая поверхность посевов льна масличного Кустанайский янтарь в вариантах опыта (м^2/га , 2023 г)

Вариант			Фазы взятия проб			
Фон	срок посева	вид удобрения	всходы	елочка	бутонизация-цветение	созревание
без удобрений	05.05	контроль	3037	3731	5903	2623
		NPKS	4856	3860	6609	5554
		NPKS+карбамид	3425	7168	6268	4111
	20.05	контроль	2131	3339	2942	1878
		NPKS	3286	3434	9013	4314
		NPKS+карбамид	3784	4546	5834	3330
P_{90}	05.05	контроль	3127	4679	6609	3794
		NPKS	3662	7559	7781	5250
		NPKS+карбами	3531	5903	7078	3860
	20.05	контроль	4044	7564	10536	5283
		NPKS	5267	8642	15478	7932
		NPKS+карбамид	4771	8738	12893	6462

Более комплексную характеристику деятельности ассимиляционной поверхности дает фотосинтетический потенциал посевов (ФП). Он позволяет судить о мощности рабочей поверхности листьев льна в целом за весь период вегетации, а размеры его определяются погодными условиями, нормами высева семян и технологическими агроприемами [4]. Фотосинтетический потенциал посевов льна масличного изменялся аналогично динамике формирования листовой поверхности. На вариантах опыта без применения удобрений с осени максимальной величины ФП лен достигал в межфазный период «цветение» на варианте с применением NPKS на втором сроке посева, однако при применении аммофоса с осени ФП возрастал в фазу елочки (табл.2).

Таблица 2.Фотосинтетический потенциал посевов льна масличного Кустанайский янтарь в вариантах опыта (тыс. м^2/га сутки, 2023 г)

Вариант			Межфазный период				Всего
Фон	срок посева	вид удобрения	всходы	елочка	бутонизация-цветение	созревание	
без удобрений	05.05	контроль	39	104	118	60	321
		NPKS	63	103	132	127	425
		NPKS+карбамид	44	125	200	94	463
	20.05	контроль	29	64	100	42	235
		NPKS	46	103	223	103	475
		NPKS+карбамид	53	99	139	80	371
P_{90}	05.05	контроль	38	140	138	98	414
		NPKS	44	226	163	136	569
		NPKS+карбамид	42	177	141	100	460
	20.05	контроль	56	226	105	132	519
		NPKS	74	259	154	198	685
		NPKS+карбамид	67	262	128	161	618

Оценивая ФП за весенне-летний период («всходы – желтая спелость»), можно утверждать, что лен масличный Кустанайский янтарь формировал более высокие значения при первом сроке посева на варианте с применением NPKS+карбамид без осеннего внесения удобрений 463 тыс. м^2/га сутки, а при втором сроке посева с применением P_{90} с осени и внесением NPKS перед посевом 685 тыс. м^2/га сутки.

Продуктивность работы листового аппарата растений находит конечное выражение в чистой продуктивности фотосинтеза (ЧПФ). Она характеризует среднюю продуктивность работы листьев за определенный период вегетации и определяется отношением прироста сухой биомассы к показателю фотосинтетического потенциала посева за этот же период [5]. В среднем за год исследования показатель чистой продуктивности фотосинтеза (ЧПФ) колебался по вариантам опыта, однако превышал контроль на всех вариантах (табл.2).

Таблица 3.Чистая продуктивность фотосинтеза льна масличного Кустанайский янтарь в вариантах опыта (г/м^2 сутки, 2023 г.)

Вариант			Межфазный период			
Фон	срок посева	вид удобрения	всходы	елочка	бутонизация-цветение	созревание
Без удобрений	05.05	контроль	1,1	1,5	2,0	1,8
		NPKS	1,3	1,7	2,1	1,8
		NPKS+карбамид	1,3	1,7	2,1	1,8
	20.05	контроль	1,1	2,0	2,4	1,9
		NPKS	1,3	2,2	2,6	2,2
		NPKS+карбамид	1,2	2,1	2,6	2,2
P_{90}	05.05	контроль	1,2	2,2	2,7	2,1
		NPKS	1,3	2,4	2,8	2,4
		NPKS+карбамид	1,3	2,3	2,7	2,3
	20.05	контроль	1,2	2,1	2,9	2,5
		NPKS	1,3	2,5	3,3	2,8
		NPKS+карбамид	1,3	2,4	3,1	2,7

В межфазный период «бутонизация-цветение» этот показатель достигал максимума – 3,3 г/м^2 сутки на варианте с применением NPKS на втором сроке посева с осенним внесением аммофоса, а затем в последующий период созревания снижался до 2,8 г/м^2 сутки.

На основе проведенного опыта можно сделать следующие выводы:

- В условиях Северного Казахстана целесообразно выращивать лен масличный при соблюдении технологических параметров и приёмов возделывания. Сорт льна масличного Кустанайский янтарь хорошо отзывается на внесение минеральных удобрений, как с осени, так и перед посевом. Корректируя элементы технологии с учетом метеорологических условий вегетационного периода, а также обеспеченностью хозяйств можно создавать условия для более полной реализации потенциальной продуктивности этой культуры.

- максимальной площади листовой поверхности достигают посевы в фазу «бутонизация-цветение». В опыте максимум этот показатель показал на варианте с внесением аммофоса с осени и NPKS весной перед посевом до 15478 м^2 /га;

- наибольшая величина фотосинтетического потенциала установлена без применения удобрений с осени на первом сроке посева за период «всходы - желтая спелость» при применении NPKS+карбамид 463 тыс. м^2/га сутки, а при внесении P_{90} с осени и NPKS перед посевом 685 тыс. м^2/га сутки;

- посевы льна масличного на втором сроке посева отличались повышенной ЧПФ по сравнению с первым сроком, как на вариантах без применения удобрений с осени, так и с применением аммофоса. Показатель достигал максимума – 3,3 г/м^2 сутки в фазу «бутонизация-цветение» на варианте с применением NPKS на втором сроке посева с внесением аммофоса.

Список литературы

1. Andrew J Simkin, Patricia E López-Calcagno, Christine A Raines, Feeding the world: improving photosynthetic efficiency for sustainable crop production, *Journal of Experimental Botany*, Volume 70, Issue 4, 1 February 2019, Pages 1119–1140

2. Физиология стресса растений (интерактивный курс): учебно-практическое пособие / Е. И. Кошкин [и др.] ; под ред. Е. И. Кошкина ; М-во сельского хоз-ва Российской Федерации, Российский гос. аграрный ун-т - МСХА им. К. А. Тимирязева. - Москва : Изд-во РГАУ - МСХА им. К. А. Тимирязева, 2020. - 181,

3. Прудников, А. Д., Кучумов, А. В., Рыбченко, Т. И., Романова, И. Н., Прудникова, А. Г., & Глушаков, С. Н. Потенциал льняного поля, 2018

4. Федулов, Ю.П. Фотосинтез и дыхание растений: учеб. пособие / Ю.П. Федулов, Ю.В. Подушин. – Краснодар : КубГАУ, 2019. – 101 с.

5. Воронкова Н. А. Эффективность приминения органических кислот в качестве стимуляторов роста при возделывании яровой мягкой пшеницы в лесостепной зоне Западной Сибири: Диссертация на соискание ученой степени кандидата биологических наук, ФГБОУ Омский аграрный университет им. П.А.Столыпина,2022

Providing blueberries with moisture

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Summary

At 75-80% of maximum soil moisture, green blueberries need much less water, so you should maintain soil moisture at 75-80% of the maximum. During the planting period, watering should be carried out. every two days, during the flowering period, once every seven days, during the

formation of fruits, in severe drought, water three times 1 l / plant, during the ripening of fruits. After harvesting, it is necessary to irrigate the area twice a week.

Main part

Among the cultivated varieties of blueberries available in the world today, blueberries, native to North America, have more advantages than blueberries, blueberries are well adapted to all climatic conditions.

The Latin name of the blueberry culture is Vaccinium uligionosum, belongs to the mannan family, the lifespan is 40 years, the development temperature is 20-250C. Optimum air humidity is 65-75%, optimum soil moisture is 60-70%, optimum soil surface reaction is pH 4.5-5.0.

Fig. 1 Blueberry care, growing recommendations

Distribution area - 2200 meters above sea level. Minimum critical temperature is -20-250C, maximum critical temperature is - 400C. Gives good results after sowing talgamura, buckwheat and rye. Blueberries should not be planted after raspberries, peppers, tomatoes, potatoes and undesirable predecessor crops.

It should be noted that blueberry varieties with different ripening periods (early, middle, late) were imported to Georgia.

Ripening period of early varieties (Misty, Oneil, Duke, Toro) is May, June. The ripening period of mid-season varieties (Eli-Zabti, Premier, Ozark Blue, Lucrop, Legacy) is July and August. The ripening period of late varieties (Brightwell, Klimax, Spartan) is July and August. Among the varieties mentioned, Legacy and Bulcrop were chosen primarily for Georgian conditions.

Legacy. Legacy grows well in a moderate climate. The harvest is produced in the second or third year after planting. It should be noted that a two-year-old bush can produce 2 kilograms of harvest, and five to six years are needed for a full harvest. Industrial production.

Fig. 2. Inherited fruits

The height of the Legacy bush is 2.1 meters, erect, has the highest yield among blueberry varieties, the ripening period in open ground begins on July 20. The yield of one bush is 8 kilograms. Legacy grain is medium in size with a scar (1.6-1.7 grams), has the best taste qualities. The ripening period in closed ground begins in late April.
Bychok is a very common variety on the world market. The Bychok bush grows up to 2.0 meters, erect, the yield from one bush is 7-9 kg, the ripening period in open ground begins on July 20. The fruit is large 19-20 mm, open.

Fig. 3 Fruits of the bull crop

The figure is dense, has a good aroma, of the highest quality. It is very easy to sell on the market, used in industry. Adapts to high and low temperatures, withstands -70 C during flowering. Bluecrop is decorative, has good transportability and shelf life. Bluecrop is resistant to diseases (ash, red ring spot, mummification of fruits). The ripening period in closed ground begins in late April.
Blueberries are planted both in autumn and spring. Blueberries should be planted on a plain

Fig. 4. Preparing basic cuttings for a blueberry plot.

or on a slope where there is the best aeration, windbreaks are planted to prevent the buds from drying out and being damaged by the cold. The soil should be porous, rich in humus and drained. Width 60-90 cm, height 18-25 cm, distance between rows 3-3.2 m.
The root system of blueberry crops cannot adapt to the proximity of groundwater, therefore, in the subtropical zone of Western Georgia, raised basal cuttings are made, the width of which is 1.1 cm, and the height varies within 40-45 cm.
A drip irrigation system is organized at the same time. Plant nutrition area (1.2 cm X 3 m) in this case, from 3000 to 3300 seedlings are planted on the area. The distance between plants in a row is 0.9-1.2 m. 2800-3300 plants are planted per hectare.

Fig. 5. Preparing a blueberry plot

Burnt organic fertilizer is added to the soil before planting on a raised bed.

Fig. 6. Applying manure to the plot

30 tons of manure per hectare, 40 tons of coniferous sawdust, 650 kg of ammonium sulfate, 300 kg of potassium sulfate Superphosphate - 500 kg, acidic peat - 300 ml per root, the indicated dose is introduced into the soil based on soil analysis.

For the production of blueberries, it is necessary that the pH of the site is in the range from 4 to 5.

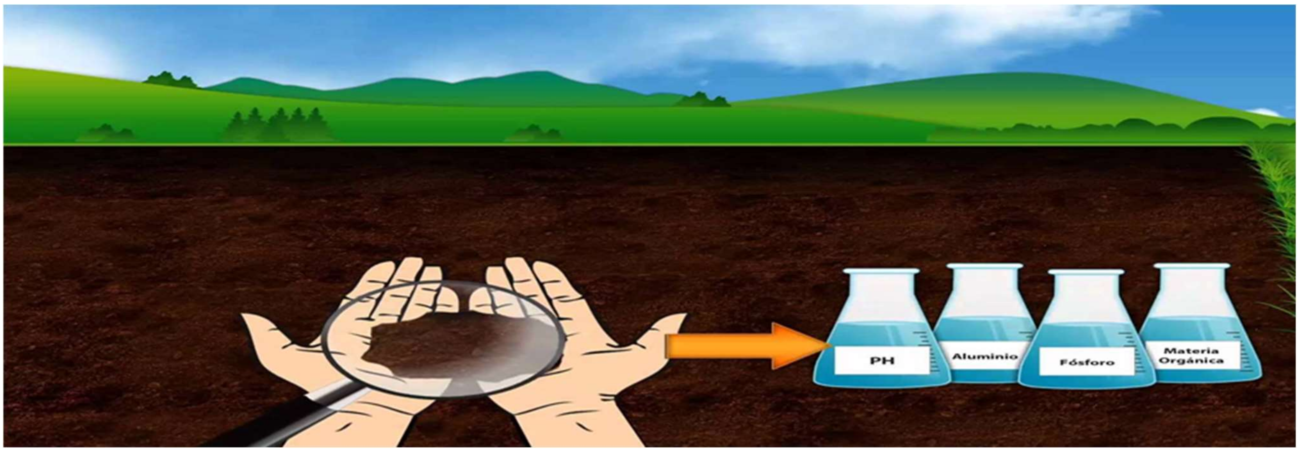

Fig. 7 Ировень искульности pH для терироти черники

On the contrary, there is an alkaline reaction, and before planting the culture, it is necessary to artificially regulate the acidity of the soil, taking appropriate measures. It is necessary to provide the soil with macroelements and manure. 20-35 kg per 1 m^2.

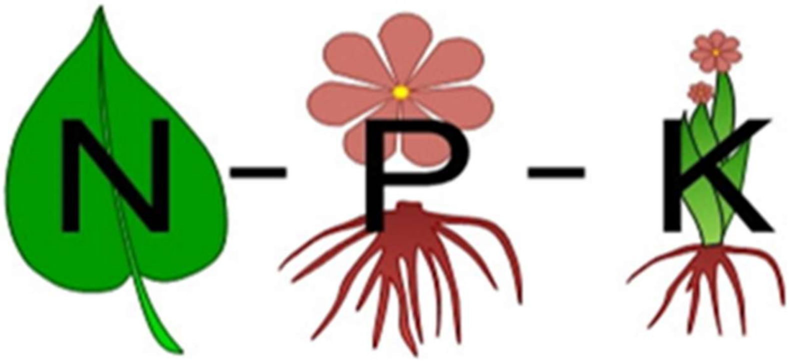

Рис. 8 Provide the soil with macroelements

Before planting, it is necessary to set up irrigation systems and activate them, after sawdust of coniferous plants in the organic substrate. After placing the root system in the soil, it should be compacted and watered.

Рис. 9 Капельный полив голубики

Blueberry requires regular watering, yellowed blueberry leaves, brown veins, weak shoots, early leaf fall is reflected in the stem of the plant, so it is necessary to maintain optimal soil moisture.

Drip irrigation systems should be installed over the surface of the soil before the mulching tape is installed. Drip irrigation has a big advantage over watering, and proper irrigation management is of special importance. According to the experiment, the watering period should last until late spring.

Рис. 10. Virus-free planting material obtained in vitro.

At present, great attention is paid to the use of virus-free planting material, produced in the laboratory in vitro, characterized by high yield and ecologically clean harvest, quality.

According to the results of the experiment, the watering norms of the golubiki are proposed, the conditions of drip irrigation are presented in the form of a table.

Blueberry Irrigation Rates, Timings under Different Conditions of Maximum Soil Moisture

Table 1

ნიადაგის ზღვრული ტენტევადობის 65-70% დროს At 65-70% of maximum soil moisture.	
Irrigation Rate	Irrigation Period
4 l/ft 3.8 l/ft 3.2 l/ft 3.5 l/ft 3.0 l/root during planting	during planting during flowering during fruit formation during fruit ripening After fruit harvesting
At 75-80% of maximum soil moisture.	
Irrigation Rate	Irrigation Period
3.5 l/ft 3.2 l/ft 3.0 l/ft 2.8 l/ft 2.6 l/ft	during planting during flowering during fruit formation during fruit ripening After fruit harvesting

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used literature

1. Fruit tree care Booklet A 21 2024
2. Lortkipanidze A. Botany. Tbilisi, 1964
3. R. Gagnidze, M. Davitadze, "Local flora", Batumi, 2000.
4. A. Makashvili, "Botanical dictionary", 1991.
5. A. Smirnov, A. Petersburg, Agrochemistry "Tbilisi, 1979.
6. D. Gedevanishvili, G. Talakhadze. "Soil science course"
7. Kheladzev. "Diseases of ornamental plants and their control", Sovetskaya Georgia. 1974

Journalism

Media and information literacy and its place in the formation of the information society

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This topic is relevant because today we live in the information space, thanks to which the information society has formed. On the path of civilization, humanity went through the stages of forming a newer society adapted to the new time. Now we live in the age of information technology, information flow. In this flow of information, we must be able to filter, analyze and critically comprehend it. To learn this, to be able to work with information, such a concept as media and information literacy arose, which covered all aspects of our lives and activities: economics, business, international cooperation, education, use of social networks, etc. Today, universities in various countries, schools, and business communications consider it obligatory to study this concept and, in principle, this phenomenon, since even to build any relationships it is necessary to understand what media and information literacy is. It is necessary to study this phenomenon so that when building any relationships we have an idea from whom we receive information, what kind of information it is and analyze it.

İn the modern world, diplomacy is a multilateral process in which not only politicians of various states, departments, ministries are involved, but also representatives of the public, cultural figures, scientists, information technology, industry and others. And in order to actively develop international relations at various levels, it is necessary to be able to collect, analyze, present this or that information, which sometimes causes difficulties for specialists, since they lack certain knowledge and skills, which is very important for critical thinking and rapid responding to the international information environment. Thus, in 2007, UNESCO put forward such a concept as media and information literacy. This term means a whole range of competencies: fluency in a wide range of information and communication technologies (ICT) tools, the ability to work with any sources of information, the ability to think critically, as well as perceive, evaluate, use, create and disseminate information. As was said at the very beginning, you need to be able to work with information: analyze, find, interpret, and more. And, just as important, y Also, media and information literacy means a set of attitudes, knowledge, skills and abilities, thanks to which one can access information and knowledge, analyze it, use it, evaluate it, create it and disseminate it productively in accordance with legal and ethical standards, as well as in compliance with human rights. That is, upon receiving any information, we can perform many actions with it, but with the necessary skills, abilities, knowledge and attitudes. Thus, media and information literacy is not just the ability to work with received information, for this it is necessary to have certain skills, that is, a media and information literate person always uses not one, but several channels, sources of information in all types of his activities. Such a person is able to understand who created this or that information, for what purpose it is used, where and how it can be obtained, where truly reliable information can be found, etc. Thus, we can conclude that representatives of UNESCO began to develop this definition and direction and they are trying to develop media and information literacy among society as a whole. ou must have skills in working with information technology.

S.A. Goryachev talks about five principles of media and information literacy from UNESCO:

1. Society must perceive information, media, technology, the Internet, and various libraries critically. All these sources are equal in status, and no one source should be considered more significant than others.

2. Every citizen is a creator of information and knowledge. Media and information literacy is closely intertwined with human rights, so it should be for everyone. Also, every person has the right to receive, to have access to information or knowledge. Since everyone has the Internet and modern media, any resident can be an author, a person who disseminates this or that information. In this situation, the world community is doing everything, in particular, Governments are developing legislative acts and norms that regulate legal relations in the field of information exchange in order to provide every citizen with tools for information.

3. Information, knowledge and messages are not always neutral, independent or impartial. Any conceptualization, use and application of MIL must make this statement transparent and understandable to all citizens.

4. This principle is due to the fact that every citizen wants to receive and understand new incoming information, has the opportunity to communicate with other users, and these rights should in no case be violated. In almost all countries, this principle is enshrined in the legislation by constitutional law, which may be subject to changes in connection with the development of ICT, which comes into contact with new technologies, new methods of communication, and, therefore, it is important that this constitutional right is not violated even in the conditions digital transition to the process of modern information exchange in electronic format.

5. Media and information literacy is not acquired overnight. It is a dynamic and ongoing experience and process. If MIL includes knowledge, attitudes regarding the use, certain skills, creation and transmission of information about media and technological content, then this experience and process can be considered complete.

Also S.A. Goryachev notes that media and information literacy (MIL) has become an integral part of activities in the leading countries of the world. Now we live in a world where there is a large flow of information, and the task of states is to create media and information literacy of their population. The United Nations Educational, Cultural and Scientific Organization (UNESCO) and the International Federation of Library Associations and Institutions (IFLA) have published a number of documents designed to promote the development of knowledge in the field of media and information. This idea also received support in Russia.

Thus, we can say that media and information literacy should be an integral part of our lives, since people, starting from preschool age, already use media resources, the Internet, information from the global network, etc. It is important to treat all information critically. MIL has penetrated into many aspects and spheres of life, which we will consider further. Let us turn to one of the main aspects – the educational environment.

According to UNESCO, in 2020, educational institutions were closed around the world due to the spread of coronavirus and these measures affected 80% of students worldwide, which is why teachers had to adapt to the new realities of learning- distance learning, that is, this group people had to develop and implement new teaching methods, which require ICT literacy skills, but this was not enough. This situation has shown that teachers need to have skills and competencies related to media and information literacy, since teachers must be able to manage information flows, find, use and disseminate reliable information, freely navigate the online space and establish various types of communication and interaction, select and organize digital content, identify necessary and high-quality online materials, understand issues of copyright and openness of educational resources, apply strategies for critical thinking and reflection on the educational experience, and they must teach all these skills to their students.

So, I.V. Zhilavskaya notes that at the present time there is a great demand for studying, obtaining skills and competencies in media and information literacy, or, to be more precise, there is a great demand for media and information education in universities. In particular, in pedagogical universities this topic is very relevant, but little studied and mastered, but many universities, keeping up with the times, are trying to include this element of a new type of education in their curricula. in 2019, experts from the Eurasian Association of Pedagogical Universities (EAPU) and the Association of Media Education Specialists (ASMO) conducted a survey of heads of pedagogical universities in Russia and other CIS countries on the subject demand for the theory and practice of MIE. The survey involved heads of 46 universities in Russia, Kazakhstan, Armenia and the Republic of Belarus. The results showed that at present, in pedagogical universities of the post-Soviet space, a request has been formed for the implementation of an integrated approach to solving the problems of international education in the preparation of future teachers and as part of the professional development of working teachers. However, today EAPU partner universities give preference to educational programs aimed at developing in students primarily technological skills related to the use of digital technologies. And, unfortunately, some of the most important competencies that are directly related to the ability to analyze information from several points of view, the development of ethnic and legal norms of working with information, the formation of ideas about the functions of the media space, how a person searches for information and how it processes it, remain unattended. also, it is the application of critical thinking skills, etc.

Thus, it is worth noting that university leaders support the formation of an integrated system for media and information education for students. They consider it necessary to include IEE in the country's educational policy as one of the priorities [30].

Another aspect where media and information literacy is an integral part is the business communications system.

In a broad sense, business communication is business connections or business contacts that influence the effectiveness of business development. In a narrow sense, it is the interaction of subjects of the information system in the process of solving business problems [58]. That is, if in this system an individual has business connections, then this can contribute to the prosperity of his business.

In this case, media and information literacy is the knowledge, competencies and skills with which you can comprehend information critically, analyze it, and assess its reliability. Thanks to all the necessary skills, it is possible to interpret media texts and values distributed by the media. Media and information literacy allows you to clearly see in a message the signs of censorship, biased and one-sided presentation, and determine the political, social, commercial and cultural interests of media texts and their authors.

Experts note that individual entrepreneurs and the business community are increasingly faced with a lack of understanding of how to build business relationships and interact with the media. One reason is information noise or information overload, terms that describe difficulties in understanding problems and making decisions. The reason for such difficulties is an overabundance of information.

To minimize the overabundance of information to improve performance, programs are being developed and implemented to improve the media and information literacy of entrepreneurs- an important area of government policy in many developed countries, for example, in the USA, Great Britain and Australia. A high level of awareness among residents in the field of media information contributes to social and economic stability in the country. The growth of such literacy leads to a reduction in the risks of excessive personal debt of citizens on consumer loans, a reduction in the risks of fraud on the part of unscrupulous market participants, etc.

In Azerbaijan, media and information literacy in the business communications system is at a low level. Only a small part of entrepreneurs are familiar with media services and products, while the majority suffer from information noise. The majority obtain theoretical knowledge in the field of media on their own, through specialized Internet sites, TV shows, literature, news, by attending courses and trainings, and gain experience from their own mistakes. However, there are still a few Russian-language resources on media literacy, but even they have not been popularized or adapted for a wide audience. Most of it is intended for specialists in the field of media education.

Thus, it is necessary to develop various programs for entrepreneurs to increase the level of media and information literacy at the state level. In the business communications system, programs can be created jointly with the business community (Chamber of Commerce and Industry, Russian Union of Entrepreneurs, Opora Russia, Business Russia) and market participants, as well as relevant ministries and departments (Ministry of Industry and Trade, Ministry of Transport, Ministry of Communications and mass communications, etc.) and include the preparation of specific educational programs and products, improvement of legislation in the field of information services. Such projects should, whenever possible, unite and ensure coordination of programs and initiatives in the field of media and information literacy that are already being implemented and are being prepared for launch at different levels [18].

And, of course, media and information literacy has affected international life. For example, the UNESCO MIL Alliance, formerly known as the Global Partnership Alliance for Media and Information Literacy (GAPMIL), is a pioneering initiative to promote international cooperation to ensure access to media and information competencies for all citizens. Individuals and organizations from more than one hundred countries expressed their desire to work together to achieve positive change. This innovative initiative was launched at the World Partnership Forum on Media and Information Literacy, held in Abuja, Nigeria.

June 26-28, 2013. The initiative pursues the following goals:

- establishing real partnerships that would stimulate the development and long-term impact of MIL at the global level;
- creating opportunities for the community to speak out in support of MIL from a common position on the most pressing issues, in particular regarding the principles of activity in this area;

Further development of practical approaches to media and information literacy as an integrated concept that provides a common platform for the interaction of MIL-related networks and associations around the world.

That is, this topic, media and information literacy, in principle united representatives of various political actors to interact and establish international cooperation [8].

Speaking about media and information literacy in our country, N.I. Gendina notes that this topic is not widespread among the population of the Russian Federation and the CIS countries. Concepts such as “personal information culture” and “information culture” have become more widespread. These concepts are closely intertwined with media and information literacy.

Information culture is a general part of culture, which represents the entire body of knowledge and skills that were created for information activities. The necessary knowledge, skills and rules allow information consumers to navigate the information space, finding and analyzing the necessary information.

In turn, the information culture of an individual is a set of information worldview, as well as a system of knowledge, skills and abilities that ensure independent activity to optimally satisfy individual information needs using both traditional and new information technologies. Thanks to the information culture of the individual, this or that individual becomes socially protected in the modern information society.

Thus, these concepts are closely related to media and information literacy, the only thing is that these concepts are more common in modern Russian society [7].

To summarize all of the above, I would like to note that media and information literacy has found its importance for society not so long ago; this topic is quite new for study. As we know, we are an information society. We live in an information flow, an information space; information wars and information blockades are being waged. In this flow of information, we must be able to filter information, evaluate its reliability, and critically comprehend it. And no less important, MIL affects all areas of our lives and activities; media and information literacy has become an integral part of not just any area of activity, but, in principle, the life of society. That is why it is necessary for us to increase our level of media and information literacy.

Sociological Sciences

THE MAIN CAUSES OF DIVORCE IN KAZAKHSTAN AS THE ONE OF THE ACTUAL PROBLEMS

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ҚАЗАҚСТАНДА ОТБАСЫЛЫҚ АЖЫРАСУДЫҢ НЕГІЗГІ СЕБЕПТЕРІ

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Abstract
The article analyzes the causes of divorce, which is a current issue in Kazakhstan. The problems that arise between a woman and a man after the birth of a family are described.
Аннотация
Мақалада қазіргі таңдағы Қазақстанның өзекті мәселелесі болып жатырған ажырасудың себептері талданған. Әйел мен ер адам арасында отбасы пайда болғаннан кейін туындайтын мәселелер сипатталған.
Keywords: gender policy, family, divorcing, Kazakhstan, family institute
Тірек сөздер: гендерлік саясат, отбасы, ажырасу, Қазақстан, отбасылық институт

Қазіргі таңда еліміздің ең өзекті мәселесіне айналып отырған, ұлтымыздың ұлт ретінде сақталуына бірден бір кедергі тигізетін мәселе – отбасылық ажырасу. Еліміздегі отбасылық институттың қалыптаспауы немесе дұрыс жасамауы елімізге деген үлкен кесел – ажырасуға келіп соғуда. Ұлттық статистика бюросының ақпаратына жүгінсек, 2023 жылы 128 359 неке қиылып, 44 517 ажырасу фактісі тіркелген. Қалада 33 229 жұп ажырасса, ауылда 11 228 жұп бөлек кеткен.

Сарапшылардың айтуынша, ажырасудың басты себептері – ата-аналардың ерлі-зайыптылар ісіне араласуы, моральдық шектеулердің жоқтығы және ажырасу үдерісінің тым жеңілдігі. Жауапты орындардың дерегінше, ішімдік пен нашақорлыққа салыну, құмар ойынға үйірсек-теу, тұрмыстық зорлық-зомбылық, зинақорлық және мінез үйлесімсіздігі. [1]

Бұл ақпараттан ажырасудың негізгі себептерін топтастыратын болсақ төмендегідей топқа бөлсек болады:

- Ішімдік, нашақорлықтан ажырасу
- Тұрмыстық зорлық-зомбылық
- Зинақорлық
- Құмар ойындар

Ажырасудың жалпы коэффициенті 2,02 құрады (1000 адамға шаққанда). Ажырасудың ең жоғары деңгейі ШҚО-да – 1000 адамға шаққандағы коэффициент 3,14, Түркістан облысында ең төмен – 1000 адамға 0,89. Сонда, 2023 жылы 1000 некеге 333 ажырасудан келген (2022 ж. – 347). Неке ұзақтығы бойынша ажырасулардың ең көп үлесі (34,9%) некеде 1-4 жыл өмір сүрген отбасылар арасында, тағы 26,7% 5-9 жыл бірге отасқандар арасында болған. [2]

Бұл ақпараттар бойынша отбасы институмыздың, отбасылық құндылықтарымыздың әлсіз екенін анық көруге болады. Заманның ағымына сай әртүрлі қоғамдағы өзгерістер отбасылық жауапкершілікті ер де әйел де қатар алмауына жол беріп отыр. Атап айтатын болсақ, нашаның қол жетімді болуы, ақшаны оңай әрі тез табудың жолдарының көп болуы, ойын орталықтарының көп болуы, әйелдің бала туып үйде отырып қалуы, ер адамның тұрмыстық зорлық – зомбылықты жиі жасауы, сырттан адамдардың араласуы, отбасылық бюджеттің ортақ болмауы, ер адамдардың отбасынан оқшаулануы, тұрмыстың барлық шаруаларын әйелдің мойнына арту сияқты мәселелер ажырасуға қадам жасаудың алғышарттары болып табылады. Осы орайда ажырасудың бірнеше себебін ескеріп солардың алдын алуға аналардың, әйел адамдардың қаржылық тәуелсіздігін қамтамасыз ету болып табылады. Қаржылық тәуелсіз әйел ойын толық жеткізе алатын, өзінің құқығын қорғай алатын, іс әрекетін кәсібін емін еркін басқара алатын, балаларын керек-жарағымен қамтамасыз ететін тұтас тұлға. Бірақ өкінішке орай бала туумен қатар бұл істің барлығын қатар алып жүру мүмкіндігі әлсірейді, сондықтан да қаржылық қолдау ретінде Үкімет тарапынан тек қана жәрдемақы емес сонымен қатар жалақы төленуі тиіс. Себебі тұрмыстан босай алмаған әйел, ана өзіне қарауға не уақыты, қаражаты жетпесе, ер адамы көңіл бөлуін тоқтатып шаршаған өзін күте алмаған әйелге көңілі де суи бастайды. Содан көңілінің қошын сырттан яғни нашақорлықтан, зинақорлықтан, құмар ойындардан, ішімдіктен, артық қыдырыстардан яғни тыстан іздей бастайды.[3]

Осы аспекттерді ескере отырып нақты құжаттың демографиялық саясаттың маңыздылығы көрінеді. Барлық маңызды мәселелер құжат түрінде болып бекітіліп, халық арасында насихатталып, кең таралуы – ажырасудың азаюына әкелетін жолдардың бірі.

Bibliography/ Пайдаланылған әдебиеттер:

1. https://egemen.kz/article/361317-adgyrasudynh-astarly-aqiqaty
2. https://stat.gov.kz/news/2023-zhyl-y-nekelesu-men-azhyrasu/
3. https://5qbe.kz/ru/posts/psihoanalitik-zh%D2%B1ptardy%D2%A3-azhyrasu-sebebi-biologiyaly%D2%9B-anasymen-bajlanysynda
4. https://egemen.kz/article/332803-demografiyalyq-sayasat-baghdar-men-boldgam

Physical and Mathematical Sciences

УДК 531, 534

ОБ АЛГОРИТМАХ РЕШЕНИЯ ЗАДАЧ ПО МЕХАНИКЕ В СРЕДНЕЙ ШКОЛЕ

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Аннотация: В статье обоснованы алгоритмы решения задач по механике в средней школе. Указано, что алгоритмы решения задач по механике, направлены на открытие нового для учащегося знания об объекте исследования, способе или средстве деятельности и характеризуется наивысшей степенью самостоятельности и творческим отношением к обучению решения задач учащихся.
Ключевые слова: алгоритм, умение, этапы, образование, кинематика, статика, точка, координата, дидактика, механика, векторы.

Решение задач по праву действительно способствует развитию мыслительных способностей учащихся. Однако для этого необходимо тщательно выбирать задачи и организовывать их решение в классе определенным образом. Приведем несколько ключевых моментов в подборе задач [1]:
- задачи должны быть посильными для большинства учащихся, чтобы они не испытывали излишнего стресса и не теряли интереса;
- задачи не должны сводиться только к простым подстановкам числовых значений в формулы;
- они должны требовать анализа, логического мышления и понимания принципов права;
- важно включать задачи разной сложности, чтобы учитывать уровень подготовки разных учеников и постепенно повышать их навыки.

1.Организация решения задач:
- эффективной является работа в группах, где ученики могут обсуждать решения и обмениваться идеями;
- решение задач не должно сводиться к работе одного ученика у доски с последующим копированием решения всем классом. Важно, чтобы каждый ученик был вовлечен в процесс;
- применение алгоритмов может существенно облегчить и систематизировать процесс решения задач. Это помогает учащимся понять структуру решения и развивает алгоритмическое мышление.

2.Важность алгоритмов:
- использование алгоритмов в обучении не только упрощает процесс решения задач, но и способствует пониманию важного научного понятия «алгоритм»;
- знакомство с алгоритмами важно в контексте общей компьютерной грамотности, которая становится все более актуальной в современном мире [2] :

Таким образом, грамотный подбор задач и их организация, включая использование алгоритмов, играют важную роль в развитии мыслительных способностей учащихся и их подготовке к современным требованиям. К числу основных требований, предъявляемых к алгоритму решения физических задач, надо отнести следующие:

1. алгоритм должен быть лаконичным;
2. каждое предписание должно быть по возможности относительно элементарным;
3. набор предписаний должен обладать такой степенью полноты, чтобы на его основе можно было решать достаточно широкий, законченный класс задач;
4. каждое предписание и вся система должны выражать самые существенные операции, необходимые для решения данного класса задач, и тем самым выражать основные черты метода решения этих задач, оставляя возможности для самостоятельной мыслительной работы учащихся. Алгоритмы могут быть составлены, конечно, не по всем разделам курса физики. Наиболее легко могут быть алгоритмизированы методы решения задач по всем разделам курса механики.

Например, алгоритм решения задач по кинематике материальной точки:

1. выбрать систему отсчета (это предполагает выбор тела отсчета, начала системы координат, положительного направления осей, момента времени, принимаемого за начальный);
2. определить вид движения вдоль каждой из осей и написать кинематические уравнения движения вдоль каждой оси — уравнения для координаты и для скорости (если тел несколько, уравнения пишутся для каждого тела);
3. определить начальные условия (координаты и проекции скорости в начальный момент времени), а также проекции ускорения на оси и подставить эти величины в уравнения движения;
4. определить дополнительные условия, т. е. координаты или скорости для каких-либо моментов времени (для каких-либо точек траектории), и написать кинематические уравнения движения для выбранных моментов времени (т. е. подставить эти значения координат и скорости в уравнения движения);
5. полученную систему уравнений решить относительно искомых величин [3]:

Например, алгоритм решения задач по динамике материальной точки:

1. выбрать систему отсчета;
2. найти все силы, действующие на тело, и изобразить их на чертеже. Определить (или предположить) направление ускорения и изобразить его на чертеже;
3. записать уравнение второго закона Ньютона в векторной форме и перейти к скалярной записи, заменив все векторы их проекциями на оси координат;
4. исходя из физической природы сил, выразить силы через величины, от которых они зависят;
5. если в задаче требуется определить положение или скорость точки, то к полученным уравнениям динамики добавить кинематические уравнения:
6. полученную систему уравнений решить относительно искомых.

Кроме того алгоритм может дополняться следующими частными комментариями, конкретизирующими основные предписания:

1. при решении задач с использованием законов Ньютона необходимо выбирать ИСО и не пользоваться системой отсчета, связанной с ускоренно движущимися телами;
2. если в задаче не требуется определить координату или скорость точки, то начало системы координат можно поместить в любую точку тела отсчета; в противном случае его следует поместить в такую точку, чтобы удобно было определять начальные условия;
3. в ряде задач можно выбирать две системы координат, что облегчает нахождение проекций сил и ускорений для отдельных тел системы (или отдельных этапов движения);

4. если в условии задачи говорится о системе материальных точек, то уравнения второго закона Ньютона надо писать для каждого тела системы в отдельности и решать полученную систему уравнений.

Например, алгоритм решения задач по статике:

1. Выбрать систему отсчета;
2. Найти все силы, приложенные к телу, находящемуся в равновесии;
3. Написать уравнение, выражающее первое условие равновесия, в векторной форме и перейти к скалярной его записи;
4. Выбрать ось, относительно которой целесообразно определять моменты сил;
5. Определить плечи сил и написать уравнение, выражающее второе условие равновесия;
6. Исходя из природы сил, выразить силы через величины, от которых они зависят, и решить полученную систему уравнений относительно искомых величин.

Кроме этого можно сформулировать ряд дополнений к основным предписаниям алгоритма, в которых раскрывается порядок выполнения этих предписаний:

1. если направление силы реакции неизвестно, то можно выбрать его предположительно и по знаку проекций судить о правильности определения направления силы реакции, либо же воспользоваться теоремой о трех силах;
2. для определения центра тяжести тела надо предположить его месторасположение и считать, что в этой точке тело подвешено и потому будет находиться в равновесии, что позволяет применить условия равновесия;
3. в ряде задач можно использовать лишь второе условие равновесия, написав дважды его уравнение — сначала для одной оси, а потом считая, что ось проходит через другую точку.

Например, алгоритм решения задач на закон сохранения импульса:

1. выбрать систему отсчета;
2. выделить систему взаимодействующих тел и выяснить, какие силы для нее являются внутренними, а какие – внешними;
3. определить импульсы всех тел системы до и после взаимодействия;
4. если в целом система незамкнутая, но сумма проекций сил на одну из осей равна нулю, то следует написать закон сохранения лишь в проекциях на эту ось;
5. если внешние Силы пренебрежимо малы в сравнении с внутренними (как в случае удара тел), то следует написать закон сохранения суммарного импульса в векторной форме и перейти к скалярной.

Также можно сделать следующие добавления, примечания к алгоритму, уточняющие его основные предписания:

1. применяя закон сохранения импульса, надо следить за тем, чтобы импульсы всех тел, входящие в уравнения, были отсчитаны относительно одной и той же системы отсчета;
2. если в задаче требуется не только определить скорость какого-либо тела системы после взаимодействия, но и найти перемещение этого тела в результате приобретенной при взаимодействии скорости, то надо четко разграничивать два этапа описанного в задаче механического процесса: первый – этап взаимодействия, в результате которого тела приобретают некоторые скорости; второй – этап движения после прекращения взаимодействия тел выделенной системы. При этом помимо уравнений, связанных с понятием «импульс», надо использовать другие физические законы (уравнения динамики, кинематики, энергетические законы) [4].

СПИСОК ЛИТЕРАТУРЫ:
1. Полицинский, Е.В. Задачи по физике. Руководство к выполнению контрольных работ: учебно-методическое пособие / Е.В. Полицинский. – Томск: Изд-во Томского политехнического университета, 2014. – 240 с.
2. Физическая задача: сайт Копилка уроков [Электронный ресурс] 2018.URL: https://kopilkaurokov.ru/fizika/uroki/fizichieskaia-zadacha (Дата обращения 10.03.2022)
3. Образовательный портал для подготовки к экзаменам: сайт Решу ЕГЭ [Электронный ресурс] 2022. URL: https://phys-ege.sdamgia.ru/ (Датаобращения 12. 04. 2022)
4. Метод размерностей в решении задач: Школьная физика – для учителей и учеников [Электронный ресурс] 2019. URL: https://www.alsak.ru/item/9-11.html (Дата обращения: 18.03.2022)

Philological Sciences

ГЛОБАЛІЗАЦІЙНІ ПРОЦЕСИ У ВИВЧЕННІ ІНОЗЕМНИХ МОВ ТА МОВНА ІНТЕГРАЦІЯ УКРАЇНИ У СВІТОВИЙ ОСВІТНІЙ ПРОСТІР

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Ключові слова: *глобалізація, євроінтеграція, вивчення мов, спілкування, спеціалізовані мови, фахове спрямування*

Зараз світ переживає зміни та розвиток у всіх сферах. Ми живемо в епоху знань, керованих глобалізацією. Фактично, викладання мови не залишилося осторонь цього якісного стрибка в майбутнє. Яскравим прикладом може бути навчання за допомогою телеконференцій. Мови – це більше, ніж засіб спілкування. Вони є унікальним відображенням світогляду людей, які нею розмовляють, засобом культурного самовираження та сховищем системи цінностей тих, хто в ній домінує, в якій формується їхня ідентичність. Мова має важливе значення для постійного прогресу та добробуту будь-якого суспільства.

Глобалізація включає не тільки транснаціональний рух товарів і послуг, а й людей, інвестицій, ідей, цінностей і технологій, це означає реорганізацію світового економічного простору, реструктуризацію ринків праці і процес послаблення держав. З глобалізацією зростання інтересу до вивчення нової мови в цьому столітті є значним, це пов’язано з глобальними тенденціями в технології, демографії та економіці. Якщо говорити про англійську як приклад, то можна сказати, що це одна з найбільш вживаних мов у всьому світі, її часто називають «глобальною мовою», «лінгва франка» сучасної епохи.

Сотні мільйонів людей вивчають англійську, мову планети для торгівлі, технологій і, все частіше, для влади, однак інші мови, такі як китайська, іспанська, арабська, португальська, наразі мають дедалі більше носіїв або тих, хто зацікавлений в їх опануванні. Європейський союз у процесі формування єдиного територіального простору на теренах європейського континенту намагається дотримуватися таких принципів, сформульованих Радою Європи:

1. Європейське лінгвістичне розмаїття – це надбання, яке варто зберегти та захистити.
2. Безсумнівна важливість lingua franca – повноцінне використання «робочих» мов Ради Європи – у контексті глобалізації за активної участі засобів телекомунікації, туризму та торгівлі.
3. Комплексний підхід у викладанні мов у країнах-членах ЄС, а це, в свою чергу, має спонукати до оволодіння громадянами Європи не тільки «робочими» мовами, а й іншими європейськими та світовими мовами. Вивчення мов зараз є загальною необхідністю, тому це «бум», оскільки воно стало майже обов’язковим на рівні університету та роботи в усіх частинах світу. Незалежно від того, чим ви хочете займатися чи бути, важливість вивчення нової мови є фундаментальною в будь-якій сфері особистого чи професійного

життя: оскільки це інструмент, який дозволить нам спілкуватися та входити у світ міжнародного бізнесу та туризму.

За даними Британської Ради, наголошується, що третина книг у світі видається англійською мовою і що 75% наукової бібліографії також є англійською мовою. Таким чином, сьогодні будь-який дослідник або професіонал, який хоче бути в курсі подій або мати доступ до спеціалізованих книг, абсолютно повинен знати англійську мову, щоб бути в курсі стрімкого прогресу, який відбувається в його галузі знань. Крім того, англійська є мовою телекомунікацій (80% інформації зберігається в електронному вигляді). Із приблизно 40 мільйонів користувачів Інтернету 80% зараз спілкуються цією мовою. Більшість сайтів публікуються англійською мовою. Крім того, відсоток користувачів Інтернету, для яких англійська мова не є рідною, швидко зростає, особливо в Азії. Згідно з глобальним консенсусом, англійська була обрана мовою міжнародного спілкування. Це, «де-факто», мова дипломатії в «глобальному» світі, в якому відносини між країнами стають все більш важливими, звідси його велика популярність. У сфері навчання наявність нової мови в навчальній програмі є ключовим інструментом для успіху в навчанні. Вивчення англійської та іншої мови – це вже не розкіш, це необхідність, яка сьогодні не піддається сумніву. У сучасному суспільстві знань технологічні інновації просуваються над традиційними знаннями. Гуманітарні науки, як науки про культурне збагачення, які підтримують прямий зв'язок із соціальними цінностями, скорочуються, а робототехніка чи дизайн відеоігор є «знаннями», які молодь цінує і яким вона віддана. Одним із прийнятих рішень для навчання мови є система LMD (бакалавр-магістр-доктор). Це підкоряється ринковій економіці, мови викладають з дотриманням логіки попиту та пропозиції праці. Настав час корисного навчання, тому ми чуємо про спеціалізовані мови та навчання à la carte.

Вплив глобалізації створив взаємозв'язок між трьома вершинами трикутника: університетом, студентом (майбутнім фахівцем) і ринком праці. Це нове бачення викладання відображено в системі LMD (бакалавр-магістр-доктор), в якій було введено викладання фахових мов і викладання à la carte. Перші спрямовані на підготовку майбутніх фахівців у середньостроковій або довгостроковій перспективі, другі виникають, коли в деяких приватних центрах самі студенти звертаються за прискореним навчанням, щоб отримати роботу. Насправді мови фахового спрямування досягли великого успіху в професійному спілкуванні, про що свідчить така цитата: «Мови фахового спрямування сьогодні є важливим інструментом для вирішення комунікації в усіх сферах і тематичних областях, в яких науковці, техніки та професіонали виконують свою роботу. Їх значення зростає з кожним днем головним чином завдяки науково-технічному прогресу» [4, с. 20]. З цієї цитати можна зрозуміти, що в умовах глобалізації увага зосереджена на спеціалізованих мовах. Вони є ефективним інструментом для вирішення комунікаційних проблем, вони дозволяють точно передавати конкретну інформацію завдяки своїй моносемічній природі.

Навіть тероризм чи політичні акти протесту в кінцевому підсумку стають глобальними, і ми можемо знайти важливі збіги між програмами новин з країн, які знаходяться в інших країнах і континентах. Причина проста; глобалізація в освіті також є формою згуртованості, і тому те, що шкодить одній країні, завдає все більшої шкоди решті країн, які поділяють економічні принципи.

Воєнне широкомасштабне вторгнення Росії в Україну негативно вплинуло на розвиток економіки та соціальної сфери країни, але глобалізаційні процеси в освіті навіть прискорилися. Особлива увага була прикута до вивчення іноземних мов, адже в умовах міграції їх вивчення стало гострою потребою.

Після повномасштабного вторгнення Росії в Україну понад 1,3 млн. користувачів у світі почали вивчати українську мову на знак солідарності. Про це повідомляє безкоштовна онлайн-платформа для вивчення мов Duolingo у звіті за 2022 рік, який створили на основі даних понад 500 млн учнів. Також українську вчили громадяни держав, які приймають найбільшу кількість українських біженців. За 6 місяців після вторгнення кількість людей, які вивчають українську мову, зросла на 1651% порівняно з 2021 роком у Німеччині, на 1615% у Польщі та на 1515% у Чехії. Найбільше зростання популярності української мови у березні спостерігалося у Польщі, а також у Великій Британії, Німеччині, Чехії та Ірландії. Американці також вивчали українську мову у Duolingo. Самі українці також вивчали іноземні мови під час війни. "Війна також спонукав рекордну кількість українців скласти тест з англійської мови Duolingo (DET), щоб підтвердити свій рівень володіння англійською мовою для навчання за кордоном – кількість українських іспитів збільшилася на 4000% порівняно з минулим роком".

Постає питання, які мови варто і перспетивно вивчати зараз в Україні? Універсальної відповіді на подібне запитання немає і не може бути.

Англійська, як вже було згадано, є найпоширенішою мовою у світі. Її розуміє майже третина населення земної кулі. Окремо варто сказати про китайську, тому що соціологи впевнені, що через 10-15 років китайська буде найпопулярнішою мовою у світі міжнародного та бізнес-спілкування. Затребувані фахівці, які розмовляють рідкісними мовами. Наприклад, фінська, шведська допоможуть вам освоїти професії, пов’язані з мовами північнонімецької групи. Це актуально для тих, хто хоче знайти роботу в компанії, яка веде бізнес із цими країнами. Іспанська - це одна з робочих мов ООН. Зараз в Іспанії активно розвивається IT сфера, тому для програміста, який бажає збудувати успішну кар’єру, іспанська точно не завадить. Також в Іспанії потрібні медики всіх напрямків. Японська затребувана у більш ніж 25 країнах Азії.. Опанування японською допоможе вам суттєво підвищити свою професійну цінність на ринку праці, адже серед фахівців із такою навичкою мало конкуренції. Загалом, зараз існує безліч можливостей для вивчення іноземних мов, як популярних так і менш вживаних, шляхом онлайн платформ, мовних додатків та шкіл іноземних мов.

Міжнародні спільноти всіляко намагаються допомогти пришвидшити вивчення українцями іноземних мов. Країни, які приймають біженців, оплачують курси з вивчення мов, розробляють освітні платформи для здобуття освіти українцями. Україна, в свою чергу, працює над інтеграцією в єдиний освітній міжнародний простір.

22 листопада 2022 року, Україна стала членом Глобального партнерства в галузі освіти (GPE), GPE працює в тісній координації з гуманітарними партнерами та партнерами з розвитку, включно з приватним сектором, щоб мобілізувати фінансування для підтримки освітніх потреб в Україні. Віце-прем’єр-міністр Ірина Верещук під час наради, на якій обговорювались можливості отримання освіти українцями в Польщі й поляками – в Україні, наголосила, що освіта – один з інструментів інтеграції у європейський простір. Також на нараді обговорювалось питання про необхідність тісної гуманітарної й освітньої взаємодії Украïни та європейських держав. Передусім Польщі. Зокрема, про можливість включення польської мови до переліку навчальних предметів, з яких проводиться зовнішнє незалежне оцінювання. Наразі для громадян Польщі в МОН України опрацьовують алгоритм визнання та зарахування результатів Egzamin maturalny (польська матура) при вступі до українських навчальних закладів.

Один із пріоритетних напрямів реформування освіти за Державною національною програмою «Освіта. Україна XXI сторіччя» – це «досягнення якісно нового рівня у вивченні іноземних мов». Навчання іноземної мови на різних етапах набуває особливого значення у контексті процесів розвитку особистості, глобалізації та потреби у досконалому володінні фахівцями хоча б однією іноземною мовою. Тому перед освітньою системою України постає необхідність пошуку ефективних методів викладання іноземної мови, а також оновлення змісту та методів застосування інноваційних підходів до викладання фахової іноземної мови, передусім англійської.

На завершення необхідно відзначити, що процес глобалізації є незворотним, і освітній простір України неминуче повинен інтегруватися у світовий освітній простір.

Список використаних джерел

1. Civarolo, María Mercedes. Didáctica general y didácticas especificas: la complejidad de sus relaciones en el nivel superior, 2a ed: Villa María: Universidad Nacional de Villa María, 2019. 186p.
2. CABRÉ, M.T y GÓMES, E. J., La enseñanza de los lenguajes de especialidad. La simulación global, Madrid: Gredos, 2017.
3. CERVERO, V.V. El español de la ciencia y la tecnología, Madrid: Arco Libros, 2007. 296 p.
4. GÓMES DE ENTERRÍA, J., El español lengua de especialidad: enseñanza y aprendizaje, Madrid: Gredos, 2009
5. Motteram, G. Innovations in Learning Technologies for English Language Teaching. London: British Council, 2013. 196 p.
6. Науменко У.В. Інноваційні методи навчання англійської мови у вищій школі в умовах модернізації / У.В. Науменко // Молодий вчений. – 2018. – № 3.1 (55.1). – С. 118–122.
7. Singh A. Importancia de los idiomas para el aprendizaje y el desarrollo armonioso. Spanish.CHINA.ORG.CN. 2012.
8. 2022 Duolingo Language Report by Cindy Blanco https://blog.duolingo.com/2022-duolingo-language-report/#language-learners-rally-behind-ukraine

On the requirements for the professional abilities of Chinese teachers in international education

论汉语国际教师的职业能力要求

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引言。随着中国经济文化和科技实力的不断增强，“汉语热”现象已经从周边国家走向了全世界。在如今这个多元化的互联网时代，地球仿佛成为了一个村，对于各国的语言文化的了解和学习成为了贸易往来，学术交流，旅行生活所必须的一部分。汉语学习在全球不断升温，直到今天，学习汉语的人数已经发展到了 4000 万，国家汉办在 116 个国家设立了 430 多个孔子学院和 650 多个孔子课堂，这些学院成为推广汉语教学和传播中华文化的重要平台。随着孔子学院和孔子课堂的不断增多，中国在汉语国际教育这一领域，也需培养大量的教师，在国内国外进行汉语教学和中华文化的传播。那么对于汉语国际教育教师能力的要求也需不断完善，不断改进。

对外汉语教师承担着中国汉语推广和中华文化传播的艰巨任务,使世界各国文化相互促进、和谐共融、不断发展。切实提高对外汉语教师的基本素养，对于树立中国和民族的国际形象、提升中国文化的传播力和影响力具有十分重要的意义。

汉语国际教育事业的发展，对于教师自身的能力与素质，提出了新的要求。本论文在从汉语国际教育教师职业素养与发展、教师的知识结构与能力结构、教师的职业能力培养以及存在的问题和改进的方式这几方面进行概述和探讨，从教师职业能力这一块进行深入的分析。

Keywords: teaching Chinese, Chinese education, Chinese international education.

论汉语国际教育教师的职业能力要求

汉语国际教育教师职业素养与发展。 首先作为一名合格并且优秀的汉语国际教师，要具备良好的政治素养和教师职业道德。汉语国际教师在执教的过程中一定要清楚，自己是中华民族汉语言以及文化的代言人，所以从根本上要热爱祖国和人民，热心把中华民族的文化发扬光大，热爱汉语国际教育事业，有良好的职业操守与道德，为人师表，爱岗敬业，热爱同学。特别是在海外从事教学的教师，要严格遵守外事纪律，这也是汉语国际教师的特殊性。其次要具备业务素养即教师在教学活动中应该具备的专业修养。这包括四个方面：第一是教师要熟练掌握所教知识的内容以及结构；第二教师要在教学过程中能够灵活运用教学策略和方法；第三是在课堂教学上教师还要保证课堂教学任务的顺利进行，如果有突发状况要能够妥善处理；第四是教师要充分了解教学对象的专长和特点，根据学生的学习情况，不断地改进教学和调整教学 。
那么在职业素养能力的发展这一块，教师的能力要全面发展，并不是只注重某一方面或者是片面发展。例如在教学上，要教和学相结合，不是一味的教而忽略学生的反馈和互

动，或者只注重书本知识，只满足于课文上的那一点汉语专业内容，而忽视了文化的传播等等。

汉语国际教育教师的知识结构与能力结构。 汉语国际教育教师其知识结构和能力结构的组成是具有一定的复杂性，这与传统意义上国内的学科教学有着根本性的区别。汉语国际教育教师所面临的对象是来自世界各国的汉语学习者和汉语爱好者。所以对教师的知识结构和能力结构都具有多元化的要求。教师既要能够从事课堂教学，又要进行相关的科研研究还要传播中华文化，所以汉语国际教育教师不仅要有深厚的语言功底，还要具有文化底蕴，并懂得管理与研究。

1. 汉语国际教师的知识结构。

汉语国际教师的知识构成相对较复杂，大体上可分为这样几个部分语言本体知识，中华文化知识，理论知识和外语知识。首先，语言本体知识主要是要熟练掌握汉语中语音，词汇，语法等最基本的语言学内容，这是一名合格的教师教学的基础与前提。只有充分掌握这方面的知识，才有可能在实践教学中从容应对学生提出的关于语言方面的问题，同时教师也能更加规范和准确的对学生进行听说读写的训练。其次是教师要具备一定的文化知识。语言是文化的载体也是文化的一部分，离开了文化的语言只能是毫无意义的一堆符号。所以教师在教学中，不仅要具备专业的语言知识还要具有一定的文化内涵。例如在高级汉语的教学中，教材内容大部分就选自于一些名家名篇，那么在授课时教师除了教授语言知识外还要为学生介绍和讲解相关的文学背景和文化常识，这可以包括中国的年节礼仪，地理历史等等，以文化作为语言的依托，让学习者最终在掌握语言的基础上认识到中国的本土文化和价值观念。最后，教师要具备一定的基本理论知识。这一块主要包括语言学理论，教育心理学理论，第二语言教学理论和第二语言学习理论 。这一部分重在指导教师在具体的教学过程中，能够把相关理论知识与实践相结合，更好的掌握教学方法，了解学生心理，随时调整教学的既定过程，做到具体问题具体对待，从而达到最优的教学效果。

2. 汉语国际教育教师的能力结构

汉语国际教育教师在能力上主要包括教学能力和研究能力。

教学能力，一般是指在不断地教学实践中获得的经验与技能，它包括教师授课和解决相关教学问题的综合能力。刘珣认为：“教师的能力结构体现在教学方面则应该包括观察能力，分析辨别能力，思维判断能力，想象创新能力，口头表达能力以及组织能力，交际能力和应变能力 。”那么总体来说这些能力应该体现在教学内容的安排和课堂教学的技巧上。教师应把教学内容安排得紧凑有序，一环扣一环，循序渐进。在教学技巧上，教师要能灵活机动，随时调整课堂上出现的状况，并且着装得体，板书合理，充分借助教学设施来辅助教学，为学生创造一个良好的汉语学习氛围。研究能力是教师职业能力的重要组成部分，它是在教学实践后，教师根据教学情况作出理性的分析与研究，从而不断改进教学方向的关键 。

汉语国际教育教师的职业能力培养。 在职业能力培养上一般包括两大类：一类是专业人才培养，另一类是专业师资培训。

专业人才培养是指高等院校根据国家发布的专业目标制定相应的培养方案，系统的培训汉语国际教育教师。在本科期间学习实践为 4 年，研究生期间 2 年。专业课程分为三大类即文学文化类，语言学类和外语类 。在校学习期间，学生进行系统的学习，旨在培养一种复合外向型的汉语教师。在这期间，要求专业学习者既要掌握语言基本工和教育规律，又要具有一定的中华文化的底蕴还要能够熟练地从事外事交流。

专业师资培训，主要是指在教师正式上岗之前，进行短期的快速的速成式的训练。训练内容主要是语言学理论，教育心理学，教学理论和技能等等这些在课堂上实践

性很强的理论。培训方式主要是专题讲座，假期短期培训，以老带新等等。专业师资的培训主要目标是要教师们能够迅速投入角色，上岗职教。

国际汉语教师资格证 。

目前为止，孔子学院/国家汉办颁发的《国际汉语教师证书》是唯一的官方证书，是最权威的，其他的都是民间证书。

《国际汉语教师证书》考试是由孔子学院总部/国家汉办主办的一项标准化考试。考试通过对汉语教学基础、汉语教学方法、教学组织与课堂管理、中华文化与跨文化交际、职业道德与专业发展等五个标准能力的考查，评价考生是否具备国际汉语教师能力。考试包括笔试和面试，笔试成绩合格者方能报名面试。笔试成绩两年内有效，在有效期内可以报名参加面试；面试成绩合格者可在面试成绩公布后的两年内申请证书，逾期未申请者，成绩失效。

证书效力范围。

《国际汉语教师证书》

1. 是作为选拔孔子学院（孔子课堂）汉语教师、汉语教师志愿者的必要条件和优选条件；
2. 是作为从事汉语国际教育工作的准入资格；
3. 是作为国内外教育机构选聘和评价汉语教师的依据；
4. 是作为评价国际汉语教学机构师资水平及教学实力的参考。

孔子学院总部计划到2020年实现孔院相关工作人员持证上岗，孔院会以此证书作为选拔海外志愿者的重要参考标准，也是海内外机构院校招聘教师的重要参考标准。

报考条件：

1、遵纪守法，热爱国际汉语教育事业；
2、大三在读或本科学历；
3、熟练掌握一门外语（不需要证书证明）；
4、母语非汉语的报考人员，汉语水平须相当于HSK6级。

报考费用：

笔试（中国）400元，面试600。

笔试时间：

一般是四月，九月或者十月。

面试时间：

一般是七月、十一月或者十二月。

报考成绩与证书：

1. 笔试结束20个工作日后，考生可查询成绩。
2. 笔试成绩达到要求者，可报名参加面试。面试结束20个工作日后，可查询面试成绩。
3. 笔试和面试均达到要求者，可凭成绩报告、大学本科及以上学历证明，申请《国际汉语教师证书》。当次笔试合格、面试不合格者，笔试成绩两年内有效。

国家汉办的课程更偏向于教学技能和课堂组织与管理的基础性教学技能，而这些基础性教学技能对从业人员的帮助也是最大的，非对外汉语或汉语国际教育专业帮助更大。

考试结构。

《国际汉语教师证书》考试分为笔试和面试两部分。笔试通过后，可参加面试。

1．笔试。

笔试全部为客观题，分为基础知识、应用能力、综合素质三部分，每部分各50题，全卷共150题，满分150分。考试时间155分钟（含5分钟考生填涂答题卡时间）。试题前两部分，即基础知识和应用能力部分，主要采取案例导入式设计，案例源于教学实际，形式多样；第三部分，即综合素质部分，采用情境判断测验的形式，重点考查考生跨文化适应性及交际能力。

试卷结构。
比例:
第一部分， 基础知识 - 20%；第二部分， 应用能力 - 50%；第三部分， 综合素质 - 30%；总计，100%。
2．面试。
面试是对笔试达到要求的考生进行的考官小组面试。面试着重考查考生综合运用各种方法设计教学方案、组织实施教学过程、完成教学任务以及用外语进行交际和辅助教学的能力，同时考查考生的沟通交际、心理素质、教姿教态等基本职业素养。
面试采用结构化面试和情景模拟相结合的方法，准备时间30分钟，考试时间25分钟，包括说课、试讲、问答和外语能力考查。考官根据考生面试过程中的表现，进行综合评分，满分150分。
面试结构。
时间：
第一部分， 外语自我介绍 - 2 分钟；第二部分， 说课 - 3 分钟；第三部分， 试讲 - 7 分钟；第四部分，问答，中文问答 - 7 分钟；外语问答 - 16 分钟；总计 - 25分钟。
补充说明：
获得证书后每五年年审，是8分在网上修，2分还要去北京学习。

汉语国际教育教师职业能力培养上存在的问题和改进

汉语国际教育教师职业能力培养一般就是通过学校的学历教育和职前培训这两个大的渠道而形成。但是，随着汉语国际教育事业的深入发展，我们发现现在依然存在问题。
1. 教师的汉语言学功底有待加强
在对外汉语和汉语国际教育课程设置这一块，汉语和英语的课程量比例大概是 1:1，但是课程量 虽然是既定的可是实际学生投入的精力并不完全是这样。由于各种英语水平级别考试，学生往往投入大量的时间去学习英语，对于汉语的学习就放松不少，这直接导致最后当学习者真正成为教师时，其语言功底不扎实。教师面对留学生在课堂上提出的问题，会一时语塞或者想不到该怎样用简单的语言清晰明了的表达。所以在教师对于语言本体学习这一块还有待加强 。
2. 外语课程的设置没有完全起到一个相辅相成的作用英语的学习往往耗费学生很多精力，可成效依然甚微，在汉语国际教师英语学习这一块也有比较明显的体现。例如，依然有一部分教师到西方国家无法流利的与当地人简单交谈，其实这势必会对教学造成一定的影响。只有充分了解当地的语言文化才能够知己知彼，更好的传播中国的文化。并且在国内汉语国际教育这一专业的英语课程安排中，往往没有把英语和汉语的课程实现互补，似乎互不关联，所以外语课程的设置没有起到一个能和汉语学习相辅相成，互相启发的效果。
3.教学实践机会不多
在师范类院校或者是专业性很强的院校学生一般还是会有较多的实习的机会，可是在其他院校开设这个专业，就不一定能够面面俱到。学生往往只有理论上的知识而缺乏大量的实践，不能学以致用。

汉语国际教育教师的职业能力的培养可以从以下几个方面改进：首先，在专业学习期间，注重综合能力的培养，既要顾忌到汉语言方面的知识，也要顾及到到中华文化的传播 还要学好外语，是一个综合能力的提升；其次，学校也要多提供汉语国际教师赴外教学的机会，让他们能够真正在实践中锻炼；第三要强调培养教师的反思能力，在教学过程中，提供大量的机会让教师之间，学校之间切磋和交流教学问题与经验；最后要注重培养教师的创新能力，要鼓励教师勇于探索发现问题，勇于创新。随着汉语国际教

育事业的发展壮大，学习汉语者和从事教学者也会越来越多，这一块仍然有着巨大的发展空间 。

国际汉语教师知识体系与职业能力建构刍议

随着全球化的不断深入，国际汉语教师所具备的素质和能力也需不断更新。面对目前国际汉语教师发展过程中遇到的问题，可以从教师自身的知识体系和职业能力建构两个方面来改进。知识体系的建构不再局限于语言学、教育学和心理学等几个学科范围之内，对公共外交学、国际关系学等学科也应充分理解；职业能力的建构要以知识体系的构建为蓝本，从语言运用能力、教学能力、心理抗压能力等方面入手。知识体系和职业能力的建构处于动态发展空间，要根据现实的教学要求而持续更新完善。国际汉语教师可根据当今全球汉语教育的特点，结合孔子学院发展规划，及时调整并建构自己的知识体系，实现自我职业价值，促进汉语国际教育的发展。

“三教”（教师、教材、教学法）问题是当前在汉语国际教育领域里比较突出的显性问题，“教师”在这一问题中起着主导作用。分析和研究教师的课堂教学行为，可以在微观层面上较好地回答某些有关教学的问题；以教师为关注焦点，围绕与这个焦点相关的教师教学、培训与开发、职业生涯设计和管理以及由国际汉语教师（中国籍）为聚合主体组织的发展等问题而进行研究，可以在宏观层面上观察目前汉语国际教育出现的新问题，站在一个较高的角度上，提出解决问题的方法。面对当前国际汉语教师职业生涯发展中遇到的瓶颈问题，我试图从知识体系建构和职业能力建构两方面进行探讨 。

国际汉语教师的职业建构包含两个重要部分，即教师的专业知识体系建构与职业能力建构。教师以其专业知识来促进自身职业能力的不断发展，而职业能力的发展反过来又可以弥补专业学习未涉及的学科领域。专业知识体系建构与职业能力建构是构成国际汉语教师职业生涯发展的两翼，前者是基础，后者是条件，二者相互影响、相互作用、相互依存。

国际汉语教师专业知识体系的建构

从汉语国际教育这个学科自身所固有的特征出发，国际汉语教师的主要教学任务是面向海内外母语或第一语言为非汉语的群体进行汉语和中国文化教学。因此，汉语作为第二语言教学的学科研究领域覆盖了语言学及应用语言学、教育学、文化学和心理学等，这类学科即属于框架内学科，直接与语言教学密切相关。

同时，汉语国际教育也是中国语言和文化全球推广的国家战略，中国国家汉语国际推广领导小组办公室（以下简称“汉办”）的设置便体现出了这一战略的极端重要性。从国家发展层面出发，汉语国际教育是我国面向全球的公共文化传播实体，是中国教育和文化软实力的体现。因此，汉语国际教育也可以说是一项国家事业，围绕这个着眼点，其学科覆盖领域应该含有公共外交学和国际关系学等，这些学科可以归纳为框架外学科，着眼于跟语言和文化国际传播有关的国家政治、经济、军事等因素 。

框架内和框架外学科共同构成了教师的专业知识体系。前者重在“点”，意在说明“教什么”“怎么教”和“怎么学”的问题；后者重在“面”，从国家角度出发，说明语言、文化与国家之间的关系。

框架内学科建构。

单纯地就专业学科属性而言，国际汉语教师应具备与汉语作为第二语言教学相关的框架内学科意识，并且能够较好地融通这些学科，综合运用跨学科的知识服务于汉语教学。

语言学及应用语言学，是汉语国际教育最核心的框架内基础学科。汉语本体研究在对外汉语教学中有不可替代的作用；反过来，对外汉语教学也可以拓宽汉语本体研究的范围，有助于加深对汉语的认识。理论语言学，可以让我们知道全球各种语言的共性

和个性，了解不同语言的特征和规律，这样有利于把握汉语作为第二语言教学的主旋律。应用语言学中的各个分支学科，可以丰富汉语国际教育的学科理论，尤其是语言教育、社会语言学、计算语言学等应用语言学学科对汉语国际教育的发展起着较大的促进作用 。

教育学，是汉语国际教育的支撑性框架内学科。汉语作为第二语言教学是语言教学的一个分支，而语言教学又是教育学的一门分科。教育学中研究的教学过程、教学阶段、教学内容、课程设置与管理、教学方法、教学组织形式及教学效果检测等内容都与汉语国际教育有关，教育学的研究成果为对外汉语教学提供了可参考、可借鉴的理论 。

心理学作为汉语国际教育的另一个支撑性框架内学科，其研究成果可以使教师了解汉语作为第二语言学习者对语言认知、语言知识和技能掌握的过程、特点和规律，同时也对汉语学习者的第二语言习得研究提供了理论。

框架内的学科建构是从专业构建的底层出发，是每一位国际汉语教师在进入实际教学之前必须建构的完备的基础学科理论体系。由这些学科规划和设置出的课程是汉语国际教育本硕博三级不同层次人才培养的核心必修课程。

框架外学科建构。

框架外学科的建构有助于国际汉语教师更好地认识作为国家事业发展和全球中国文化传播载体的汉语国际教育的重要意义，也有助于教师个人在宏观层面上准确把握汉语国际教育的主旋律。教师应积极通过自身的教学，在实现自我职业价值的同时，逐步实现汉语国际教育在国家层面上的战略价值。

公共外交学，狭义地讲，是研究主权国家对外的文化宣传、推广等外交行为的学科。公共外交则是“一个国家为了提高本国知名度、美誉度和认同度，由中央政府或者通过授权地方政府和其他社会部门，委托本国或者外国社会行为体通过传播、公关、媒体等手段与国外公众进行双向交流，开展针对全球公众的外交活动，以澄清信息、传播知识、塑造价值进而更好地服务于国家利益的实现” 。

从这个定义中可以看出，公共外交必须是在主权国家的中央政府主导下进行的对外活动，通过公关、传播、人文交流和援助等形式来对海外的公众进行文化外交活动，其直接目标是影响外国公众的态度，最终目的是推进本国外交政策目标的顺利实现。从根本上说，公共外交承担了沟通不同文明和文化裂痕的理论使命，是架起不同国家民众之间超越文明和文化隔阂的桥梁和催化剂。汉语国际教育作为中国国家语言和文化的对外战略，体现出了公共外交的内涵。公共外交学研究的主权国家对外文化的传播机制、传播形式和途径、传播方法和技术以及传播效果评估与控制等问题，不仅是战略规划主体所要考虑的问题，而且还是语言和文化的具体传播者所要关注和思考的焦点之一。

国际关系学主要是指研究国与国以及国际关系行为体之间的相互运行、相互作用和演变规律等的学科，其主体内容为政治学、外交学、经济学、历史学及地理学等学科的交叉内容。就国际汉语传播的形势而言，主导国中国的政治、经济等硬实力和教育、文化、科技等软实力是极为重要的，国家的综合实力构成了汉语对外推广的最强基底；中国的国际交往力、全球话语权、国际形象等因素则为汉语的对外传播提供了可能。全球化时代下的文化和文明是国际关系学所关注和研究的一个重要领域，如何处理不同国家文明之间的差异与矛盾及其对世界的影响已经成为全球政治学研究的一个日益重要的课题。汉语的国际传播和推广正是中国在当前全球化大浪潮下与不同文化背景国家之间的文明对话，这沟通了中国与其他文明形态国家的思想，有利于中国文化“走出去”，有助于全球公众更好地了解中国。汉语和中国文化的全球推广要顺应国际历史潮流，合理应用国际关系学研究的各种成果，主动与各类文明进行接触和交流，在世界文明多元性和文化发展模式多样化的前进道路中发出“最美中国音”。

框架外学科往往与国家的政治、经济、文化和国际关系等有关，更显现出交叉学科和多样性的特征。这类学科本身可能与第二语言教学的重合度较小，但却是一个国家语言对外传播和文化全球推广必须考虑的现实问题，语言国际规划也必须将这类学科纳入考量和权衡的范围之内。国际汉语教师应对框架外的学科做到充分理解，根据自己的教学实际和切身的语言文化传播体验，为国家的语言国际规划献计献策，积极参与中国公共外交活动和国家语言发展战略的制定 。

框架内学科和框架外学科共同筑起了国际汉语教师的专业学科建构的体系，前者明确回答了教师教学、学生学习的问题，而后者则更多地站在国家的角度上，说明汉语国际传播在宏观层面上的问题。

国际汉语教师职业能力的建构

国际汉语教师的专业学科建构是从事汉语国际教育这一职业的必要基础，而这类人力资源是否能够较好地从事这项职业，做到“人”“职”匹配，还得考查职业能力的建构是否合理到位。因此，职业能力的建构可以说是教师从事这项职业的必备条件 。

1. 语言及语言运用能力。

根据框架内学科建构的语言学及应用语言学这一学科的要求，国际汉语教师必须具备较好的语言及语言运用能力。国际汉语教师的主要教学工作就是教授母语或第一语言为非汉语的学生学习汉语，所以教师的汉语语言能力是职业能力建构的内核。教师的汉语能力包含了汉语各语言要素和汉字能力，并且教师能够通过自己的汉语知识储备转化为汉语语言教学能力。语言运用能力也是教师职业能力建构的重要之处。教师的教学语言运用能力是保证汉语课堂教学顺利进行的首要条件，而教师的语言沟通能力和语言表达能力则是与教学工作相关的各项交际性事务成功开展的保障条件 。

教师的语言及语言运用能力中，英语的知识储备和运用能力也是包含其中的。作为当前国际通用语，英语可以在某些场合中充当第三方语言，力保国际汉语教师的教学工作及相关事务有效开展。

2. 教学能力。

国际汉语教师是通过教学这一实际行为将汉语知识和汉语运用技能教授给学生的，所以教学能力是教师继语言及语言运用能力之后又一个重要的职业能力。教学能力理论上的培养可以通过框架内的教育学学科的学习来完成，而教学实践能力则需要通过教师持续不断地进行实操来获得。

具体而言，国际汉语教师的教学能力可以分解为汉语语音、词汇、语法的教学能力和汉字、中华文化的教学能力，以及各项语言技能和语言交际技能的教学能力。课堂教学是语言教学的主要环节，也是教师完成大部分教学任务和学生获得绝大多数语言知识与能力的主要教学过程，所以课堂教学能力是国际汉语教师教学能力的重中之重。

3. 心理抗压能力。

由于国际汉语教师面临的教学对象、身处的教学环境以及可能遇到的跨文化冲突等种种客观存在的现实，都要求教师必须具有较强的心理抗压能力。国际汉语教师自己要持有一种平衡的心理状态，对可能出现的困难要有足够的预计和应对策略，并且学会适时调整自己的心态，能够较好地应对突发的教学危机和公共文化传播危机，训练自我抗压和解压的职业能力。

4. 国家语言发展战略执行能力。

作为国家事业的汉语国际传播，是中国公共文化外交和国家软实力的展现，是在一定的国家语言规划和政策下应运而生的[8]。国际汉语教师则是具体去执行这一国家语言规划和政策的使者，是国家文化外交的推动者。根据框架外学科构建要求，教师除了具备应有的外交学和国际关系学的知识外，还应结合中国的国家语言发展战略，在国际

汉语传播和中国文化推广的过程中寻求自己的合理定位，不断加强自己的语言战略执行力。

《国际汉语教师标准（2012年版）》为广大有志于从事汉语国际教育职业的专业人才提供了参评标准，这些标准大致可以划分为专业要求和职业要求两个方面。专业建构和职业能力是国际汉语教师顺利进行汉语和文化教学以及执行和落实国家语言发展战略的两个不可或缺的要素，处理好二者之间的关系，既有微观的专业技能又有宏观的职业能力，这样才有可能达到自己的职业要求，实现自己的职业生涯目标，打通自己的职业生涯发展路径。国际汉语教师在实现自己职业生涯目标的同时，也是中国汉语国际教育事业发展进步之时。

国际汉语教师的职业建构模式

《国际汉语教师标准（2012年版）》规定了教师入职的基本条件；而《孔子学院发展规划（2012—2020年）》则进一步明确了教师自身该如何实现自己的职业生涯之路，获得职业发展上的成功。孔子学院的创建为绝大多数国际汉语教师提供了一条符合专业发展的职业生涯通道，孔子学院的汉语教师可以将自己的专业知识和职业能力有效且高度地结合。

1. 国际汉语教师的职业类型。

随着中国在海外建立的孔子学院和孔子课堂数量的增多，越来越多的学习者显现出了不同的汉语学习需求和目的 。适应海外汉语学习者各类不同需求和目的的国际汉语教师职业类型仍处于“欠缺”状态，这不仅体现在数量上的欠缺，也在一定程度上折射出了质量上的不到位。

1）教学型教师。

这种类型的教师是目前孔子学院发展中需求数量最多也是处于主体位置的国际汉语教师类型。教学型教师是指主要教授海外学生汉语知识、汉语技能和汉语交际能力等语言及语言运用系统内知识的教师。这类教师往往具有扎实的汉语本体知识和第二语言教学能力，能够适应对不同层级学生的教学要求，可以完成纷繁多样的汉语语言教学任务。

教学型教师居国际汉语教学的首要地位且数量众多，这类教师符合孔子学院和孔子课堂建立的初衷，是海外汉语教学的中坚力量，更是推动汉语国际教育的有力保障。

2）文化型教师。

文化型教师是为满足海外汉语学生更高需求应运而生的国际汉语教师类型。这类教师主要是中国文化海外教学和传播的具体执行者，所有跟中国文化有关且能够促进国外学生汉语学习兴趣的学科都应属于这类教师教学的内容。这类教师的来源领域广泛、专业背景多元，不仅仅限于语言类的学科；该类教师还应对学生的母语文化有所了解，具备较高的跨文化交际和教学能力 。

文化型教师不同于教学型教师，在中国文化教学中，不必过分强调学生的汉语语言能力，关注点应放在海外学生对中国文化的整体认知上。文化教学不同于语言教学，教师应更多地引导学生正确看待并走进中国文化，帮助学生树立全球多元文化意识并使学生初步建立起一定的汉语文化思维。

3）专门型教师。

专门型教师主要是针对海外汉语学习者在特殊领域里的语言和技能需求而划分出来的教师类型。语言教学型教师能够满足学习者基本的汉语交际的学习需求，而专门型教师可以在更细化的专门领域来教授学习者，例如商务、文秘、旅游、艺术和中医药等特殊领域，因此，专门型教师应该具备汉语语言学科和特殊领域方面的知识与技能 。

由于学习者具有十分明确的汉语学习目的，所以这也要求教师除了具备一般语言教学型教师的能力之外，还应该具备学生专门学习领域的知识体系。更为重要的是，专

门型教师必须掌握某一专门领域在中国发展的实际情况，教授给学生该领域实用的汉语技能。

4）科研型教师。

这是为了适应孔子学院未来的发展规划而特别设置的一种教师类型。孔子学院以教授汉语和传播中国文化为主要教学定位，以开展当代中国研究和国外“汉学”研究为学术科研方向，以促进孔子学院所在国和中国的人文、社科及自然科学等领域的学术发展与合作为目标，从而大力发展孔子学院作为中国学术和文化外交平台的综合作用。

科研型教师符合孔子学院今后发展成为中国海外学术科研平台的规划目标。这类教师以汉语和中国文化为第一切入点，可与国外学者直接联合开展当代中国和海外“汉学”研究，也可以为外国学生和研究者面对面地开展中国各学科领域的学术科研讲座，以此借鉴国外优秀的科研成果并促进中国科研学术的横向和纵深发展。

5）管理型教师。

管理型教师即具体的每一所孔子学院的管理者，一般可以理解为孔子学院的院长。管理型教师主要负责经营和运行孔子学院，细化并落实孔子学院总部制定的章程，选聘、培训和管理其他类型教师，协调好孔子学院与国外合作院校的关系，做好所在国孔子学院的品牌运营管理，总体负责孔子学院的教学、文化交流及科研等任务。

管理型教师是每一所孔子学院未来发展的核心代言人，这类教师应从教学、文化和科研型教师中选拔出来。管理型教师除了具有相应的汉语教学和中国文化传播的基本功外，还应熟知国家的语言发展规划及政策并且具备较好的跨国教育管理能力 。

孔子学院的国际汉语教师需求类型不是单一化的，往往是复合性的，存在着交叉和叠加的教师岗位。以上五种类型的教师需求，可以大致明确国际汉语教师的职业生涯发展方向，细化国际汉语教师自我知识储备和技能要求。国际汉语教师应根据自身的特点和长处，结合不同类型孔子学院的具体发展需求和模式，优化自身的职业生涯，尽力打通自己的职业生涯通道，提前规划好自己的职业生涯发展路径。

2. 国际汉语教师的职业生涯发展。

国际汉语教师的职业生涯是指与其汉语教学工作和自己职业有关的整个人生历程，包括了对汉语国际教育事业的兴趣培养、教学能力的获得、在职的培训、具体的教学事项的调整及最后退出这项职业劳动的一个完整的职业发展过程。国际汉语教师的职业生涯发展是实现自我职业价值的途径，也是推进汉语国际教育事业发展的渠道。

1）国际汉语教师的职业认知。

汉语国际教育是一项具有高度知识化和能力化的专门海外汉语教学职业，从事这项职业的人才必须具备一定的专业学科基础和职业能力，懂得语言和国家之间的关系，正确认识汉语国际教育的目的。因此，国际汉语教师对自己的职业定位要有清晰的认知，对国家的语言规划和政策有一定的解读能力，并能根据国家的具体需要来执行语言教学任务 。

国际汉语教师对职业的认知应该包含以下几点：

第一，明确知道从事汉语国际教育需要的最基本的专业知识和职业能力，这些知识和能力获取的渠道有哪些；

第二，自己的性格、人生态度是否符合这项职业的内在要求，这项职业的发展路径和通道是怎样的；

第三，与这项职业有关的因素有哪些，自己是否有足够的能力和应变之策对待这些有可能对自己职业发展产生影响的因素；

第四，从事这项职业，对自己的人生价值实现和职业愿景有何影响，对这项职业所辐射的宏观领域会产生怎样的影响。

2）职业倦怠及职业发展瓶颈。

国际汉语教师在初入职时，总是伴随着高度的热情和积极性投身教学工作，但是随着相同教学任务的长期重复，教师有可能就会产生职业倦怠情绪。针对这种情绪，教师应该积极寻求同事之间或专门心理咨询辅导机构的帮助，通过一定的情绪发泄来降低自己的职业倦怠度，通过不同的职业路径来寻求自己对所从事职业的兴奋度 。

一般而言，国际汉语教师的职业发展瓶颈问题会在入职后的3至5年内产生，瓶颈问题会使部分教师因看不到自己的职业出路而选择“跳槽”。当前，汉语国际教育事业遇到了不少的困境，教师问题以及教师职业发展的瓶颈问题便是其中的一个重要方面。职业瓶颈问题不光是教师个体的问题，也是以汉语国际教育为聚合目的的组织问题。教师的思想意识不能较好地跟上时代前沿、教师的教学行为单一枯燥、教师的职业认知发生较大改变以及组织在发展中遇到较大的问题等都有可能形成教师的职业瓶颈。面对职业瓶颈问题，首先，国际汉语教师应调整心态，重新分析一下自己的职业定位；其次，“汉办”应大力进行国际汉语教师的在职培训，不断优化、更新教师的知识储备和能力结构，通过相应的培训，有助于教师的整体素质上升一个层次，避免优秀教师人才流失；最后，国家的语言规划和政策应考虑国际汉语教师的职业处境，教师也应该积极参与汉语国际教育规划的制定。

结论

该论文以汉语国际教师作为研究的对象，研究了他们在教学方面该具备的职业能力。

根据该论文引言中所设置的任务，通过分析和研究得出了以下结论:

教师在教学活动中应该具备的专业修养包括四个方面：

第一是教师要熟练掌握所教知识的内容以及结构；

第二教师要在教学过程中能够灵活运用教学策略和方法；

第三是在课堂教学上教师还要保证课堂教学任务的顺利进行，如果有突发状况要能够妥善处理；

第四是教师要充分了解教学对象的专长和特点，根据学生的学习情况，不断地改进教学和调整教学。

汉语国际教师的知识构成相对较复杂，大体上可分为这样几个部分语言本体知识，中华文化知识，理论知识和外语知识。

教学能力，一般是指在不断地教学实践中获得的经验与技能，它包括教师授课和解决相关教学问题的综合能力。研究能力是教师职业能力的重要组成部分，它是在教学实践后，教师根据教学情况作出理性的分析与研究，从而不断改进教学方向的关键。

国际汉语教师的职业建构包含两个重要部分，即教师的专业知识体系建构与职业能力建构。教师以其专业知识来促进自身职业能力的不断发展，而职业能力的发展反过来又可以弥补专业学习未涉及的学科领域。专业知识体系建构与职业能力建构是构成国际汉语教师职业生涯发展的两翼，前者是基础，后者是条件，二者相互影响、相互作用、相互依存。

框架内学科和框架外学科共同筑起了国际汉语教师的专业学科建构的体系，前者明确回答了教师教学、学生学习的问题，而后者则更多地站在国家的角度上，说明汉语国际传播在宏观层面上的问题。

第二章所提到的五种类型的教师需求，可以大致明确国际汉语教师的职业生涯发展方向，细化国际汉语教师自我知识储备和技能要求。国际汉语教师应根据自身的特点和长处，结合不同类型孔子学院的具体发展需求和模式，优化自身的职业生涯，尽力打通自己的职业生涯通道，提前规划好自己的职业生涯发展路径。

总之，写该论文所设定的目标和设置的任务，通过参考大量文献和研究汉语国际教师这一方面的问题，已实现并得到充分答案。

References
1. 吕必松.语言教育与对外汉语教学［J］.外语教学与研究出版社，2005.
2. 刘珣.对外汉语教学概论［M］.北京语言文化大学出版社，1997.
3. 张和生.对外汉语教师素质与培训研究的回顾与展望［M］.北京大学学报，2006.
4. 张和生.对外汉语教师素质与教师培训研究［M］.商务印书馆，2006.
5. 崔永华.对外汉语教学的教学研究［M］.外语教学与研究出版社，2005.
6. 程裕祯.中国文化要略［M］.外语教学与研究出版社，2011.
7. 邹津津.对外汉语教学中教师文化调适的个案研究（硕士研究生学位论文）［D］.云南大学，2012-5.
8. 崔希亮. 汉语国际教育"三教"问题的核心与基础[J]. 世界汉语教学, 2010, 24(1).
9. 陆俭明. 汉语国际教育专业的定位问题[J]. 语言教学与研究, 2014(2).
10. 崔希亮. 关于汉语国际教育的学科定位问题[J]. 世界汉语教学, 2015, 29(3).
11. 韩方明, 赵可金, 柯银斌. 公共外交概论[M]. 北京: 北京大学出版社, 2011.
12. 赵可金, 倪世雄. 中国国际关系理论研究[M]. 上海: 复旦大学出版社, 2007.

MODEL OF TRANSLATION QUALITY ASSESSMENT IN TEXTBOOKS

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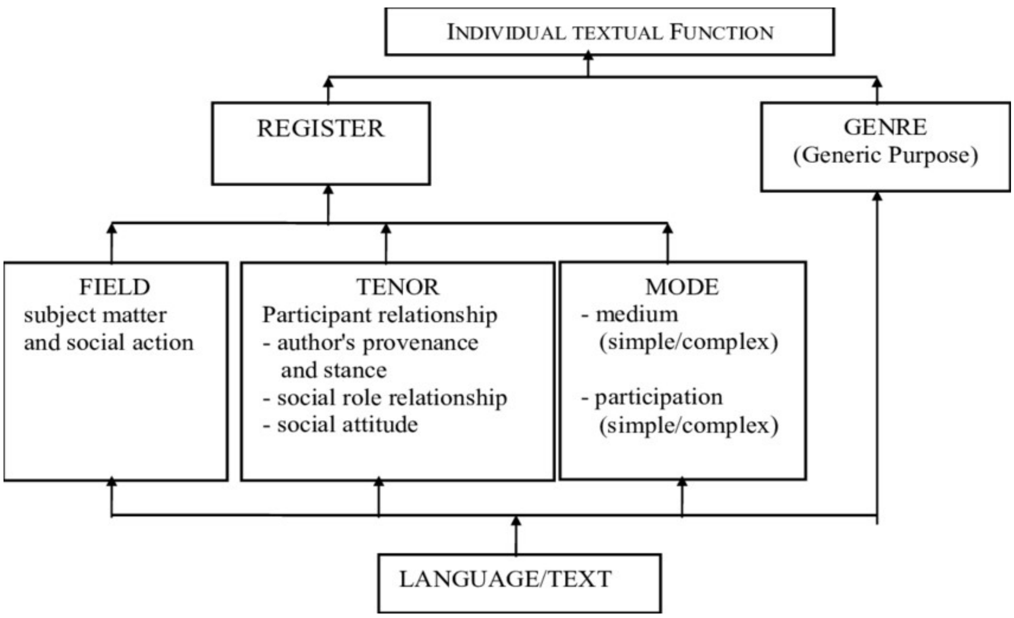
Abstract. In this article, the concept of translation quality assessment (TQA) is discussed and demonstrated in its application using linguist Juliane House's model. The main goal of TQA is to identify areas for improvement and ensure that translations are of high quality and meet the needs of their intended audience. The present article aims to assess the quality of the translation, which is based on literary theory textbooks using House's model, and also analyze the translation from English into Kazakh.

Introduction. Translation is a process that involves transferring meaning from one language to another while maintaining accuracy, clarity, and cultural nuances.
Assessing the quality of translations is essential to ensuring that the intended message is conveyed effectively. One prominent approach to translation quality assessment is the House's Model, which provides a structured framework for evaluating translations.

Translation Quality Assessment (TQA). Numerous methods, approaches, and techniques exist for assessing translated texts, but none is as systematic as House's model for translation quality assessment. The model is based on functional equivalence and is set to give a thorough analysis of the source language, target language, and their comparison. The result shows that the modified model is more systematic and accessible.

According to House, translation is "the replacement of text in the source language semantically and pragmatically with an alternative text in the target language". The following scheme, suggested by House, outlines a systematic approach for analyzing original and translated texts, assessing their functional equivalence [1, 139]:

A Scheme for Analyzing and Comparing Original and Translation Texts (Figure1)



Register. This is a set of factors that consists of the following components:

Field a. Subject matter: it captures the essence of "what is happening," encompassing the field of activity, content and the overall substance of the text.

b. social action: it explains 'the spectrum of specificity in lexical items, ranging from specialized to general to popular categories, thus reflecting the varying degrees of detail included in the text'.

The premise (*Tenor*) shows the nature of the participants involved, namely the author and the audience, the relationship between them in terms of social aspect and proximity.

The mode of action (*Mode*) describes the way of communicating and talks about whether the material is written or pronounced (Medium), with many variations: written for reading, written for the speech.

The model developed by Juliane House involves studying the source and target texts from a variety of aspects, using a deep linguistic and situational analysis of both texts, and comparing them using a large number of criteria [2, 30]. In addition, House uses the concept of "genre" in her model, which she defines as "a socially established category characterized by the presence of a source, application, communicative purpose, or any combination thereof." It is not easy to maintain perfect functional equivalence in translation due to cultural differences. House distinguishes two types: explicit (overt) and hidden (covert) in translation.

Text analysis. Field. The analyzed textbook is book 'Literary Theory: A practical Introduction', Third Edition. It presents a comprehensive introduction to the full range of contemporary approaches to the study of literature and culture, from formalism, structuralism, and historicism to ethnic, gender, and science studies. The textbook introduces readers to a variety of contemporary approaches to the study of literature and culture and also demonstrates how the varying perspectives on texts can lead to different interpretations of the same work [3].

ST: A Russian formalist would also notice *the bawdy language* of the opening dialogue, which is filled with puns and ribald innuendo.

TT: Орыс формалистері беташар сұхбаттың *бейпіл тіліне* де мән берер еді. Ол қағытпа сөздер мен дөрекі мысқылға толы.

With respect to the field, the discrepancies were found in the areas of lexical, syntactical, and textual items. Many changes have occurred in the transmission of information. In lexical discrepancies of TT in the example, such as omitting the term, translating the meaning incorrectly misleads the reader. Therefore, the translator has not transmitted the original meaning of the term.

Tenor. The textbook is intended for students, undergraduates, doctoral students of literary studies and linguistics, as well as related humanities, philosophers and cultural scientists, and a wide readership.

In the broader context of literary theory, scholars may examine the relationship between the literal and metaphorical meanings of language, as well as the implications of metaphorical language for understanding themes, characters, and narrative structures in literature.

The following example shows the discrepancies of the source and translated texts.

ST: Perhaps the language action that is most prevalent in the novel is lying. *Characters deceive one another.*

TT: Романдағы тілге қатысты іс-әрекеттің басым көпшілігі жалғандыққа құрылған болуы мүмкін. *Кейіпкерлер бір-бірін алдаусыратып, үнемі түлкі бұлаңға салып отырады.*

The translation is culturally relevant, providing examples and analogies that resonate with Kazakh-speaking readers. It effectively conveys the nuances of film genres and literary analysis within a cultural context. Overall, the translation demonstrates a strong understanding of the original text and effectively communicates its concepts to a Kazakh-speaking audience. It maintains the integrity of the ideas presented in the original English text while adapting them appropriately for Kazakh-speaking readership.

Mode. In this textbook, the most extensive theoretical concepts are widely and deeply differentiated, which are relevant topics of World Literary Studies: Russian formalism, globalization, cognition, emotion, evolution, the goals of literary criticism and theory, and their relationship with neurobiology. The textbook explores the directions of structuralism and poststructuralism. The main representatives of the current that arose in the 50s and 60s of the XX century and developed in the 70s—M. Foucault, J. Bodriar, J. Derrida, L. Altyusser, Y. Kristeva, J. Lacan, R. Bart, J. Deloz, and J. Lyotars paid special attention to the criticism of poststructuralism as a philosophical and methodological worldview in order to bring new touches to the fields of literature, politics, linguistics, philosophy, and culture. Such topical issues of literary criticism are analyzed using the example of outstanding works and accompanied by exercises. The following example is given to shows the differences of the source and translated texts.

ST: Language is action in the novel, and it functions to identify, to locate, to categorize, to dominate, to harm, and to deceive.

TT: Тіл – романдағы іс-әрекеттің жаны. Көркем шығармаға айрықша сипат беретін де, жаңа формалық ізденістерге жол ашатын да, оқырманның сезім қылын шертіп, ерекше әсерге бөлейтін де – жазушының тіл шеберлігі.

The translated texts use suitable Kazakh language and terminology to convey complex literary concepts. It effectively communicates ideas about film structure, character development, and plot evolution.

When discussing the *language and text*, it is the comparison of the source text and the translated text and the determination of quality. At this stage, Juliane House recommends finding inconsistencies in translations in the above directions of the register: field, tenor and mode, as well as by genre. The author of the model insists on achieving identity in all selected areas or finding explanations for inconsistencies.

The genre of a literary theory textbook would typically fall under academic non-fiction or educational literature. These textbooks are designed to provide students and scholars with comprehensive insights into various theories and approaches to understanding literature. They often include critical analyses, historical context, and discussions of key concepts within literary theory. The writing style is typically scholarly and informative, aiming to convey complex ideas in a clear and accessible manner for readers.

One of the most important discoveries made by House based on this model, which influenced the development of translation theory, is the categorization of translation into two types: explicit (overt) and hidden (covert).

Overt aspects of literary theory or analysis are those that are clearly stated or easily observable within the text itself. These are elements that are directly expressed or openly discussed by the author or critic.

ST: The novel achieves some of *its most poetic heights* precisely at those moments when Gatsby's dreams are most vivid and most transformative of the dim-brained Daisy into something sublime, a "golden girl" trapped in a castle.

TT: Гэтсбидін ой-өрісі таяз Дэйзиді қамалға қамалған «алтын кызға» балап, жаркын әрі жанды кейіпте елестеткен сәтін *романның шарықтау шегі* деуге болады.

The translation stays faithful to the original text's meaning, explaining concepts such as the structure of films, recurring plot motifs, and the internal structure of literary works.

Covert aspects, on the other hand, are those that are implied, hinted at, or hidden within the text or theory. These are elements that may require deeper analysis or interpretation to uncover, as they are not explicitly stated or readily apparent. For instance, a novel may contain subtle symbolism or allegory that suggests deeper themes or social commentary, which may not

be immediately obvious upon casual reading.
ST: With Jordan Baker is associated the labor language performs in *segregating classes* through tone.
ТТ: Ал Джордан Бейкердің бейнесі жұмысшылар тілінде сөйлейтін *қарабайыр адамды* еске салады [4].

The given translation maintains clarity and coherence in conveying the ideas presented in the original text. It effectively explains how different films follow familiar plot structures and how literary works balance various worldviews and thematic elements.

Conclusion. Translation Quality Assessment (TQA) refers to the process of evaluating the accuracy, fluency, and overall quality of translated texts. TQA is essential in ensuring that translations meet the desired standards and effectively convey the intended meaning from the source language to the target language. Various criteria are typically considered in TQA, including linguistic accuracy, terminology consistency, cultural appropriateness, readability, and adherence to style guidelines. And furthermore, TQA can be conducted manually by experienced linguists or through automated tools and metrics designed to analyze different aspects of translation quality.

The Kazakh translation of the provided text maintains the overall meaning and structure of the original English text. It effectively conveys the concepts of film structure and literary analysis, using appropriate language and terminology.

In conclusion, the translated texts provide a comprehensive analysis of narrative structure in literature and film, highlighting its significance in shaping meaning, engaging audiences, and conveying broader thematic concerns.

REFERENCES

1. J. House, 2001a, "How do we know when a translation is good", in Steiner, E & Yallop, C (eds), 2001, Exploring Translation and Multilingual Text Production: Beyond Content, Mouton de Gruyter, Berlin-New York, 127-160.

2. Nurken Aubakir 'Translation Quality Assessment of popular science material (on the material of the «National Geographic» article): Juliane House's model'. Вестник Карагандинского университета, Серия «Филология». № 4(96)/2019

3. Michael Ryan (Editor). Literary Theory: A Practical Introduction, 3rd Edition. «Blackwell Publishing LTD», 304 Pages. 2017

4. Майкл Райан «Әдебиет теориясы: Кіріспе» оқулығы. 2019 ж. «Жаңа гуманитарлық білім. Қазақ тіліндегі 100 жаңа оқулық» жобасы бойынша кітапты «Ұлттық аударма бюросы» қоғамдық қоры. (292 б., Алматы қ.)

5. Oxford Qazaq Dictionary. Bilim Media Group, 2023

ҚАЗІРГІ ФРАНЦУЗ ӘДЕБИЕТТАНУ МЕКТЕБІНІҢ ӨКІЛДЕРІ

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Леон Робель мен Реми Дор қазіргі француз әдебиеттану мектебінің белсенді өкілдері деуге болады. Олар қазақ әдебиетін зерттеумен айналысады.

Француз әдебиеттанушысы, аудармашы, ақын Леон Робельді қазақ әдебиетін белсенді француз зерттеушілерінің бірі деуге болады. Леон Робель Сорбоннада (Париж) классикалық филология мен орыс тілін оқыды. 1952-1959 жылдары француз лицейлерінде орыс тілінен сабақ берді. Содан кейін ұзақ жылдар бойы Ұлттық Шығыс тілдері мен өркениеттері институтында сабақ берді, салыстырмалы поэтика ғылыми орталығының директоры, Луи Арагон мұрағатының орыс тілі бөлімінің меңгерушісі болды.

Осы жылдар ішінде Леон Робель Сорбонна университетінің, Славянтану институтының, Халықаралық славяндар комитетінің поэтика және стилистика халықаралық комиссиясының ғылыми кеңестерінің мүшесі болды; ЮНЕСКО-ның славян бағдарламасы бойынша сарапшысы, Славян мәдениеттерін зерттеу және тарату халықаралық қауымдастығының хатшысы және «Салыстырмалы поэтика бойынша дәптер» журналдарының редакциялық алқасының мүшесі болды.

Леон Робель француз және кеңес әдебиетінің тарихы, аударма теориясы мен тәжірибесі туралы көптеген кітаптар мен мақалалар шығарды. Леон Робель француз тіліне Максим Горький, Александр Солженицын, ақындар Семен Кирсанов, Андрей Вознесенский, Олжас Сүлейменовтің шығармаларын аударған. Аудармашылық қызметі үшін Леон Робель Кеңес Одағының «Құрмет белгісі» орденімен марапатталды.

1970-1980 жылдар Леон Робель совет ақындарының француз оқырмандарымен кездесуін ұйымдастырушылардың бірі болды. Делегация құрамында қазақ ақыны Олжас Сүлейменов те болды. Баспасөзде Леон Робель бұл кештер поэзияның нағыз мерекелеріне айналғанын және Олжас Сүлейменовтің қойылымдары жиналғандар үшін аян болғанын жазды. 1977 жылы «Publications orientalistes de France» баспасынан Олжас Сүлейменовтің «Сазды кітап» француз тілінде жарық көрді. Аударманы Леон Робель жүргізді. Сондай-ақ 1981 жылы Парижде «Gallimard» баспасынан жарық көрген «Оттың өзгеруі» поэзиялық жинағын француз тіліне аударды. Француз оқырмандары мен әдебиеттанушылары Олжас Сүлейменовтің поэзиясын ықыласпен қабылдады, бұл талантты ақын әрі аудармашы Леон Робельдің де еңбегі. Ол қазақстандық жас ақынның ақындық мәнерінің эмоционалдылығын, табиғи ақындық дарынының жан-жақтылығын жеткізе білді.

Олжас Сүлейменов шығармашылығындағы ойлау тәсілі мен олардың поэтикалық берілу формасы Леон Робельдің шығармашылық табиғатына жақын болды, ол 1976 жылғы Париждің атақты баспа органы «Europe» басылымының бірінде: «Олжас Сүлейменов, менің терең сенімім бойынша, бүгінгі күн – біздің заманымыздың ең елеулі ақындарының бірі... Сүлейменов шығармашылығындағы ең таңғаларлық нәрсе – тақырып таңдаудағы да, экспрессивтік құралдарды таңдаудағы да ауқымы мен толық еркіндігі. Оның поэтикалық континенті – ол қазіргі заманғы контурлар мен ең терең ежелгі бастауларды құмарлықпен ойша зерттейтін тұтас әлем».

Аудармаға қосымша Леон Робель «Сазды кітапқа» алғысөз дайындады. Онда француз аудармашысы О.Сүлейменовтің поэтикалық шығармашылығының ерекшеліктерін атап өтті, ол «ирония мен әңгімелеу күші, нәзіктік пен юмордың өзіндік үйлесімінен тұрады. Ритмикалық проза, еркін кең өлең, көне дереккөздерге пародиялар, жұмбақтар, қазіргі және классикалық ұйқас өлеңдер – бұл мол әдістердің бәрі әзіл-оспақ түрінде байыптылық пен тереңдікті жасыратын идеяға негізделген.

2003 жылы Парижде ЮНЕСКО-ның штаб-пәтерінде Махамбет Өтемісұлының 200 жылдығына арналған конференция өтті. Конференцияның басты оқиғасы Махамбеттің француз тілінде жазылған жыр жинағының тұсаукесері болды. Француз тіліндегі аударманың авторы, белгілі ақын, жазушы, драматург және публицист Жак Жуэ өз сөзінде: «Өздеріңіз білесіздер, талантты ақындарды аудару өте қиын, бірақ маған көмектескені француз оқырмандарының Махамбет өлеңдерін тануға деген құштарлығы болды» [1].

Махамбеттің өлеңдер жинағы ЮНЕСКО-ның әдеби аударма жөніндегі ақпарат алмасу орталығының қолдауымен «Caractères» баспасынан жарық көрді. Кітапта атап өтілгендей: «Жинақ ЮНЕСКО сериясындағы тарихи маңызы бар шығармалар тізіміне енді... ЮНЕСКО көркем аударманың мәдениеттер мен халықтар арасындағы өзара танысу және диалог құралы ретіндегі маңыздылығына сенеді» [2, Б. 4]. Бұл кітап француз тілінде «Қызыл дала жусаны» деген атпен шыққан.

Алғы сөзді Леон Робель дайындаған. Айтпақшы, Луи Арагон мұрағатының орыс бөлімінің меңгерушісі бола жүріп, 40 жылдай Арагон мұрағатында тұрған Мұхтар Әуезовтің Луи Арагонға 1958 жылғы хатын ашуға үлкен көмек көрсетті. 1997 жылы бұл ұзақ хаттың мәтіні алғаш рет Алматыда жарияланды [3, Б. 67-69]. Ол француз мәдениетінің ірі қайраткері, атақты «Комеди Франсез» театрының режиссері, көркемдік жетекшісі, ақын және аудармашы Антуан Витезпен ұзақ жылдар дос болды. Мұхтар Әуезовтің «Абай жолы» роман-эпопеясы француз тіліне аудармашылық еңбегінің арқасында қазақ-француз әдеби байланыстары тарихына енген.

Леон Робель ұзақ уақыт бойы қазақ әдебиетіне шынайы қызығушылық танытып келеді, оның терең білімі мен жанашырлығы оның алғысөзінде көрінеді. Ол өз жерлестерін Махамбет Өтемісұлының өмірбаянымен, шығармашылығымен таныстырып қана қоймай, қазақ поэзиясының Махамбетке дейінгі тарихына қысқаша экскурсия жасап, ауызша поэтикалық дәстүрдің түрлерін атап, Махамбеттің ақындық шығармашылығының ерекшеліктерін анықтайды. Леон Робель француз оқырмандарына жыраулардың, жыршылардың, ақындардың арқасында қазақ даласында ауызша ақындық өнердің қалай тарағанын түсіндіреді. Махамбетті ақын қатарына қояды. Мақаланың француз авторы «ақындардың сүйікті жанры – жыр» деп жазады [2, Б. 14]. Одан әрі Леон Робель жырдың ерекшеліктерін егжей-тегжейлі түсіндіре отырып, бұл жанр туралы «оның қатаң түрде айтқанда, строфикалық құрылымы жоқ, бірақ ол әртүрлі ұзындықтағы лесс түрінде берілген. Өлеңдер көбінесе бір шумақтан тұрады. Фоникалық тесситура өте тығыз (бұл түркі тобындағы тілдердің құрылымына қолайлы) және рифмалар, әсіресе, өте бай. Сөйлем тұрақты түрде үш буынды болады» [2, Б. 14]. Леон Робель Махамбеттің бұл поэтикалық стильдегі шығармалары дәстүрлі жанрдан сәл өзгеше болды деп есептейді. Бұл оның кейбір өлеңдерінде бір ғана ұйқастың болмауынан, ұйқасты өлеңдердің ұйқассыз тармақтармен үзілуінен байқалады. Мысал ретінде ол «Баймағамбет сұлтанға айтылған сөзді» келтіреді, онда негізгі ұйқас Махамбеттің ақындық шығармашылығының ең басында енгізіліп, біршама ұзақ жолдан кейін қайта пайда болады.

Жалпы Махамбеттің поэтикалық әлемін сипаттай отырып, алғы сөз авторы ондағы лирикалық ұстанымның, жауынгерлік рухтың, жануарлар әлемін суреттейтін табиғаттың экологиялық мотивтерінің, тарих, өмір сүру, өлім және адам тағдыры туралы философиялық толғаулардың болуын атап көрсетеді. Леон Робельдің айтуынша, Махамбеттің өмірі оның шығармашылығынан ажырамас. Оның өмірінде болған оқиғалардың барлығы ауызша ұрпақтан-ұрпаққа жеткен өлеңдерінде суреттеледі. Кітаптың аннотациясында Леон Робель ақынды мына сөздермен таныстырды: «Махамбет поэзиясы дала тынысынан басталады, шайқастардың дүбірінде естіліп тұрады, таңғажайып метафораларға, әсерлі толғауларға бай» [2].

Оның үстіне «Қызыл дала жусаны» кітабының алғысөзінде Леон Робель аудармашы Жак Жуэнің таланты мен тәжірибесіне тоқталып, «Ол Махамбет суреттерінің түпнұсқасын сақтауға тырысты; жасандылыққа түспеу үшін рифма сезімін сақтады. Қазақ тілі – агглютинативті тіл. Бірдеңе айту үшін француз тілінен әлдеқайда аз сөз қажет. Аудармашы өз мәтінін мүмкіндігінше сығымдап, жеті буынды тармақтарды да ұмытпайды» [2, Б. 16].

Жұмыс барысында Жак Жуэ ең алдымен қазақ әріптесі Ғалымжан Мұқановтың тікелей қазақ тілінен француз тіліне орындаған жол-жол аудармаларына сүйенгенін ерекше атап өткен жөн. Сонымен бірге ол қазақ тілінен орыс тіліне көптеген танымал аудармаларға үнемі кеңес беріп, түсіндірмелермен қамтамасыз етті; алдына қазақша түпнұсқа мәтіндерді қойып, қазақ поэзиясының жазбаларын тыңдады. Жак Жуэ, Леон Робель айтқандай, Махамбет өлеңдерінің ырғағының құдіреттілігі мен еркіндігін, оның жанды үнін, дүниеге өзіндік көзқарасын көрсете білген.

Француз түркітанушы, лингвист, фольклортанушы Реми Дор – Орталық Азия халықтарының әдебиетіне қатысты бірқатар басылымдардың авторы. Реми Дор қазақ әдебиетіне бірқатар мақалалар арнады, оларда қазақ әдебиетінің тарихын және оның ең көрнекті өкілдерін тамаша білетінін көрсетті. 1990 жылы Парижде оның «Орталық Азия және көршілес елдермен өзара әрекеттесу» атты кітабы жарық көрді. Сонымен қатар француз студенттеріне арналған қазақ тілі оқулығын құрастырды.

Қазақстан тәуелсіздік алғаннан бері оның тарихы, мәдениеті мен әдебиеті француз жазушылары, ақындары, аудармашылары мен ғалымдарының қызығушылығын тудырды. Олардың көпшілігі біздің елге келеді. Оның үстіне қазақ жерін аралауға деген құштарлықты оятатын бір кітап немесе бір топ өлеңдер себеп болуы мүмкін. Мысалы, француз жазушысы Бернар Шамбаздың Қазақстанды аралап шығуына Олжас Сүлейменовтің өлеңдері себеп болған. Француз редакторы Жан Ламбер Әбдіжәміл Нұрпейісовтің шығармашылығымен танысқан соң Қазақстанға келуге бел буды.

Франция – әртүрлі халықтардың мәдениетін қабылдауға ашық ел. Францияда және оның шегінен тыс жерлерде көптеген елдер мен аймақтардың әдебиеті мен өнерін зерттейтін ұйымдар бар. 1992 жылы Ташкентте орналасқан Орталық Азияны зерттеу институты (IFEAC) құрылды. Оның қызметінің бір саласы – жалпы Қазақстанды зерттеу. Қазақстанмен ынтымақтастықтың арқасында IFEAC директоры Реми Дор түрлі іс-шараларды ұйымдастыру үшін Қазақстанға бірнеше рет келді. Мысалы, 2005 жылы Алматыда «Тәңіршілдік Орталық Азиядағы мәдени бірегейлікті қалыптастыру факторы ретінде» атты коллоквиум өтті. Коллоквиумға Франция, Қазақстан, Қырғызстан, Татарстан елдерінің өкілдері қатысты.

Филология ғылымдарының докторы, Париж Ұлттық Шығыс тілдері мен өркениеттері институтының профессоры Реми Дор Қазақстанда бұрын да болғанын айта кетейік. Ол 1990 жылдардың екінші жартысында Мұхтар Әуезовтің құрметіне Алматыда өткен халықаралық мерейтойлық конференцияларда сөз сөйледі. Осылайша, 1998 жылы Қазақстанда Реми Дор «Мұхтар Әуезов және әлем әдебиеті» атты халықаралық конференцияға қатысты (конференция ЮНЕСКО-ның қамқорлығымен өтті).

Ол «Мұхтар Әуезов және қазақ романының бастаулары» атты баяндамасында Әуезовтің романдық техникасы мен шығарма тудырудағы шеберлігі ұлы француз жазушыларының шеберлігіне ұқсайтынын айтады. Әуезовті француз жазушылары Золя, Бальзакпен салыстырады. Автор Мұхтар Әуезовке қазақ әдебиетіндегі романның жасалуындағы іргелі рөлді жүктеп, оны Қазақстан үшін француз әдебиеті тарихында Кретьен де Труа (XII ғ.) алатын орынға қояды. Реми Дор Кретьен де Труа туралы жазғандай, «ол бірінші болып кейіпкер туралы түсінікті жасады және ортағасырлық рыцарлықтың нақты әлемін сипаттай отырып, ол сахнаға қаһармандар мен анти-қаһармандар қатарын шығарады және олардың шытырман оқиғаларын эпизодтарға бөледі» [4].

Реми Дор француз және қазақ әдебиетіндегі романның шығу тегінде көптеген ұқсастықтарды табады. Екі жағдайда да роман пайда болғанға дейін тек эпос пен лирика ғана болған. Бұл әдебиеттердегі алғашқы романдардың басты кейіпкерлері шынайы кейіпкерлер болды, осылайша роман шындықты бейнеледі. Реми Дор Мұхтар Әуезов өз романы үшін үлгілі кейіпкерді тапты деп есептейді. Бұл қазақ халқының барлық ізгі қасиеттерін жинақтаған атақты ақын Абай. Француз ғалымы Әуезов романдарында тарихи шындықты суреттеудегі дәлдік пен кейіпкерлердің нанымдылығын ерекше көрсетеді. Реми Дордың пікірінше, «біз психологиялық талдаудың нәзіктігін де айтуымыз керек, даланың сұлулығын көз алдымызда жарқырататын суреттеулердің лиризмін асқақтата отырып, оның тетігін ашатын және бізге түсіндіретін мың бір детальға тамсануымыз керек. Бүкіл халық өмір сүріп, көз алдымызда өтеді, романның кереметі де осында» [4].

Француз әдебиеттанушысы Мұхтар Әуезовтің Ауғанстандағы шығармашылығымен алғаш рет 1971 жылы Кабулдағы кітап сатушыдан «Абайдың жастық шағы» кітабын сатып алған кезде танысады. Реми Дор былай деп есіне алады: «Мен оны басынан аяғына дейін оқыдым. Ал мен Ауғанстандағы түркі тілдес халықтарды зерттей отырып, елге тереңірек ене бастағанда бұл кітап үнемі менің қолымда болатын. Ол мен үшін этнологиялық оқулық болды» [4].

Бір қызығы, Реми Дордың осыдан бір жыл бұрын 1997 жылы маусымда Парижде Мұхтар Әуезовтің жүз жылдығына арналған «Мұхтар Әуезов: ұлттық ұлылықтың ұлы жыршысы» атты халықаралық коллоквиумына қатысуы.

Одан кейін Реми Дор «Қазақ әдебиеті» атты баяндамасында қазақ халқының үш көрнекті тұлғалары Шоқан Уәлиханов, Ыбырай Алтынсарин және Абай Құнанбаев туралы жан-жақты тоқталып, ақындардың ауызша халық шығармашылығынан бастап XIX ғасырға дейінгі қазақ әдебиетінің тарихымен тыңдаушыларды таныстырды. Содан кейін Реми Дор Алаш-Орда қозғалысына қатысушылар – Міржақып Дулат, Әлихан Бөкейханов және Ахмет Байтұрсыновтың шығармашылық қызметімен таныстырды. Ақырында, Реми Дор кеңестік кезеңдегі қазақ әдебиетінің елеулі өкілдеріне көшті. Зерттеуші: «1925 жылдан бастап қазақ совет әдебиеті бұрынғы ұлттық әдебиеттің дәстүрін дамыта отырып, өзінің өрлеу кезеңін бастап, оның ең даңқты өкілі Мұхтар Әуезов шығады» деп атап көрсеткен [5].

Реми Дордың 1994 жылы Парижде шыққан «Әмбебап әдеби энциклопедиясында» қазақтың ұлы ақыны Абай Құнанбаев туралы жазғаны ерекше. Ол қазақ әдебиетіне арналған мақаласында Абай Құнанбаевтың қазақ әдебиетінің дамуындағы айрықша рөлін атап көрсетеді: «Қазақ халқының ауызша поэзиядан жазба әдебиетке өтуін үш адам, үш утопиялық идея мен орыс мәдениетін жақтаушы қамтамасыз етті: Уәлиханов, Алтынсарин және Құнанбаев; үшеуі де текті әулеттен шыққан, ал біріншісі – қандас хан... Революцияшыл Михаэлистің ықпалымен прогресшіл идеялар мен әлеуметтік реформацияға енген Абай Құнанбаев (1845-1904) қазақ әдебиетін тез арада биік деңгейге көтерді» [6].

Реми Дор қазақтың белгілі жазушысы Әбдіжәміл Нұрпейісовтің шығармашылығымен де таныс. «Әмбебап әдеби энциклопедиядағы» сол мақаласында Әбдіжәміл Нұрпейісовтің шығармашылығына оң бағасын береді. Реми Дор пікірінше, «Қан мен тер» трилогиялық романы қазақтың ұлы жазушысы Әуезовтің еңбегінің лайықты жалғасы: «...Мұндай прецеденттен кейін (М. Әуезовтің «Абай жолы» романы сияқты) тарихи романды қайта қолға алуға батылдық қажет болды. Алайда, 1950 жылдардың басында әдебиетке келген жазушы Әбдіжәміл Кәрімұлы Нұрпейісов (1924 ж.т.) бұл талапты мойындады. Оның «Қан мен тер» трилогиясының «Ымырт», «Сынақтар» (француз тіліндегі «Сынақтар уақыты») және

«Қайран» («Жазғы күл») атты үш романы Арал теңізінің қазақ балықшылар ауылының өмірін 1914 жылдан азамат соғысы кезеңіне дейін қамтиды» [6].

2002 және 2006 жылдары М.О. Әуезов атындағы Әдебиет және өнер институтында осы француз ғалымымен кездесулер өткізілді. Институтқа алғаш рет келген Реми Дор тәуелсіздік жылдарындағы қазақ әдебиетінің шетелдегі қабылдауындағы тың құбылыстарға қатысты қызықты деректі айтты. Мәселе мынада, Орталық Азия зерттеулері институтында жұмыс істейтін француз ғалымдарының бірі «Қазақ эпостық ертегілері» диссертациясымен айналысады. Кезекті кездесуде (2006 ж.) Реми Дор әйгілі көне түркі аңызының кейіпкері Гороғлыға арналған кітаптың Парижде жарық көргеніне байланысты қуанышымен бөлісті. Өзбек тілінен француз тіліне аударумен Реми Доре айналысты. Ол түркі халықтарының ортақ фольклорын зерттей отырып, француз тілінде өзбек және қарақалпақ тілдерінің бұрмалау жинағын да шығарды. Сыйлық ретінде «Қозы-Көрпеш пен Баян-Сұлу. Қыз-Жібек: қазақ романтикалық эпопеясы» атты кітапты алып, Реми Дор оны француз студенттеріне қазақ тілін үйретуде пайдалануға уәде берді. Сөз соңында ол «Франциядағы түркі халықтарының тілдері мен мәдениетін одан әрі насихаттауды» баса айтты.

Демек, қазақ әдебиетінің танымал болуында француз әдебиетшілер Леон Робель мен Реми Дор ғалымының зерттеулері үлкен рөл атқарды.

Әдебиет:

1. Кузнецова Е. Махамбет Парижде оқылады // Казахстанская правда. – 2003, 25 қазан.

2. Makhambet Utemissov. L’armoise rouge de la steppe. – Paris: Caractères, 2003. – 124 p.

3. Маданова М.Х. Әуезовтің Бальзак еліне жолы. – Алматы: Ниса, 1997. – 120 б.

4. Реми Дор. Мұхтар Әуезов және қазақ романының бастаулары // «М.Әуезов және әлем әдебиеті». Халықаралық конференция материалдары. – ҚазМУ хабаршысы. – 1998. – Филол. Серия. No23. – Б. 13-16.

5. Реми Дор. Қазақ әдебиеті // «Мұхтар Әуезов: Ұлттық ұлылықтың ұлы жыршысы». Халықаралық конференция материалдары. – Алматы: ИРК, 1998. – Б. 115-118.

6. Dictionnaire universel des litteratures. – Paris: Presses Universitaires de France, vol. 2, 1994. – P. 1867.

Psychological Sciences

Emotional state issues and career opportunities of graduate students

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The choice of a profession is considered the main form of self-affirmation of a person in society and is one of the first and at the same time the most important decisions he makes in life. Each young person chooses his profession individually. The choice of profession reflects a number of important issues such as who to be in life, which social group to belong to, where and with whom to work, and how to choose a lifestyle. In the scientific literature, there are different approaches to distinguishing the concept of career choice. But in all of them, such a unified position is reflected that the profession is directly related to determining the self-determination of upper-class students. According to researchers it notes that there are two methods of choosing a profession. The first method involves "trial and error". A person tries himself in various fields until he is satisfied financially and with the work process. Choosing a profession using this method can take many years, but it does not guarantee that we will get the desired result in the end. There is a second way to find yourself in professional activity. This is primarily related to self-knowledge and understanding of a person. After self-awareness, you can get acquainted with the world of professions.

At this time, he knows the requirements of the profession and relates it to what he has. It is at this time, if the requirements of the profession coincide with the individual characteristics of a person, then the choice of profession becomes so well understood and accurate. The successful choice of profession in many cases depends on the psychological preparation of high school students. Thus, choosing a profession is characterized as a very complex and long process. A person's satisfaction with his life depends significantly on the right choice of profession. Professional choice is a dynamically changing and continuous process, which continues under the influence of objective and subjective factors.

The choice of a profession is carried out by a person as a result of connecting his skills, and abilities with the requirements of a certain profession and presents itself as the basis of self-affirmation of the personality. On the psychological level, the choice of profession manifests itself as a two-faceted phenomenon.

1. The subject of choice, that is, who chooses;
2. The object of the choice, that is, what they choose.

The objective and subject of the choice determines the diversity of the professional choice. In this regard, choosing a profession is not a momentary act. The choice of a profession is made up of a number of stages included in a process. In addition, the sequence of stages also depends on the following.

- external conditions;
- from the individual characteristics of the subject who chooses a profession

According to the research eight factors are distinguished that influence the choice of profession of high school students.

1. The position of senior members of the family. Very often, parents give their children independence in their choices. Sometimes it happens that parents do not agree with their children's choice and advise them to reconsider their plans and make a different choice. The right choice of profession is sometimes hindered by the guidance of parents. Often they direct their children to compensate for what they cannot do themselves. Observations show that. children often agree with their parents' opinions.

2. Position of friends. The friendships of high school students are very strong, and this influence on their choice of profession is not excluded. Even the position of a microgroup can be decisive in choosing a profession. This is especially evident in high school students, who are prone to standard thinking, indoctrination, and cannot clearly formulate their own life plans.

3. The position of the school staff. Each teacher observes the student's behavior in learning activities and always analyzes his interests, tendencies and thoughts. It should be noted that the school staff may have a stereotyped idea about this or that student, which does not allow them to assess the student's real capabilities.

4. Personal professional plans. Personal professional plans are composed of self-concepts of high school students about acquiring a profession and the methods necessary for this. Plans are formed based on the qualities of the character and mind of high school students. If there are shortcomings in the established plan, it is possible to turn to experts for help.

5. Abilities. This is an individual-psychological feature of people; it is manifested in the process of labor or activity and acts as a condition for its successful implementation. The depth and speed of the process of acquiring knowledge, skills and habits depends on abilities. The development of abilities continues throughout a person's life.

6. Level of socially appreciated claim. High school students should pay attention to the reality of claims when planning a career path. The fact that the inner image of high school students does not coincide with reality will lead to disappointment in the future.

7. Awareness about this profession. It is important to make sure that the information we get about a particular profession is not distorted, incomplete, and at the same time not one-sided. A student's interest in the external aspects of any profession can lead to serious mistakes and disappointment. In order to get the right information about any profession, the students of the upper grades, their parents. Pedagogues, and most importantly, professional psychologists-counselors can help.

8. Trends. It is manifested in the favorite activities that high school students spend their free time. These are the interests supported by the abilities. In addition to all of this, the health condition, characteristics of the nervous system, self-esteem, as well as the motivational factor include the social and financial situation of the family, the educational level of the parents and the social prestige of the profession.

The next important factors affecting the career choice of high school students is related to their interest in the profession. Interests are traditionally considered the most important motive for choosing a profession. Interests have a dynamic development. Cognitive interests have a special place in the structure of interests. These cognitive interests develop in the process of learning activities. On the basis of cognitive interests, interest in the profession arises, and later stabilizes and is directed to a certain type of labor activity.

The analysis of the conducted studies shows that high school students want to choose such fields of activity in the future that coincide with their current capabilities. In most cases, high school students fail when choosing a profession because their assessment of their capabilities is not adequate. High school students cannot fully and objectively evaluate themselves. This, in turn, leads to the lack of a single tendency in their self-evaluation. Some of the high school students overestimate themselves, and some, on the contrary, underestimate themselves.

References:

1. Gottfredson, L. S. (2002). Gottfredson‟s theory of circumscription, compromise, and self-creation. In D. Brown & Associate (Eds.), Career choice and development (4th ed., pp. 85–148). San Francisco, CA: Jossey-Bass
2. Gottfredson, L. S. (2005). Applying Gottfredson‟s theory of circumscription and compromise in career guidance and counseling. In S. D. Brown & R. T. Lent (Eds.), Career development and counseling: Putting theory and research to work (pp. 71– 100). Hoboken, NJ: Wiley.
3. Gysbers, N. C. (2000). Implementing a whole school approach to guidance through a comprehen- sive guidance system.Asian Journal of Counseling, 7, 5–17
4. Newton D.P. & Newton H.D. (1998). Knowing what counts in history // historical understanding and the non-specialist teacher-Teaching History,- 92 pp. 42-45.
5. Patton,W.,&McMahon,MCareer Development and Systems Theory Connecting Theory and Practice // Patton,W.,&McMahon,MCareer.- Sense Publishers: Boston. -.2014.- 156 p.
6. Savickas, M. & Lent, R. Convergence in Career Development Theories /- Palo Alto, California: 1994, 6.-p320-335.
7. Walberg H.Y., Metzner S., Todd R.M and Henry P. Effects of Tutering and Practice Teaching on Self-Concept and Attitudes of Education Students // -Journal of Teacher Education. -1968 - v. 19 - p.283-291.l

ПРОБЛЕМА ДИАГНОСТИКИ ПСИХОЭМОЦИОНАЛЬНЫХ СОСТОЯНИЙ В УСЛОВИЯХ ОБЩЕОБРАЗОВАТЕЛЬНОЙ ШКОЛЫ

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Аннотация. В статье рассматривается проблема проведения психологического тестирования в условиях школы. Психометрическое тестирование помогает выявлять индивидуальные особенности личности, но его эффективность зависит от множества факторов. Чтобы тесты были точными и надежными, они проходят специальную проверку и верификацию. Несмотря на плюсы, у психологического тестирования есть и минусы. Психолог, проводящий тесты, может столкнуться с различными ошибками и статистическими отклонениями ведь школа, где проходят исследования, считается полевыми условиями, что означает меньше контроля над обстановкой. Одной из самых сложных задач для психолога в школе является управление внешними факторами, которые могут сильно повлиять на результаты тестов.

Ключевые слова: психометрия, тестирование, артефакты, школа, диагностика

Введение. Психодиагностика является важным направлением деятельности педагог-психолога в организации среднего образования. Согласно определению МОН РК диагностическое направление предусматривает индивидуальную и групповую деятельность, психолого-педагогическое изучение обучающихся и воспитанников на протяжении всего периода обучения, определение их индивидуальных особенностей и склонностей, потенциальных возможностей в процессе обучения и воспитания, в профессиональном самоопределении, а также выявление причин и механизмов нарушений в обучении, развитии, социальной адаптации [1]. Исходя из этого можно сделать выводы о том, что проведение психодиагностики является важным аспектом, обеспечивающим необходимой информацией о психическом состоянии ребенка, его индивидуально-личностных особенностях. Опираясь на данные материалы, можно обеспечить необходимое психолого-педагогическое сопровождение для ученика с целью повышения уровня эффективности обучения. Своевременно выявленные признаки дезадаптации позволяют организовать необходимое сопровождение ученика и оказать ему и его семье необходимую помощь. Таким образом итоговым продуктом сопровождения учеников с признаками дезадаптации является стабилизация психоэмоционального состояния и сохранение академического потенциала ученика.

Существует множество средств и мер по оказанию коррекционно-развивающей помощи ученикам среднеобразовательных организаций, и они демонстрируют высокий уровень эффективности, но проблема психодиагностики сохраняется весьма устойчиво. Несмотря на повышение общего уровня компетентности педагог-психологов, социальных педагогов в сфере диагностики, ученики способны создавать артефакты, которые в значительной мере снижают возможности раннего выявления процессов дезадаптации несовершеннолетнего. Личность с признаками дезадаптации не может в полной мере осваивать учебную программу по причине сниженных способностей к обучению, переноса фокуса внимания на личные или социальные проблемы. Подобное состояние описывается как сенсорная доминанта и может стать причиной резкого снижения общей успеваемости ученика, снижение его уровня психической и физической активности [2].

Создание инструментов диагностики, которые позволяют снизить влияние психологических артефактов на результаты, является важной составляющей научно-методической работы психологического сообщества. В текущий момент апробация подобных методов диагностики является одним из перспективных направлений исследования в сфере обеспечения психолого-педагогического сопровождения детей с признаком дезадаптации и развития условий для эффективного обучения данной категории учеников.

Проблема исследования. Научная проблема данного исследования связана с тестированием, как средством сбора информации о психических особенностях учеников. Психометрическое тестирование имеет ряд требований к методам исследования и опирается на процедуру стандартизации и верификации. Методики исследования должны быть заранее адаптированы под определенный контингент, учитывать культурные и языковые особенности участников исследования. В противном случае результаты диагностики могут в значительной мере подвергаться искажению [3].

Помимо стандартизации и верификации в рамках проводимой психодиагностики имеют место и артефакты, связанные с особенностями психической деятельности личности. Во многом это связано с тем, что люди по своей природе социальные и мнение окружающих в значительной мере способно повлиять на их жизнь. Известные психологические эффекты, такие как, эффект фасада, эффект социальной фасилитации, эффект Пигмалиона и другие способны искажать существующую действительность и являются внешними переменными, которые необходимо контролировать в ходе экспериментального исследования. В случае, если мы допускаем, что сам психолог-исследователь не допускает влияния внешних переменных, то контролировать эффекты фасада и социальной фасилитации в условиях школы весьма затруднительно и это создает множественные трудности для психолога [4].

Таким образом складывается ситуация, когда полученные в ходе тестирования результаты могут в значительной мере искажать существующую реальность, что в рамках психодиагностической работы способно повлечь значительные трудности по выявлению лиц, которым необходима психологическая или социальная помощь. Используемые методики являются стандартизированным инструментом и для их реализации необходимо соблюдение всех условий эксперимента, что в рамках организации психолого-педагогического сопровождения в школе может быть весьма затруднительным. Следствием этого являются ошибки интерпретации методик: результаты учеников с большей вероятностью будут приближаться к социально ожидаемым.

Цель исследования: провести теоретический анализ проблемы проведения психодиагностики в условиях общеобразовательной школы;

Материалы и методы исследования. В рамках проводимого исследования используются теоретические методы исследования, такие как анализ, обобщение, синтез и структуризация научных материалов по проблеме исследования. Данные методы позволят выделить ключевые проблемы проведение психодиагностики в условиях общеобразовательной школы.

Результаты исследования и их обсуждение. Психологические тесты могут быть проведены в различных ситуациях, включая кадровый отбор, оценку учебных и профессиональных способностей, психологическую диагностику и терапию, исследования и другие области. Важно, чтобы проведение тестирования осуществлялось компетентным психологом и с соблюдением этических норм [5].

Вильгельм Вунд, немецкий ученый и основатель экспериментальной психологии, сыграл значительную роль в развитии психологического тестирования. Вунд В. внес важный вклад в стандартизацию методов сбора данных и разработку психологических тестов, которые стали широко использоваться в психологических исследованиях. Вунд В. подчеркивал важность экспериментального подхода в психологии для изучения психических процессов. Его методы исследования включали контролируемые эксперименты, которые помогали установить причинно-следственные связи между различными переменными. Этот подход стимулировал разработку экспериментальных методик для оценки психологических характеристик с использованием тестов и заданий. Стоит и упомянуть о том, что именно Вунд В. предложил стандартизированные методики для измерения психических процессов, такие как реакция на стимулы, восприятие и внимание. Он разработал методы количественной оценки этих процессов, что послужило основой для развития психологических тестов и методов измерения. Вунд В. разрабатывал в своё время и различные приборы для измерения психических процессов, такие как феноменограф, кинетограф и психофон. Эти устройства позволяли получать количественные данные о психических процессах, что стало важным шагом к развитию количественных методов тестирования.,

Вунд В. с его методологическими исследованиями и разработками оказал значительное влияние на развитие психологического тестирования, укрепив понимание о необходимости стандартизации методов измерения и экспериментального подхода в психологических исследованиях. Он заложил основы психометрики –области психологии, которая занимается измерением и оценкой психологических характеристик, таких как интеллект, личностные особенности, способности, эмоциональное состояние и т. д., с использованием стандартизированных тестов и методик. Психометрика также занимается разработкой статистических методов и процедур для оценки качества психологических тестов, их надежности (степени, в которой тест измеряет то, что он предполагает измерять) и валидности (степени, в которой тест измеряет то, что он предполагает измерять). Ключевым направлением в психометрики является стандартизация методов исследования для соблюдения принципа воспроизводимости в психологии [6].

Стандартизированные тесты обеспечивают объективность в оценке психологических характеристик, поскольку устанавливают одинаковые условия для всех участников. Это позволяет снизить вероятность субъективных суждений со стороны тестирующего. Стандартизация тестовых процедур помогает обеспечить высокую степень надежности результатов тестирования. Это означает, что тесты дают согласованные результаты при повторном их проведении или при использовании разных форм одного и того же теста. При этом всем стандартизированные тесты позволяют сравнивать результаты разных людей или групп на основе одинаковых критериев. Это полезно при сравнении индивидов или социальных групп, имеющих разные или схожие особенности.

Стандартизация помогает обеспечить справедливость в оценке всех участников тестирования, независимо от их пола, возраста, этнической или культурной принадлежности. Это важно для предотвращения возможных искажений результатов из-за предвзятости или дискриминации, также позволяет установить валидность теста, то есть его способность измерять то, что он предполагает измерять. Путем стандартизации и проверки результатов на больших выборках людей можно убедиться в том, что тест действительно измеряет целевые психологические конструкты [7, 8].

Таким образом можно сделать выводы о том, что методы исследования в психологии должны быть стандартизированы, чтобы их результаты давали верные результаты. В процессе стандартизации удается определить и оптимальные условия для проведения психометрического исследования. Каждая методика имеется соответствующую инструкцию, которая позволяет участникам исследования в полной мере ознакомиться с порядком выполнения теста и некоторыми его особенностями.

Проведение психометрического исследования требует строгого соблюдения определенных правил и методологических принципов для обеспечения надежности и достоверности результатов. Перед началом исследования необходимо четко определить его цели и задачи. Это поможет сосредоточиться на ключевых аспектах изучаемого явления и разработать соответствующие методы исследования. При выборе тестов и методик необходимо учитывать их надежность, валидность, стандартизацию и соответствие целям исследования. Также важно учитывать характеристики целевой аудитории (например, возраст, культурные особенности и т. д.). Психометрические тесты должны проводиться в строго стандартизированных условиях, чтобы обеспечить сопоставимость результатов у всех участников исследования. Это включает в себя инструкции для участников, установление временных рамок, контроль за внешними факторами и т. д. Важно учитывать и контролировать различные факторы, которые могут искажать результаты тестирования, такие как утомление, стресс, мотивация участников и другие внешние или внутренние переменные. Полученные данные следует анализировать с использованием соответствующих статистических методов, чтобы выявить паттерны, тенденции и закономерности. При интерпретации результатов необходимо учитывать контекст и особенности выборки. Важно документировать все этапы и результаты исследования, включая методологию, процедуры, анализ и интерпретацию данных. Это позволяет обеспечить прозрачность и возможность репликации исследования [9].

Анализируя данные особенности проведения психологических исследований, можно сделать выводы о том, что психологическое исследование в условиях школы является весьма трудоемким и требует значительных временных затрат со стороны не только педагог-психолога, но и всего воспитательного отдела. Как и любой научный инструмент психометрическое тестирование сопряжено с рядом трудностей в ходе его реализации:

1. Субъективность интерпретации - результаты психологических тестов могут быть подвержены субъективной интерпретации. Это особенно верно для тестов, которые требуют оценки со стороны психолога или исследователя. Разные интерпретации могут привести к разным выводам.

2. Ограничения валидности и надежности - некоторые психологические тесты могут иметь ограничения в валидности (способности теста измерять то, что он предполагает измерять) и надежности (степени, в которой тест дает стабильные и повторяемые результаты). Это может произойти из-за недостаточной стандартизации, плохо сбалансированных вопросов или других причин.

3. Ограничения в области применимости - некоторые тесты могут быть ограничены в своей применимости к разным культурам, языкам или контекстам. Например, тесты, разработанные в одной культуре, могут быть неприменимы или недостаточно надежны в других культурных средах.

4. Сложности с конфиденциальностью и этическими вопросами - проведение психологического тестирования требует соблюдения строгих этических принципов, включая конфиденциальность и защиту данных участников. Однако, не всегда возможно гарантировать полную конфиденциальность при сборе, хранении и анализе данных.

5. Изменчивость результатов - психологические характеристики человека могут изменяться в зависимости от многих факторов, таких как настроение, уровень стресса или мотивация в момент тестирования. Это может привести к переменам в результатах тестов при повторных проведениях.
6. Необходимость специальной подготовки - проведение и интерпретация психологических тестов требует специальной подготовки и квалификации у психологов или исследователей. Неправильное использование тестов или неправильная интерпретация результатов может привести к ошибкам и неправильным выводам [10].

В контексте психологического исследования артефакт — это результат, который не является истинным отражением изучаемого явления, а скорее является результатом ошибок в методах исследования, влияния случайных факторов или проблем с валидностью и надежностью использованных инструментов. Артефакты могут искажать результаты исследования и приводить к неправильным выводам.

Во время проведения психологической диагностики педагог-психолог может с большой вероятностью столкнуться с явлениями, которые искажают результаты тестирования. Школа не является определенной изолированной средой, тем более не может быть охарактеризована как лабораторная. В школе происходит постоянный процесс взаимодействия между участниками образовательного процесса, а помимо этого ученики могут быть под влиянием факторов внешкольной жизни или семейной ситуации. Среди великого множества психологических артефактов можно выделить 5 наиболее часто встречающихся в полевых условиях:

Эффекты признания или ожидания — это артефакт, который может возникать в психологических исследованиях из-за воздействия ожиданий и предвзятости исследователя на поведение или ответы участников. Этот эффект может исказить результаты исследования, так как участники могут подстроиться под ожидания исследователя, вместо того чтобы давать истинные ответы или вести себя натурально. Исследователь может неосознанно передавать свои ожидания участникам исследования через мимику, жесты, интонацию или другие невербальные сигналы. Участники могут подстроиться под эти ожидания, предоставляя ответы или ведя себя так, как они считают, что ожидает исследователь. Участники могут стремиться подтвердить предположения исследователя, что приводит к тому, что они дадут ответы, соответствующие этим предположениям, даже если они не соответствуют их истинным убеждениям. Чтобы смягчить эффекты признания или ожидания, исследователям рекомендуется применять двойную слепую методологию, в которой ни исследователь, ни участники не знают, к какой группе они относятся. Но в условиях школы педагог-психолог во время тестирования присутствует в кабинете и наблюдает за ходом тестирования, дает возможность участникам задавать уточняющие вопросы. Так как ученики сталкиваются с педагог-психологом не только в условиях тестирования, но во время перемен, мероприятий, то имеется высокая вероятность формирования между ними дружеских и доверительных отношений. Это является основой для данного эффекта и проблемой, которую сложно контролировать в условиях организации среднего образования. Педагог-психолог не может, в отличии от экспериментатора, изолироваться от учеников, ибо помимо исследовательской функции выполняет и коррекционно-развивающую, профилактическую, консультативную [11, 12].

Эффект социального фасада (или социального желаемого ответа) является артефактом психологического исследования, который проявляется в том, что участники исследования склонны представлять себя в соответствии с социальными ожиданиями или идеальным образом, вместо того чтобы отражать свои реальные убеждения, мысли или поведение. Этот эффект возникает из желания участников создать положительное впечатление на исследователя или на окружающих, а также из стремления соответствовать социальным нормам и ожиданиям. Участники могут давать ответы, которые соответствуют общепринятым социальным нормам или ожиданиям, даже если это не отражает их реальные убеждения или поведение. Например, они могут утверждать, что они чаще занимаются спортом или заботятся о своем здоровье, чем это на самом деле. Люди, в особенности ученики школьного возраста, могут менять свое поведение в социальных ситуациях с целью соответствовать ожиданиям окружающих или создать желаемое впечатление. Участники могут представлять себя в лучшем свете или отвечать так, как они думают, что ожидает интервьюер, что приводит к искаженным результатам. Для уменьшения эффекта социального фасада и повышения достоверности результатов исследования важно использовать анонимные методы сбора информации, создавать доверительную обстановку для участников исследования, а также формулировать вопросы или задания таким образом, чтобы они мотивировали участников быть честными и откровенными. И снова анализируя методы противодействия данному артефакту мы сталкиваемся с проблемой анонимного испытуемого. В условиях школы целью является выявление учеников с признаками дезадаптации т.е. обеспечение анонимности не является возможным. Это создает определенный парадокс, когда ученик с признаками дезадаптации стремится дать «верные» ответы и это не дает ему психологу выявить его, чтобы помочь, что снова приводит к тому, что на следующем тестировании он даст аналогичные ответы и останется без соответствующей помощи [13].

Эффект регрессии к среднему — это статистический артефакт, который проявляется в том, что экстремальные значения при повторном измерении или наблюдении имеют тенденцию приближаться к среднему значению (среднему показателю) выборки. Этот эффект проявляется в ситуациях, когда участники исследования начально выбраны на основе их экстремальных значений по какому-то показателю. Если ученики были отобраны для исследования из-за их очень высоких или очень низких оценок, то при повторном измерении их оценки склонны сближаться к среднему баллу по предмету. Это может произойти не из-за каких-то реальных изменений в их успеваемости, а просто потому, что эти студенты были выбраны из-за своих экстремальных оценок. Чтобы уменьшить эффект регрессии к среднему, важно использовать случайную выборку и широкий спектр участников в исследовании, а также учитывать влияние этого эффекта при интерпретации результатов. Также важно проводить контрольные измерения и учитывать факторы, которые могут влиять на изменения в показателях участников. Данный артефакт является статистическим, и он может контролироваться в условиях школы за счет наличия рандомизированной выборки т.е. во время работы с определенной группой лиц необходимо всегда наличие контрольной группы, с которой результаты будет возможно сопоставить [14].

Психологические искажения в измерении относятся к ошибкам или искажениям, которые могут возникнуть в результате особенностей восприятия, понимания или интерпретации информации со стороны исследователя или участника исследования. Эти искажения могут привести к неточным или ненадежным результатам при проведении психологических измерений. Исследователи могут подвергаться искажениям в восприятии информации, особенно когда они ожидают определенных результатов или имеют предвзятые взгляды на изучаемый вопрос. Это может привести к искаженной интерпретации данных или пренебрежению сигналами, которые не соответствуют ожиданиям. Интерпретация результатов исследования может быть искажена из-за предвзятости, предположений или субъективного восприятия исследователя. Например, исследователь может трактовать данные так, чтобы подтвердить свою гипотезу, игнорируя или минимизируя информацию, которая противоречит ей. Сбор данных также может быть подвержен искажениям, если исследователь влияет на поведение участников исследования или предоставленную ими информацию. Например, вопросы, задаваемые во время интервью, могут быть сформулированы таким образом, чтобы подталкивать участников к определенным ответам. Для минимизации психологических искажений в измерении важно использовать объективные методы и инструменты измерения, проводить обучение исследователей по вопросам этики исследования и предотвращения предвзятости, а также тщательно анализировать и интерпретировать данные с учетом возможных искажений. Данный артефакт также является статистическим и с ним вполне возможно бороться в условиях школы. Одной из ключевых проблем данного направления является адаптация методик на казахский язык, что весьма актуально в нашей стране. Прямой перевод текста методики без наличия стандартизированной адаптации приводит часто к значительным искажениям смысла вопросов и неверной интерпретации ее ответов [15].

Эффект социальной фасилитации — это явление в психологии, при котором присутствие других людей усиливает или ослабляет производительность индивида в зависимости от того, какая задача выполняется. Этот эффект проявляется в том, что присутствие других людей может повышать артерию активации, что приводит к увеличению интенсивности реакций на задачи, которые индивид может выполнять хорошо, и к снижению интенсивности реакций на задачи, которые он может выполнять плохо. В некоторых случаях присутствие других людей может способствовать увеличению производительности индивида, особенно если задача является простой или хорошо знакомой. Например, спортсмены часто показывают лучшие результаты в соревнованиях, когда на них смотрит большое количество зрителей. Однако, когда задача является сложной или незнакомой, присутствие других людей может привести к снижению производительности индивида. Эффект социальной фасилитации сильно зависит от индивидуальных навыков и уровня уверенности в выполнении задачи. Люди, обладающие высоким уровнем мастерства в определенной области, чаще всего проявляют улучшение производительности в присутствии других, в то время как люди с низким уровнем мастерства склонны испытывать снижение производительности. В условиях школы с данным артефактом можно бороться путем проведения индивидуальной диагностики или онлайн тестирования, но это также имеет определенные недостатки и должно использоваться в зависимости от конкретной ситуации [16].

Обобщая вышеперечисленные артефакты психологического исследования, можно сделать выводы о том, что в рамках психологического тестирования педагог-психолог может столкнуться с некоторыми артефактами статистической или психологической природы. Если со статистическими артефактами можно бороться, меняя условия проведения тестирования, то с некоторыми психологическими артефактами весьма сложно совладать в нелабораторных, школьных условиях. Это создает значительные риски искажения информации во время проведения внутреннего тестирования среди учащихся. Школа в понимании экспериментальной психологии является полевыми условиями, где исследование проводится в малоконтролируемой среде, оттого результаты диагностики могут значительно розниться в зависимости от внешних переменных. Обеспечение контроля внешних переменных является наиболее сложной деятельностью педагога-психолога в ходе реализации психодиагностического направления работы и способно значительно искажать полученные результаты.

Заключение. Психометрическое тестирование является важным инструментом для выявления индивидуальных личностных особенностей, однако его эффективность зависит от ряда факторов. Во-первых, методики, применяемые в тестировании, проходят процедуру стандартизации, что необходимо для обеспечения их воспроизводимости и научной обоснованности. Тем не менее, несмотря на свои преимущества, психологическое тестирование имеет и определенные недостатки. Педагог-психолог, проводящий тестирование, может столкнуться с артефактами, которые могут быть как статистической, так и психологической природы. Школа, рассматриваемая в контексте экспериментальной психологии, представляет собой полевые условия, где исследование проводится в малоконтролируемой среде. Одной из самых сложных задач для педагога-психолога является обеспечение контроля внешних переменных, так как их влияние может значительно исказить результаты тестирования.

СПИСОК ИСПОЛЬЗОВАННЫХ ИСТОЧНИКОВ

1. Приказ и.о. Министра просвещения Республики Казахстан от 25 августа 2022 года № 377 "Об утверждении Правил деятельности психологической службы в организациях среднего образования". Зарегистрирован в Министерстве юстиции Республики Казахстан 26 августа 2022 года № 29288.
2. Ухтомский А.А. Доминанта.- Public Domain, 2019.- 440 с.
3. Архиреевой Т.В. Основы психодиагностики. (Бакалавриат). Учебно-методическое пособие.- М.: КноРус, 2023.- 120 с.
4. Дружинин, В. Н. Экспериментальная психология : учебное пособие для вузов — 2-е изд., доп. — М.: Издательство Юрайт, 2023. — 386 с.
5. Жұбаназарова Н.С. Психодиагностика негіздері: оқу құралы. - Алматы, Қазақ университеті, 2020. – 254 б.
6. Батыршина А.Р. История психологии.- М.: ФЛИНТА, 2016.- 224 с.
7. Носс И.Н. Психодиагностика. Тест, психометрия, эксперимент(информационно-методический конспект материалов к практическим занятиям по психодиагностике и экспериментальной психологии). — М.: «КСП+», 1999.- 320 с.
8. Анастази А., Урбина С. Психологическое тестирование. — 7-е изд. — СПб.: Питер, 2005. — 688 с.
9. Куликова Т.И. Общая и экспериментальная психология: Изд. 2-е, перераб. - Тула: «Имидж Принт», 2014. – 268 с.
10. Егорова У. Педагогическая психодиагностика: учебное пособие. - Самара: Издательство Самарского университета, 2021.- 88 с.
11. Кортнева Ю. Диагностика актуальной проблемы. – Институт Общегуманитарных Исследований, 2004. – С. 240-240.
12. Донцов Д., Шарафутдинова Н. Социально-психологическая диагностика детских и юношеских коллективов. Учебное пособие для бакалавриата, специалитета и магистратуры. – Litres, 2018.
13. Дворникова Т., Костромина С. Проблемы современной психодиагностики в образовании. – Litres, 2022.
14. van de Schoot R. et al. Bayesian statistics and modelling //Nature Reviews Methods Primers. – 2021. – Т. 1. – №. 1. – pp. 1.
15. Дружинин В. Н., Дружинин В. Н. Экспериментальная психология: [по направлению и специальностям психологии]. – Издательский дом" Питер", 2013.
16. Бурлачук Л.Ф. Психодиагностика. – Издательский дом "Питер", 2011.

Geographic Sciences

Activation of mudflows against the background of current climate change

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Abstract
In the twenty-first century, the current climate change is not only an ecological, but also a socio-economic global problem, which in turn is associated with the activation of various types of natural disasters. In particular, the frequency of floods, landslides, droughts, floods, etc. Which in turn increases human casualties and material losses. Due to the urgency of the problem, Georgia is involved in activities related to climate change problems and implements various projects throughout the country aimed at reducing the risk of natural disasters.
Key words: climate change, global problem, natural disasters, cellular streams.

In the twenty-first century, together with poverty and terrorism, the current climate change has been recognized as one of the most important global problems in the world, which in turn is associated with the activation of various types of natural disasters.

This problem is especially painful for Georgia, distinguished by its small area and climatic diversity, which is a classic example of a polyclimatic country due to difficult physical and geographical conditions, that is why the current global climate change is more painful here than in other countries and regions with large territories.

Due to the urgency of the problem, in 1994, the country joined the United Nations Framework Convention on Climate Change, actively engaging in activities related to climate change problems.

The current climate change, manifested by the global warming trend, first of all actively affects the cryosphere and causes the melting of the ice cover, therefore various natural events are activated, in particular, such as floods, landslides, landslides, etc.

Land flow is a muddy or muddy stream that forms in valleys of rivers (mountain), under special geomorphological, geological and hydro-climatic conditions.

A landslide contains a large amount of solid material, has a high speed and destructive power.

There are mainly 3 types of them:

1. Structural (bound) flow.
2. Turbulent flow.
3. Flooding.

1. Structural (bound) mud contains 60-80, according to some authors 70-90% of solid material, it is formed at the border of spring-summer once every 5-15 years. This type of flood occurs only in the upper reaches of some rivers. However, the frequency of its recurrence has increased significantly in recent years.

2. Turbulent alluvium contains 60-80% solid material and is widespread, especially on the main rivers of Kakheti. This type of flood occurs once in 3-10 years, in spring-autumn, sometimes in summer.

3. Landslide – in this type of land, the amount of solid material varies between 6-10% and has less destructive power.

Flash flows are a natural phenomenon characteristic of Georgia, which is often associated with rapid melting of snow and ice, landslide processes, river breaching of dams, breaking off the tongue of a glacier, etc. The activation of the mentioned processes, in turn, is connected with the increasing rate of temperature and rainfall, which reaches an even more remarkable level in the background of current climate changes. On the other hand, the main trends of current and future climate changes in Georgia are as follows:

The average annual temperature on the coast of Western Georgia and the Kolkheti plain during the last 50-year period (1961-2100) is at least 2 degrees higher than in the rest of Georgia. This trend continues until the end of the century.

for the period of 1961-2010 avg. The annual temperature in the territory of eastern Georgia increases more intensively than in the west. In particular, in the east it increases by +0.3 on average and reaches a maximum of +0.70 C, and in the west by +0.1 and +0.40 C, respectively.

By 2050, the picture changes and the maximum increase in West Georgia is +2.10 C, and the average is +1.30 C. In the east, the maximum increase is +1.3, and the average is +1.10C. 21

By the year 2100, the maximum growth rate is +4.20 C and average +3.40 C in western Georgia, and +3.6 and +3.50 C in the east.

Changes in precipitation regime, unlike temperature, are unstable.

In the period 1961-2010, the trend of precipitation increase is mainly recorded in western Georgia and especially in its mountainous areas. Precipitation regime in the east showed mostly decreasing trends. In particular, in the west, the maximum increase of the annual rainfall totals reaches 15%, and in the east, the largest negative deviation is -3%.

By the year 2050, a trend of increasing precipitation is expected in the entire territory of Georgia. In the west, the increase in precipitation is the most intensive in the Adjara region (+14%), while in eastern Georgia the trends of precipitation increase are relatively insignificant (3-5% on average).

By the year 2100, in most parts of the territory, especially in the east (Kakheti), intense trends of precipitation decrease are expected.

The change in climatic parameters, in particular, the change in the duration of dry and rainy periods, shows such trends that the risks caused by these events become more active. In particular, the increase in the dry season will aggravate the shortage of drinking and irrigation water in Kakheti and Shida Kartli, and the increase in the frequency of the rainy season in Western Georgia means the activation of the risk of floods and landslides, mudslides and landslides.

2 million ha area is in the flood danger zone in Georgia. The main torrential rivers are: Alazani, Duruji, Tergi, Aragvi, etc.

Kakheti (inside Kakheti), the southern slope of the Caucasus of Kakheti and both slopes of the Gombori range, Pshavi, Khevsureti, Tusheti, Racha, Svaneti (Lentekh region), Meskheti and the Adjara mountain range are the classic side of the floodplain distribution. The disaster poses a danger to the following cities: Kvareli, Telavi, Oni, Tsageri, etc.

Considering the destructive power of floods, the study and characterization of floodplain river basins is of great importance.

The left tributary of the Alazani River, the Duruji River, is the most active of the floodplain river basins across the country, which has caused great damage to Kvareli and its surrounding area.

Unfortunately, the recurrence frequency of floods in our country has increased, and accordingly the amount of damage that accompanies this natural event also increases. In 2004-2005 only, the financial loss was more than 19 million lari and from 1995 to 2004, the material loss amounted to 26 million lari and 3 people were lost.

The disasters that occurred on May 17 and August 20, 2014 in Dariali valley, The glacial landslide event that occurred in the Devdoraki valley, during which an ice block with a volume of 5 million m3 broke off at a height of 4700 meters on the slope of the glacier, which flooded the river in Devdoraki-Amal valley. As a result of the mentioned event, 7 people died at the river Tergi.

On June 13-14, 2015, the Vere River and its tributaries experienced a flood and large-scale initiation/activation of landslide-flood processes. What followed was the decommissioning of the Tskneti-Betania, Tskneti-Akhaldabi and Kojori-Manglisi highways. Buildings and Tbilisi Zoo were damaged. 20 people died, three people are considered missing.

On August 20, 2017, as a result of heavy rainfall in the Devdoraki valley, there was an activation of excess material accumulated in the valley in the form of a landslide, which caused the river to overflow. 2 personnel working at the hydroelectric station under construction near Tergi were died.

On July 5, 2018 a flood caused by heavy rainfall and intense melting of glaciers in the Nenskra basin caused serious material damage. On July 14, 2018, in village Ghebi, of Oni municipality, disaster was caused by river Rioni's eruption.

The last flood, which ended with tragic results, was recorded on August 3, 2023 in the territory of Shovi resort. 32 people were killed by the said disaster (glacial avalanche). On August 3, 2023, a coincidence of natural geological and hydrometeorological events took place in the Bubastskali valley (including intense melting of the glacier, precipitation in the form of rain, the collapse of rock avalanches in the headwaters, the formation of landslide-erosive processes and finally the passage of a mudslide), which led to the formation of an extreme mudflow. The mentioned process was facilitated by the increased air temperature in the recent period, the intense melting of glaciers caused by climate change and the subsequent atmospheric precipitations. The rocky material and the part of the glacial mass that came into dynamics transformed into a glacial landslide in the upper part of the valley. The flow that passed through the bed at a high speed, in the middle and lower part of the valley, along both sides, caused the bottom of the slopes to be washed away and the so-called formation and activation of coastal landslides and complete destruction of Shovi resort.

Floods belong to natural natural phenomena, their activation is expected periodically, therefore fighting against them is an important issue. Georgia has undertaken the obligation to reduce the risks of natural disasters in accordance with the "Sendai Action Framework Program for Disaster Risk Reduction 2015-2030". For this purpose (especially recently), important events are being held in Georgia with the help of international donor organizations and countries. On the other hand, optimal measures to fight against flood processes include:

1. Research of river basins,
2. Drawing up large-scale maps (of natural-geomorphological processes).
3. Construction of dams, correct calculation of their height, flood reliability and strength.
4. Prohibition of felling of forest in the territory and afforestation of the zone if it is not available.
5. It is also possible to straighten the beds of flooded rivers, slowing down, stopping (by building dams) landslide and rock avalanche processes, etc.
6. There is also a change in the direction of the rivers.
7. Cleaning the beds from alluvial material,
8. Strengthening the relevant services for the prevention of catastrophic events at the local and regional levels with properly qualified specialists; - establishment of strong mechanisms of

population awareness; - implementation of early notification systems in sensitive sections; - Strict regulation of accommodation in floodplains and river valleys, etc.

References

1. B. Beritashvili - climate and its change. Tbilisi 2012
2. B. Beritashvili, N. Kapanadze, I. Chogovadze - Global warming in Georgia, climate response assessment - Tbilisi 2010.
3. Georgia's first national notification for the Framework Convention on Climate Change. Tb. 1999
4. Georgia's second national notification for the Framework Convention on Climate Change. Tb. 2009
5. The third national message of Georgia for the Framework Convention on Climate Change. Tb 2015
6. Mikoutadze d. Kvabziridze M. - "Sensitivity of Imereti ecosystems to climatic parameters". Proceedings of the International Conference "Modern Problems of Geography", Collection of Proceedings, vol. 5, 84. 2013 pp. 126-128
7. D.mikautadze, Ts.Davituliani, I.Iashvili, M.Kvabziridze. - Diskevaring the Consequences of Global Climate Change in Georgia's Regions, Rezults and Adaptive Measures/ Academic Journal of Sciences. The American University/ Academic Journal of Science Copyright ©2013 UniversityPublications.Net. CD-ROM ISSN: 2165-6282 , 2013 Volume 02, Number 01 p.249-2
8. Irakli Megrelidze - Assessment of Extreme Hydrometeorological Events in Georgia under the Climate Change. The thesis work is performed to obtain a PhD academic degree in Geography. Tbilisi 2021.
9. https://www.ecohydmet.ge/depart-3-geo.html
10. https://nea.gov.ge/

Linguistic and historical description of the hydronyms of the Kurenbel depression in the southeastern part of the Zhetysu range

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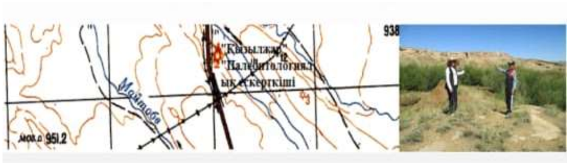

Hydronyms, as one of the types of toponymy, are of geographical and cultural value. The hydronyms of the southeastern part of the Zhetysu ridge (Dzungarian Alatau) have remained a little-studied object for many years. Based on the scientific works of Tokpanov E,A, Murzaev E.M, Ayapbekova A.E, Ageeva R.A, Saparova K.T, Julie Tate Andresen and other researchers, we propose the following descriptions of the hydronyms of this region.

According to the ethnocultural system of names Zhetysu, Dzungarian Alatau, since ancient times, the Kazakh people and the Turkic world in general have firmly taken a place in the system of spiritual values (axiological). In addition, it is the only cultural fact that connects the history of mankind in the Kazakh land from the earliest times, combined with the world legend that floods the Earth [28.5].

In the recognition of the meanings of place and water names, we also find names that arose in connection with the events experienced by the local population. They are reflected in the legends about the naming of places and water among the people. Therefore, in order to give a full description of the meaning of hydronyms, we cannot fail to turn our heads to the Legends of the country. Because they are of great importance in revealing the secret of the name. In order to make a conclusive opinion about the meaning of the name, it is worth considering folk etymology, as well as scientific etymology. This is about Zhunusov D. "There are different legends about the history of the birth of names among the country. It is called "folk etymology" in the language of science. Although such legends are often scientifically unfounded, they are useful in revealing and identifying the meaning of the name, in studying it in a comprehensive comparison".

It is called Rabbit-eye or Kozhek-eye (Qazaq language – Қоян көз). According to legend: "a bride who fell into the tribe of Naiman aitek turns out to be the name of her father-in-law Koyanbay, and in order not to name her, the daughter-in-law changes the name of the river to Kozhekkoz in her own way. This name will be distributed among the country, and then the two names will be used in parallel."

Byzhi (Qazaq language - Быжы) is a left tributary of the Koksu River. According to T. Zhanuzak, byzhi is associated with the words "images", "inscriptions" in the East Turkic language. There may be inscriptions and drawings on the rocks along the byzhi River. But the marked stones along the river are still not found. That is why the origin of this name still requires deeper research.

Kargaly (Qazaq language - Қарғалы) the name is associated by some with an ordinary Crow, it is said that it was named because of the large number of Crows on the banks of the river. But this is not true. Because it is not possible to have crows that live only along the river, Crows are also found throughout the region. Also, the people often gave names only to the Earth and water, which they considered sacred and sacred. According to E. Murzayev, in the Turkic languages Harge means "tastak, Rocky River". It seems that the last statement correctly reveals the essence of the name. Given that the dominant group of hydronyms refers to the terrain, it can be assumed that this name is also caused by the fact that the location of the hydroobject is rocky.

Among the hydronyms of semirechye, both numerous and diverse in lexical composition are considered hydronyms that reflect the physical and geographical properties of the environment. Water names in this area can be classified into such groups as: minerals, ore, mine names and surface relief of the earth, nature and weather phenomena, large and small rivers, bitter taste, names of plants and animals, as well as hydronyms from the words of color and number.

Our people skillfully used their color in naming, highlighting the properties and features of hydronyms. On the territory of semirechye, there are many names of water that are formed in relation to various types and colors, thereby giving information about the water. As in other regionsalternational depression, geographical names associated with color are found in abundance. These include the adjectives black, white, red, blue, yellow, spotted, Shagar, brown, gray, Zhiren, Chagan, Ulan, Kuba, etc. For example: Akbastau, AK Tuma, Kyzylzhar, red bitter, Kyzylkersai, Kyzylbulak, Karabulak, Koksu.

In his works, academician A. N. Kononov, Professor E. Murzaev, scientists G. Konkashbayev, E. Koishybayev, D. Isaev showed that names associated with color in the composition of toponyms can have meanings other than color.

Semantic analysis of names related to the most common color in hydronyms shows that:

Black. In Turkic geographical terminology, the words black and white can have additional meanings in addition to their main meaning. According to A. N. Kononov, White gives the meaning of "liquid" in the Uyghur language, black in some Turkic languages - "Earth", "land", "soil". In its composition, the adjective black acts as a determinant and precedes the noun . And in a collective work called" toponyms of central Kazakhstan", the black component is called an ancient term, noting that it alternates in the Slavic languages – Tau (Gora), gar in Afghan, Gora in Georgian, Gur in Albanian, snow in Armenian, Avesta – gairi, gar in Hindi, Garhi in Tibetan, Garhi in Sahara.

White (Qazaq language - Ақ). This word is known in Turkic languages in the following meanings: 1) white (color); 2) pure, innocent, Immaculate, Virgin; 3) white (color); 4) whiteness, white thing, object; 5) White that stands out; 6) milk, kefir, etc.

It can be seen that the word" white", often found in hydronyms, is created to indicate the color of river water, objects on its banks. They reflect not only the color of the water, but also the color of the rocks and plants in the area. For example, it was used to indicate the transparency and transparency of the water of the White River in the composition of the Akbastau River.

Red (Qazaq language - Қызыл). Many water names were also created on the basis of their red color. The word "red" in toponyms means the color of the soil, vegetation, stones of the same region. Unlike other colors, red retains its own meaning in hydronyms and actively participates in the creation of water names. For example: Kyzylzhar, red bitter, Kyzylkersai, Kyzyl Bulak.

Blue (Qazaq language - Көк). Due to the adjective" blue", many geographical names of Semirechye hydronymy are exposed. Adjective names "blue" are often characteristic of oronyms and hydronyms. In the names of rivers, the word "blue" was used in two meanings. One is to show that the water of the river is clear and clear, and the other is to show that the river bank is a meadow with blue oilseeds.

The physical and geographical character of the Earth and the number of hydronyms assigned to the terrain are also quite a bit. Most of them are formed by the addition of the following words: kairak, stone, Sor, passage, spring, water, etc. They are: stone basta, bitter spring, golden haze, Shokpartas, Rocky, Claybastau, Flint.These names provide information about the terrain, soil, etc.of the place where the hydronym is located.

The Kazakh people were skilled in expressing the game with embroidered words, likening and likening one object to another. "I don't know," he said. There are also metaphorical names of water formed by describing the course of a river, its environment, and its terrain as if they were some other concept.

About the birth of the concept of koyankoz, E. Koishybayev, T. Zhanuzakov also noted that one of them was caused by the likeness of the eyes of a rabbit, and the other by the tears of a rabbit.

The Zhetysu region is not known for its mining. Therefore, there are not many hydronyms related to the name of fossil resources in this region, but it can be seen that the basis for the emergence of some water names is the fossil resources of the earth, which had a significant impact on the formation of the name. For example: Golden mist. The word "gold", which comes in the composition of these toponyms, is not related to deposits or precious metal. This concept probably comes from the fact that the water source is very valuable for the population.

The nature of our region, which is called" Zhetysu land" (Жер жәннаты Жетісу), is picturesque and rich. For the convenience of nature, there is also a huge variety of plants, the rarest of which are also growing. These plants formed the basis for the formation of land and water names in our region. All plants that grow on the territory of Kazakhstan grow on the territory of Semirechye.

There are about 50,000 plant names in the world, and about 67 thousand plant names are found in the Kazakh language. [8.28] some of the same plant names are found in the hydronyms Kurenbel depression: kesken Poplar, Koktal, Terekty, Dolanaly, Kolkamys, Kogaly, Shilisu, Karagaily, Taldybulak, rosehip.

One of the main features of the toponymy of Kazakhstan is the fact that geographical names characterize the appearance of the landscape, plant and animal, animals. The names of animals, animals, birds in the composition of toponyms indicate that some types of animals are widespread in Kazakhstan and have a hunting significance. This group includes the hydronyms Fox and pig.

A special place in the formation of hydronyms is occupied by the names of Clans, tribal names, and individuals among the population inhabiting the region. Since the name of the land-water is also the people themselves, they gave their names to the land-water in order to indicate that a certain hegraphic region belongs to that tribe or shows respect for an influential person within the country. Among the hydronyms that arise in relation to the name of a person, tribe, tribe, we can include the names of water-kashanhanai, Mamyrkhan, Koyankoz, Duysen, Yylas, Zhanabay, Kosymbay, Burymbay.By assigning names to hydronyms, the local population showed their respect, intending to perpetuate their names in history.

Some of the hydronyms are named in connection with the name of the tribes that inhabited the banks of the river and Lake: An example of this is Mount Matay (Qazaq Language Матай).

In the future, we plan to conduct these research on the basis of the work of these scientists on a regular basis. In particular, it is to establish scientific ties between the school and the university, take measures aimed at attracting students and students to this work.

Referense

Тоқпанов Е.А. Жетісу өңірінің тарихи-мәдени өлкетану нысандарының картасына авторлық құқықпен қорғалатын объектілерге құқықтардың мемлекеттік тізімге мәліметтерді енгізу туралы №18574 куәлік 09.06.2021.

Room, Adrian (1996). An Alphabetical Guide to the Language of Name Studies. Lanham and London: The Scarecrow Press. ISBN 978-0-8108-3169-8.

Beekes, Robert S. P. "River". Encyclopedia of Indo-European Culture. pp. 486–487.

Mencken, H. L. (1921). "3. Geographical Names". The American language: An inquiry into the development of English in the United States (2nd, rev. and enl. ed.). Archived from the original on 27 December 2017.

Mallory, J. P.; Mair, Victor H. (2000). The Tarim Mummies: Ancient China and the Mystery of the Earliest Peoples from the West. London: Thames and Hudson. p. 106.

Julie Tetel Andresen; Phillip Carter (2015). Languages In The World: How History, Culture, and Politics Shape Language. John Wiley & Sons. p. 227. ISBN 978-1-118-53128-0. Retrieved 31 December 2015.

Klement Tockner; Urs Uehlinger; Christopher T. Robinson (2009). Rivers of Europe. Academic Press. p. 216. ISBN 978-0-08-091908-9. Retrieved 31 December 2015.

Мурзаев Э. М. Словарь народных географических терминов / Э. М. Мурзаев. — М.: «Мысль», 1984. — 656 с. (в пер.)

Агеева Р. А. Как появились названия рек и озёр: Популярная гидронимика / Р. А. Агеева. — М.: АСТ-ПРЕСС КНИГА, 2012. — 288, [24] с. — (Наука и мир). — 3000 экз. — ISBN 978-5-462-01316-4. (в пер.)

Егинбаева, А. Е. (2022). ШЕТ АУДАНЫНЫҢ ГИДРОНИМДЕР ЖҮЙЕСІН ЗЕРТТЕУДІҢ ГЕОГРАФИЯЛЫҚ НЕГІЗДЕРІ. Гидрометеорология и экология, (4 (107)), 52-61.

Сапаров, К. Т., & Нурпейсова, А. М. (2019). FEATURES NOMINATION HYDRONYMS KUSTANAI REGION. Гидрометеорология и экология, (2), 142-151.

Магжанова, Б., Боранкулова, Д., & Муминов, Д. (2022). ҰЛЫТАУ ОБЛЫСЫ ТОПОНИМДЕРІНІҢ ГЕОАҚПАРАТТЫҚ ЗЕРТТЕУЛЕРІНІҢ ҚАЗІРГІ МӘСЕЛЕЛЕРІ. Вестник КазНПУ им. Абая. Серия «Естественно-географические науки», 4(74), 116-122.

Абдуллина, А. Г. (2018). АҚТӨБЕ ОБЛЫСЫНЫҢ ГИДРОНИМДЕРІНІҢ ҚАЛЫПТАСУ ЕРЕКШЕЛІКТЕРІ. Гидрометеорология и экология, (3 (90)), 152-159.

Исанова, А. Е., & Бижкенова, А. Е. ОНОМАСИОЛОГИЧЕСКИЕ ОСОБЕННОСТИ ГИДРОНИМОВ КАЗАХСТАНА. .

Ковалева, Т. С. (2021). ЛИНГВИСТИЧЕСКИЕ ОСОБЕННОСТИ ГИДРОНИМОВ КАЗАХСТАНА. In Колпинские чтения: детско-юношеский туристско-краеведческий форум (pp. 207-210).

Байзакова, Г. К., & Жунусова, Ж. Н. (2021). ОНОМАСТИЧЕСКОЕ ПРОСТРАНСТВО ВОСТОЧНОГО КАЗАХСТАНА В ЛИНГВОКУЛЬТУРОЛОГИЧЕСКОМ АСПЕКТЕ. In Ономастика Поволжья (pp. 25-28).

Аяпбекова, Ә.Е. Геожүйені құрушы топонимдер [Электронный ресурс] : оқулық / Ә. Е. Аяпбекова, 2011. - 119 б.

Historical Sciences

Création de l'homme soviétique : formation de la mémoire collective et de l'identité soviétique géorgienne (plusieurs aspects)

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Même pendant l'existence de l'Union soviétique, les recherches scientifiques sur son système politique, idéologique, économique et social étaient en cours, mais dans la littérature scientifique, nous rencontrons rarement des discussions sur la culture soviétique, la nature de la nation socialiste soviétique. Cela pourrait s'expliquer par de nombreuses raisons, dont la clarification n'est pas notre intérêt à ce stade. Après la fin légale de l'empire soviétique, les républiques alliées qui en faisaient partie ont déclaré leur indépendance et ont été confrontées à de nombreux problèmes. Aux difficultés sociales, économiques et politiques s'ajoute une crise d'identité. La recherche de sa propre identité soulève également des questions sur l'identité soviétique. L'histoire de l'Union soviétique a été créée dans le but de légitimer le système soviétique. Dans le même temps, une mémoire collective et des marqueurs d'identité étaient « créés » pour tous les peuples de l'Union soviétique.

L'identité

Il existe de nombreuses définitions et théories scientifiques concernant le concept d'identité. Tout d'abord, il faut dire que l'identité détermine le comportement humain. Puisqu'une même personne est porteuse de plusieurs identités à la fois, son comportement est différent selon les situations. Sur la base de notre intérêt scientifique, nous aborderons les identités culturelles, collectives et nationales.

Chaque unité culturelle spécifique utilise n'importe quelle critère d'identification ou tous ensemble pour se sentir et se connaître (respectivement par rapport aux autres) en tenant compte de la réalité historique objective. (Ricoeur. 2000 : 8.10.12).

Le phénomène de l'identité est l'un des concepts complexes et complexes qui fait l'objet d'études dans de nombreuses disciplines différentes. En conséquence, ils font la distinction entre l'identité individuelle, sociale et culturelle. L'identité est un concept abstrait lié aux concepts d'ethnicité, de nation et de culture. Chaque société, chaque groupe, chaque individu possède son propre répertoire d'identité qui permet de connaître les autres. L'identité est un système dynamique de processus et de structures, et son répertoire peut changer à n'importe quelle époque historique et être causé par la réalité actuelle, qu'il s'agisse de facteurs politiques, sociaux ou culturels. (SCHIPERS Thomas K.)'identité culturelle est l'un des déterminants les plus importants de la vie d'un individu. La manière dont il remplira différents « rôles » de vie est déterminée par la culture à laquelle il appartient, les valeurs et les normes qu'il partage. (Karagezov 2005: 7)

Les catégories de nation, d'appartenance ethnique, d'appartenance ethnique, de classe, de religion et de genre sont utilisées pour exprimer l'identité de soi et des autres. Ils représentent des « codes de différence » collectifs à travers lesquels les individus et les groupes se présentent, s'identifient aux autres et s'engagent dans une action sociale et politique. Selon certains chercheurs, les « codes de différence » sont interconnectés et chacun d'eux se forme par interaction avec les autres. L'ethnicité, la nation, l'appartenance ethnique, ainsi que la race, en tant que catégorie sociale relative, ont été établies comme des codes de relations définissant la relation entre «nous» et «l'autre». (Lorenz. 2011: 24-60.)

Mémoire

Au cours des dernières décennies, l'attitude à l'égard du passé a fondamentalement changé, ce qui a entraîné une critique des versions officielles de l'histoire, le rappel des histoires oubliées, le « retour aux racines », le « souvenir de l'histoire perdue », ainsi qu'un intérêt particulier pour les événements mémoriels. , etc. Ces histoires sont finalement liées à la conscience collective, à la mémoire et à l'identité. (Hopa. 2005: 391.)

Maurice Halbwachs a introduit le concept de « mémoire collective » dans la littérature scientifique et, par ce terme, il faisait référence à la mémoire commune partagée par un certain groupe ou une société. Il considérait la mémoire comme une construction sociale et montrait que la mémoire d'un individu ne se forme pas de manière indépendante, mais au sein d'un groupe social spécifique. Un individu perçoit, comprend et donc se souvient des événements à travers les moyens définis par « son » groupe social. (Halbwachs. 1992:53.)

Au sens le plus large, la mémoire collective fait référence à la tentative des individus, des groupes, des entités et des États de définir leur identité en enregistrant les expériences accumulées tout au long de l'histoire et des événements significatifs, en interprétant le passé et l'histoire. (Ed. by R.N. Lebow, W. Kansteiner, and C. Fogu. 2006: 8.) Selon Pierre Nora, la mémoire collective est différente de la mémoire historique. La mémoire collective se dépose dans l'expérience active de toute unité, et la mémoire historique est la mémoire collective des historiens, elle est analytique et critique. La mémoire collective est en constante évolution, elle représente l'unité dialectique du souvenir et de l'oubli. Et l'histoire est la reconstruction et la représentation – toujours controversée et sans fin – de ce qui n'existe plus. Parallèlement, P. Selon les mots de Nora, ce que nous appelons aujourd'hui la mémoire, et non la mémoire, appartient déjà à l'histoire.(Nora. 1989: 8).

Mémoire culturelle - « un ensemble de textes, d'images, de rituels constamment utilisés, spécifiques à chaque unité à une époque particulière ; Leur introduction assure la stabilité de la société et détermine l'image qu'elle a d'elle-même. (Assmann. 1995: 132). Tout groupe, pour maintenir son identité, a besoin de symboles et de souvenirs qui expriment cette identité. Halbwachs appelait ces symboles des « icônes de la mémoire », Jan Assmann des « figures de la mémoire » et Pierre Nora des « lieux de mémoire » ou des « zones de mémoire ». Et la mémoire institutionnelle fait référence aux efforts des élites politiques, de leurs partisans et de leurs opposants pour donner un sens au passé et établir ce sens dans la société. La mémoire commune et les valeurs communes qui en découlent forment les identités des individus et des groupes. Dans les travaux des chercheurs modernes sur le nationalisme, il est démontré que le passé commun est l'un des principaux fondements de l'identité ethnique/nationale. La représentation du passé, partagée par les membres d'une communauté, crée le sentiment d'être un groupe « nous ». (Confino. 2006: 1400).

Un groupe qui a une idée commune de son origine et de son passé, sur la base de laquelle il tente de consolider ses droits territoriaux et autres droits politiques et d'affirmer sa supériorité historique sur les autres groupes, est appelé une unité mnémonique. (Zerubavel E. 2004 :)

Mémoire soviétique

Après l'occupation-annexion soviétique, la Géorgie devient partie de la « Grande Union Soviétique ». Les bases de la culture soviétique ont été posées dans les années 20 et 30 du XXe siècle. La

Géorgie, comme le reste de l'Union soviétique, était gouvernée par des mécanismes totalitaires. La culture géorgienne était soumise à des pressions idéologiques et politiques. L'objectif principal du gouvernement soviétique était de créer un peuple soviétique unifié, doté d'une identité sociale commune. Grâce aux ressources du parti de l'État, à l'agitation et à la propagande, leur politique de mémoire et d'identité s'est avérée fructueuse, ce qui impliquait non seulement une interprétation particulière des faits et une sélection de la mémoire, mais aussi la création des faits eux-mêmes à travers une mémoire gérée et manipulée. L'élite du parti des Sabchats déterminait quels faits et événements étaient importants pour la société dans son ensemble, ce qu'il fallait retenir et ce qu'il fallait oublier, et grâce à cette mémoire, ils créèrent l'identité soviétique.
Dans les années 20 du 20e siècle, et s'est poursuivi jusqu'à la fin des années 80, le processus de reprise et de renforcement des principales fonctions de gestion de l'État par l'appareil parti-État, la formation d'une nouvelle couche dirigeante - la nomenclature, la création de qui s'est déroulé simultanément avec des processus sociaux et politiques complexes, éliminant l'ancienne classe dirigeante, dont la destruction était périodiquement effectuée. F. Brodel appelle ainsi l'établissement d'une hiérarchie sociale et l'octroi de privilèges sans précédent. Mais cette hiérarchie n'était pas formalisée comme une classe officielle, mais était placée à la tête et recouverte du nom du chef du prolétariat (Brodel.1993: 602-603).
L'un des facteurs les plus importants dans la formation de la personnalité de l'homme soviétique était l'idéologie officielle, qui a établi un nouveau système de valeurs et de normes éthiques et morales dans la société. Il revendiquait l'universalité, la justice historique et se considérait comme l'incarnation de la vérité. Les idéaux qu'il proposait devaient donc être acceptés comme foi et leur mise en œuvre était une question d'avenir. M. Selon Epstein, la culture officielle était étrangère à l'observation d'autres cultures ou à la comparaison avec elles car elle se considérait comme un phénomène supra-historique et supra-culturel. (Epshtein. 2004: 84). De plus, il fallait recourir à la violence pour transformer radicalement l'homme et la société avec des idéaux socialistes. Dans le nouveau système de valeurs, l'individualité d'une personne était valorisée à un niveau bas. Tout d'abord, chacun d'eux devait se sentir bâtisseur d'une nouvelle société, être prêt même à se sacrifier au profit de la cause commune. Toutes les mesures et actions menées par le gouvernement visaient à créer une nouvelle psychologie de l'homme. L'école soviétique était l'un des instruments et moyens importants et actifs pour atteindre cet objectif. Dans l'école soviétique, il fallait élever une personne capable d'instinct social, de conscience et de sentiment collectifs, qui percevait et assimilait les événements de la vie de manière de classe. Afin de développer des habitudes sociales chez les adolescents, il était nécessaire de les éduquer à la discipline collectiviste et à l'autodétermination appropriée, ils devaient apprendre l'importance d'une division correcte du travail par le collectif en raison du sens de la responsabilité envers la propriété des travailleurs. La collection de 1954 de l'Institut de recherche scientifique sur les sciences pédagogiques du ministère de l'Éducation de l'URSS de Géorgie « Questions de l'enseignement de l'histoire à l'école » présente les travaux de scientifiques soviétiques géorgiens dont les idées principales sont liées à l'enseignement de l'histoire (Party Word.1983: 2-64).

Comme une sorte de programme d'action, il est clairement défini que « les faits et événements historiques doivent être couverts comme un processus objectivement régulier, qui se déroule sur la base de lois objectives ». Les événements historiques doivent être expliqués et traités de manière à ce que les lois fondamentales qui sous-tendent les actions de l'État, du gouvernement et du parti soient claires. (Potapenko. 1954: 64-70).

L'enseignant doit toujours s'appuyer sur les dispositions de Staline pour soutenir la question. Lors de l'enseignement de l'histoire de l'URSS, le travail de Staline nous aidera beaucoup - écrit l'un des professeurs soviétiques. "Le professeur d'histoire doit se rappeler que l'amitié entre les peuples de l'Union soviétique n'est pas née soudainement, mais par hasard, et qu'elle a de profondes racines historiques. L'amitié des peuples de l'URSS s'est reflétée dans ces années lointaines, où le peuple russe s'est uni et a mobilisé tous les peuples vivant dans notre patrie pour résister à l'envahisseur étranger, qui avait les yeux rivés sur notre terre et nos eaux, sur nos abondantes richesses naturelles. . Cette amitié s'est développée à une époque où le prolétariat russe, sous la direction du Parti communiste, mobilisait les travailleurs d'autres nationalités pour lutter contre l'arrogance tsariste et le capitalisme. Elle s'est aiguisée et s'est transformée en une force invincible dans la lutte commune de tout le peuple de l'URSS pour la victoire de la Révolution d'Octobre, dans le feu de la guerre civile, dans l'édification héroïque du socialisme, dans les années difficiles mais glorieuses de la La Grande Guerre Patriotique".

Dans la formation de l'identité soviétique, au sens communiste, disons, dans le travail d'éducation collective, la forme organisationnelle la plus répandue du travail parascolaire - le cercle thématique de l'histoire - a apporté une grande contribution. Les « Soirées de l'histoire », « Vitrine de l'histoire », « Bulletins historiques », « Revues historiques » peuvent aussi être considérées comme des « lieux de mémoire ».

Dans le manuel d'histoire soviétique géorgienne, la plus grande importance est accordée au XIXe siècle. Dans le recueil mentionné, il est écrit exactement ainsi : « Le thème « La Transcaucasie dans le premier quart du XIXe siècle a un caractère très pédagogique ». Il s'agissait de montrer aux étudiants quelle était la situation en Géorgie au XVIIIe siècle : l'Iran et la Turquie prêchaient l'extermination et la destruction de la Géorgie, affaiblie par de nombreuses batailles. Erkle II a exprimé les aspirations du peuple géorgien tout entier lorsqu'il s'est orienté vers une Grande Russie résolue. Il a été mentionné que les questions de l'adhésion de la Géorgie à la Russie devraient être abordées en détail, en particulier les résultats de cette adhésion et son importance progressiste pour la Géorgie. Grâce à l'union avec la Russie, le peuple géorgien a préservé son indépendance, sa langue, sa culture, la Géorgie a tracé la voie de la croissance économique et a commencé le développement de l'industrie et du capitalisme» (Kvilitaia. 1954: 17).

Les historiens soviétiques pensaient que le thème « L'importance historique mondiale de la Grande Révolution d'Octobre » dans les cours d'histoire de l'URSS en 11e année était d'une importance cruciale. "Nous devons expliquer aux étudiants que la Révolution d'Octobre marque un grand tournant dans l'histoire de l'humanité, donnant ainsi naissance à une nouvelle ère" (Kvilitaia. 1954: 19).

La collecte d'objets historico-archéologiques et leur utilisation revêtent une grande importance dans l'enseignement de l'histoire. La Géorgie est encore plus riche en monuments de ce type. Les étudiants soviétiques géorgiens ont systématiquement participé à diverses fouilles archéologiques. "Grâce à cela, ils accompliront un travail très important. Tout d'abord, avec leur travail, les étudiants apporteront une sorte de contribution au travail patriotique de protection et d'étude de la culture soviétique géorgienne avec une histoire mondiale. Deuxièmement, avec leur participation, ils ont créé la meilleure base de visibilité à l'école : dans la formation de l'identité soviétique, au sens communiste, disons, dans le travail d'éducation collective, ils ont apporté une grande contribution à l'organisation la plus répandue. forme de travail parascolaire - le cercle thématique de l'histoire. "Il faut particulièrement apprécier le travail commun des enfants, c'est le germe du travail collectif" (Крупская.1946:112). Enfin, un tel collectif pourrait facilement mener à bien la tâche d'éducation communiste. En Union soviétique, ces cercles avaient un objectif principal : l'éducation communiste de leurs membres.

L'homme était complètement impliqué dans les structures sociales, la personnalité et la masse devenaient un tout indivisible. La terreur menée par le PCUS avait un objectif et une tâche : semer la peur universelle, pour finalement réprimer tout désir de protestation, effacer la différence entre les différentes nationalités vivant dans l'Union, créer une atmosphère d'obéissance totalitaire. L'un des premiers décrets du gouvernement soviétique concernait la presse écrite, interdisant de fait tous les périodiques d'opposition, introduisant ainsi une censure politique. Plus tard, la presse fut entièrement mise au service du parti. Admirée par la constitution adoptée en 1936, la « Pravda » déclarait que la presse bolchevique avait une mission honorable : être un propagandiste collectif, un agitateur et un organisateur, l'arme la plus puissante du parti, et qu'il était du devoir du journaliste soviétique de élever le « bâtisseur rigoureux » de la société socialiste soviétique.

Comme nous l'avons mentionné, la formation de la mémoire est le résultat d'un processus déterminé, et ces objectifs découlent des intérêts spécifiques d'une société particulière. La formation de la mémoire soviétique dépend du contexte politique communiste. C'est pourquoi une grande importance a été attachée à ce qu'on appelle L'école politique peut être caractérisée comme suit : son existence est nécessaire pour « élever rapidement la culture du peuple, élever les cadres de l'intelligentsia de la culture populaire soviétique, qui serviront les ouvriers et les paysans avec foi et vérité, et construisons le socialisme avec eux » (travail de propagande 1955 : 53).

Conformément à cet objectif, la Géorgie soviétique était dotée d'un vaste réseau d'écoles primaires, secondaires et supérieures. "Les conditions ont été préparées pour la mise en œuvre de l'enseignement secondaire universel. L'analphabétisme est devenu une chose du passé. Il est réjouissant de constater que le nombre d'étudiants dans les établissements d'enseignement supérieur du pays soviétique est beaucoup plus élevé que dans tous les pays d'Europe occidentale réunis"(travail de propagande 1955 : 57).

L’école soviétique a joué un rôle majeur dans la formation des générations futures, de leur pensée et de leur comportement et, par conséquent, dans la formation de l’identité soviétique. "L'école soviétique doit inculquer à la jeunesse de notre pays les sentiments patriotiques et l'amour de la patrie socialiste. "Dans ce cas, les professeurs d'histoire ont une responsabilité particulièrement grande, qui, notamment dans les cours d'histoire de l'URSS, devraient largement utiliser les matières proposées par le programme d'histoire pour l'éducation de l'esprit soviétique des étudiants", a déclaré le texte susmentionné. dit le guide.

P. Si l'on prend en compte l'avis de Nora, les « soirées d'histoire », les « vitrines d'histoire », les « bulletins historiques », les « revues historiques » peuvent être considérés comme des « lieux de mémoire ».

Dans les écoles soviétiques géorgiennes, les soirées d’histoire étaient consacrées à une date historique importante, à un personnage historique, etc. Par exemple, V.I. Lors d'une des soirées consacrées à l'anniversaire de la mort de Lénine, un montage "Le chemin de vie de Lénine" a été réalisé, basé sur le poème de Jambuli "Песня о клятве". 20 étudiants ont participé au montage, ils ont récité des slogans, des poèmes et des extraits de la biographie de Lénine.

L'objectif de la création d'une vitrine historique était le suivant : les étudiants devaient être initiés aux événements politiques, culturels et sociaux importants. « La vitrine est disposée ainsi : des reportages importants, des articles sur des problématiques diverses sont découpés dans divers magazines et journaux : critiques de tel ou tel pays, biographies de personnages historiques, rapports de fouilles historiques, etc. Les coupures seront fixées sur une planche spéciale, qui sera accrochée à un endroit visible. Quant au « bulletin historique », il pourrait être réalisé comme une affiche et consacré aux époques historiques. Par exemple, St. Le 7ème lycée de Tbilissi a réalisé le type d'affiche suivant, divisé en trois sections. 1. « Passé héroïque de notre pays », dans lequel se trouvaient des portraits de héros historiques du peuple de l'Union soviétique, une brève description de leur travail a été écrite pour chaque personne ; 2. La deuxième section était consacrée aux héros de la guerre civile et il y avait aussi une description ; 3. A couvert les héros de la « Grande Guerre patriotique » du peuple soviétique, a décrit les héros de l'Union soviétique.

La presse du parti a joué un rôle d’une grande importance dans la formation de l’identité soviétique. Il existe un slogan soviétique qui exprime bien son rôle : « Pour se tenir au courant de la politique actuelle, il faut systématiquement lire les magazines et les journaux ». Selon Lénine, la presse soviétique n'est pas seulement un propagandiste et un agitateur collectif, mais aussi un organisateur collectif. En ce qui concerne cette question, il convient de noter que i. Essai de Potapenko (propagandiste géorgien) sur « Le travail de presse et de propagande ». Selon Potapenko, les magazines et journaux jouent un rôle important dans le travail de propagande : « Communiste », « Partinaia Zhizni », « Communiste géorgien », « Pravda » et d'autres. Le matériel placé dans cette presse aide grandement l'homme soviétique dans le développement de l'éducation politique, car il est obligé d'être toujours au courant des événements, de connaître le contenu des décisions du parti et du gouvernement et de l'opinion politique" (Makharadzé.1954 : 3-15)

Le Parti communiste représentait l'icône de la mémoire collective soviétique (une sorte d'idée commune, un concept qui interagit avec d'autres concepts et idées). Le rôle du parti en tant qu'icône de la mémoire sociale était important dans les récits, les documents et la littérature journalistique soviétiques géorgiens.

Le recueil d'articles de la maison d'édition « Communiste » de 1955 « De l'expérience du travail de propagande » nous donnera une idée claire de la manière dont s'est déroulé le processus de formation de l'identité soviétique.

"Dans notre pays invisible, l'union volontaire des nations se réalise exactement. La politique nationale léniniste-stalinienne du PCUS a brillamment triomphé. Le tsarisme avait l'habitude d'effrayer les petites nations, d'organiser les conflits entre les Tatars et les Arméniens et d'instiller l'envie et l'inimitié entre elles. Grâce au Parti communiste natal, qui a fait s'aimer tous les peuples de notre pays, nous a unis en une famille forte et fraternelle » (travail de propagande 1955 : 55).

« Le rôle du Parti communiste est indéfini et inépuisable dans le processus de formation de l'identité de la société soviétique. « Le parti est inséparable du peuple » (Brejnev 1977 : 15).

La bibliothèque du Parti a joué un rôle important dans le travail de propagande. "Des stands, vitrines, schémas et autres curiosités disposés dans les salles de la bibliothèque du parti incitent les communistes à aspirer à maîtriser les grands enseignements du marxisme-léninisme, renforcent leur amour pour les livres. Chaque communiste peut demander les œuvres de Marx, Engels, Lénine, Staline, les œuvres d'histoire, de philosophie, d'art, de technologie, les résolutions du parti et lunaires, les brochures populaires" (du travail de propagande 1955: 30; Партийное строительство. 1932: 62; Правда. 1936).

Selon Nora, la mémoire du passé définit l'identité présente. De toute évidence, le système soviétique avait besoin de créer sa propre histoire et son passé pour légitimer le présent. Par conséquent, un travail intensif a été lancé en Géorgie soviétique pour résoudre ce problème. Les historiens soviétiques ont déclenché la formation d'une "mémoire des autres". Selon les mots de Burke, le travail des historiens n'est pas nécessairement un acte inoffensif de mémoire, c'est une tentative de façonner la mémoire des autres. Les communistes ont créé une icône - dans le passé commun, le soi-disant. Le phénomène de la fraternité. Pour reprendre les mots de Zerubaveli, « L'ascendance commune est l'une des principales sources du sentiment d'unité sur lequel reposent les formes traditionnelles de solidarité sociale. Avoir un passé commun, c'est aussi avoir un présent commun. La prise de conscience que nous avons un ancêtre commun nous relie»(Burke. 1980: 101-102 Zerubavel. 2004: 2-3).

La création des Géorgiens était et est acceptable pour eux, même sur le plan discursif, en raison du colonialisme culturel russe. La signification et la compréhension de la nationalité et de la nationalité sont réduites à l'existence ethnographique et ne sont réduites qu'au niveau de la danse, du chant, de la musique, ainsi que de l'écriture, du cinéma et du folklore en général. La thèse de Staline: "Sous une forme nationale, avec un contenu socialiste" a trouvé une application pratique. Les cultures nationales staliniennes se sont développées dans toute l'Union soviétique.

Pendant soixante-dix ans, parallèlement à des processus sociaux et politiques difficiles, le processus de saisie et de renforcement des fonctions de base de la gouvernance de l'État par

l'appareil du parti-État, la formation d'une nouvelle classe dirigeante - la nomenclature soviétique géorgienne et le renseignement rouge soviétique. La suppression de l'ancienne classe dirigeante / élite La destruction a eu lieu périodiquement. F. Brodel appelle ainsi à la formation d'une nouvelle hiérarchie sociale. Cette voie était étrangère et inorganique à la société géorgienne.

La spécificité de la culture soviétique géorgienne créée par eux est devenue la restriction de sa liberté de création, la destruction d'une partie importante du patrimoine culturel, la perte des traditions culturelles nationales, l'officialisation de la culture de masse et son attitude utilitaire, l'isolement de la Géorgie société, son éloignement des réalisations culturelles mondiales. Le processus de saisie et de renforcement des fonctions fondamentales de gouvernement de l'État par l'appareil du parti-État a finalement pris fin dans les années 1920 et s'est poursuivi jusqu'à la fin des années 1980, avec la formation d'une nouvelle classe dirigeante - la nomenclature soviétique géorgienne, qui s'accompagnait de des processus sociaux et politiques complexes. , En évinçant l'ancienne classe dirigeante/élite, dont la destruction s'effectuait périodiquement (Braudel. 1993: 617). F. Brodel appelle ainsi la formation d'une nouvelle hiérarchie sociale. Cette voie était étrangère et inorganique à la société géorgienne.

C'était et c'est le résultat du colonialisme culturel russe de leur construire un Géorgien : à la fois en termes d'habitus et de caractère. Tout au long des années 1930, les emblèmes nationaux de toutes les "nations et nationalités" soviétiques ont été affichés en permanence (Maisuradze G.). Pour lui, la fusion du national et du socialiste signifiait la formation d'une nation socialiste. Les cultures nationales staliniennes se sont développées dans toute l'Union soviétique (Maisuradze G.).

Pour résumer, le discours impérial soviétique sur les Géorgiens est celui-ci : vous dansez bien, vous chantez bien, vous avez une excellente cuisine, vous êtes hospitalier, l'État et la liberté ne sont pas vos affaires.

Les mots clées: *Géorgie, Soviet, mémoire, identité, national.*

Creation of Soviet Man: Formation of Collective Memory and Georgian Soviet Identity (several aspects)

Abstract

The article discusses the complex and long process of formation of the Georgian Soviet identity, the activities of the Soviet occupation regime and the replacement of the Georgian national identity. All spheres were important for the formation of Soviet identity, official ideology created Soviet mnemonics and places of Soviet memory in all directions.

After the Soviet occupation-annexation, Georgia becomes part of the "Great Soviet Union". The foundations of Soviet culture were laid in the 20s and 30s of the 20th century. Georgia, like the rest of the Soviet Union, was governed by totalitarian mechanisms. Georgian culture was under ideological and political pressure. The main goal of the Soviet government was to create a unified Soviet people, which would have a common social identity. Through party resources of the state, agitation-propaganda, their memory and identity policy was successful, which meant not only a peculiar interpretation of facts and selection of memory, but also the creation of facts themselves through managed and manipulated memory. The party elite of the Sabchats determined which facts and events were important for the society as a whole, what to remember and what to forget, through such memory they created the Soviet identity.

In the 20s of the 20th century, and continued until the end of the 80s, the process of taking over and strengthening the main functions of state management by the party-state apparatus, the formation of a new ruling class - the nomenclature, the creation of which took place simultaneously with complex social and political processes, the old ruling class away, the destruction of which was carried out periodically. The established hierarchy was not formalized as

an official class, but was placed at the head and covered with the name of the leader of the proletariat.

One of the most important factors in the formation of the personality of the Soviet man was the official ideology, which established a new system of values and ethical and moral norms in the society. He claimed universality, historical justice, and considered himself to be the embodiment of truth, so the ideals he proposed should be accepted as faith, and their implementation was a matter of the future. It was alien to the official culture to observe other cultures or to compare itself with them, because it considered itself a super-historical and super-cultural event. In addition, it was necessary to use violence, to radically transform man and society with socialist ideals. All measures and actions carried out by the government were aimed at creating a new psychology of man.

All spheres were important for the formation of the Sabchati identity, the official ideology, which created Soviet mnemonics and places of Soviet memory in all directions. The education system had a special role. The most important issue at all levels of education was the education of an ideologized Soviet citizen and the erasure of all traces of national signs of non-Russian citizens.

The problem of identification of different nationalities living in the Soviet Union was important. The identification of people in the Soviet Union changed, instead of religious and national, it was identified by several main factors, namely, class and party affiliation. One, and perhaps more successful, method of eradicating ethnic or group identities is to replace them with ideology. In the former Soviet Union, the communist ideology was supposed to erase the differences between peoples and form a qualitatively new person.

Man was completely involved in social structures, personality and mass became an indivisible whole. The terror carried out by the CPSU had one goal and task - to instill universal fear, finally to suppress any desire to protest, to erase the difference between different nationalities living in the Union, to create an atmosphere of totalitarian obedience. It created a nation that is national in form and socialist in content.

Key words: Georgia, Soviet, memory, identity

Notes :

Assmann, J. *“Collective Memory and Cultural Identity,”* New German Critique, 1995.

Braudel F. *Gramaire des Civilisationes.* Paris, 1993.

Brejnev I. *„Grand Octobre et progrès de l'humanité''* , edition “Sabchota Saqartvelo”, Tb., 1977

Epstein M. *Culture-culturologie-transculture.* Collection : « Recherches civilisationnelles » n°2, numéro, 2004.

Césaire A, *Culture et colonisation*, Culture française Volume 5, numéro 1 (25), janvier–février 1963. URI : https://id.erudit.org/iderudit/30187ac

Communiste de Géorgie, 1984, éd. Keshelava V, n° 12

Confino, A. *Collective Memory and Cultural History* , in The Politics of Memory in Postwar Europe. Ed. by R.N. Lebow, W. Kansteiner, and C. Fogu. Duke University Press, Durham and London, 2006.

Dans les résolutions et décisions des congrès, conférences et plénums du Comité central de l'URSS, partie 2, Tbilissi 1955

Dans les résolutions et décisions des congrès, conférences et plénums du Comité central de l'URSS, partie 1, Tbilissi 1954

De l'expérience du travail de propagande, éd. "Communiste", Tb. 1955

D’Encause C. H., *L’empire éclaté*. Flammarion, 1978

Gens J-C, L’Hisoire, Ellipses, 1996

Goguadze G. *La fiction est l'outil le plus puissant de l'éducation*, Journal: Literary Georgia, # 1 (3) 15.01.1937

Hobsbawm E, *Elle pari de la raison, Manifeste pour l'histoire,* Le Monde diplomatique, Bruxelles-Paris, 1999 décembre 2004 — Pages 1, 20 et 21
Halbwachs, M. *On Collective Memory*. University of Chicago Press, 1992.
Janelidze O., *Il y a cent ans en Géorgie*, Magazine My World, n° 31, 2021.
Identité et Nationalisme, Collection, Editeur Temur Kreli, Tbilissi 2009
Karagezov R. Métamorphose de la mémoire collective en Russie et dans le Caucase central, Bakou 2005
Kiknadzé V. "Conversations sur le théâtre géorgien", publié. "Stream", Tb. 1985
Kvilitaia V. "Comment mener une leçon d'histoire", 1954
Lorenz Ch. Representation of Identity: Ethnicity, Race, Class, Gender and Religion. An Introduction to Conceptual History. The Contested Nation. Ethnicity, Race, Class, Gender and Religion in National Histories. Stephan Berger, Chris Lorenz (eds.), 2011.
Loriga S. Du trauma historique. https://www.politika.io/fr/notice/du-trauma-historique
Maisuradze G., la Géorgie s'est déclarée l guerre à elle-même. https://indigo.com.ge/articles/giorgi-maisuraze-saqartvelom-sakutar-tavs/*
Makharadzé F. "JE. B L'ouvrage de Staline "Problèmes économiques du socialisme en URSS" et Quelques problèmes d'enseignement de l'histoire, "1954
Nora, P. "Between Memory and History: Les Lieux de Mémoire". Representations, No. 26, Special Issue: Memory and Counter-Memory. University of California Press. Spring, 1989. http://www.jstor.org
Parole du Parti, Journal du Comité central du PCC, 1980, # 7
Party Word, Journal du Comité central du Parti communiste de l'Union soviétique, 1980, n° 6, éd. Dolidze K.
Party Word, Journal du Comité central du PCC, 1980, # 9
Party Word, Journal du Comité central du PCC, 1983, # 9-10, p. 2-64.Potapenko I. "Travail de presse et de propagande", 1954
Ricoeur P. Fragile identité: respecte de l'autre et identité culturelle. Mlyn, 2000
SCHIPERS Thomas K. "L'identité culturelle: Recherche d'une définition, Immigration et identité (En France et en Allemagne) Sur la direction de Patrik Hunourt http://www.tamilnation.orgselfdetermination/nation. Zerubavel E. Time Maps, Collective Memory and the Social Shape of the Past. Chikago and London. 2004.
Нора, П. "Всемирное торжество памяти". Память о войне 60 лет спустя. Россия, Германия, Европа. М., 2005.
Партийное строительство, М.1932
Правда, # 342 (6948), 1936 .

Biological Sciences

ОЦЕНИВАНИЕ СОВРЕМЕННОГО СТАТУСА ФЛОРЫ ДОЛИНЫ ЧЕРНОГО ИРТЫША (ПОИСК НОВЫХ МЕСТ ПРОИЗРАСТАНИЯ RHEUM COMPACTUM L. В КАЗАХСТАНЕ)

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Аннотация. В статье представлены результаты исследования флоры долины реки Черный Иртыш в Казахстане. Для составления экспедиционных маршрутов и предварительного флористического списка был проведен критический анализ более 1000 гербарных листов в коллекциях гербариев Казахстана (AA, ABG). В течение полевого сезона вдоль всего побережья Черного Иртыша было проведено исследование биоразнообразия растений. В результате было идентифицировано 217 видов высших сосудистых растений (55% от ранее найденных в архивах гербариев) из 139 родов, 43 семейств. Были обнаружены места обитания двух краснокнижных видов: Tulipa patens и Tulipa uniflora. К сожалению, распространение ранее указанного редкого вида Rheum compactum L. не подтвердилось, но были обнаружены популяции другого вида – Rheum nanum Siev. Было установлено, что флора Черного Иртыша довольно схожа с флорой всей Зайсанской котловины и в ней преобладают Poaceae, Asteraceae, Chenopodiaceae, Caryophyllaceae, Rosaceae и Fabaceae. Геоботанические исследования показали, что видовой состав растительных сообществ беден и схож. Только западная часть дельты реки характеризуется высокими показателями проективного покрытия и запасами кормовых растений. Основными факторами антропогенного воздействия являются пожары, выпас скота и вырубка лесов.

Ключевые слова: Флора, Черное Прииртышье, биоразнообразие, Казахстанский Алтай, редкие виды растений.

Изучение флористических территорий в Казахстане имеет высокую актуальность (Li et al., 2020). Были обнаружены флористические новинки (Фризен и др., 2021, Кубентаев и др., 2023, Сумбембаев и др., 2023), изучен статус редких видов (Осмонали и др., 2023, Оразов и др., 2024, Данилова и др., 2021) и проведена оценка запасов хозяйственно ценных видов (Ситпаева и др., 2020, Айменова и др., 2023). 2023, Кусмангазинов и др., 2023, Сумбембаев и др., 2023a). Изучение растительности речных долин имеет особое экономическое значение (Капитонова, 2021) [1]. Ландшафтная уникальность и большое практическое значение растительного покрова поймы Иртыша делают его интересным и важным объектом исследований. В настоящее время продолжаются флористические и геоботанические исследования различных частей бассейна Иртыша (Дурникин и Зиновьева, 2013; Дурникин и Еремина, 2014; Попова, 2021; Раделюк и др., 2022; Елкенова и др., 2022) [2].

К сожалению, флора долины Черного Иртыша, несмотря на ее высокое биологическое разнообразие, изучена слабо (Zeng et al., 2016). Ранее такие редкие виды, как Alyssum fedtschenkoanum N. Busch., Allium caespitosum Siev. от Бонда и Мэй, Allium galanthum Kar. и Кир., Allium mongolicum Regel., Rheum compactum L., Dactylorhiza salina (Turcz. Например, Lindl.) Soo, Eremurus inderiensis (Библ.) Regel., Populus pilosa Reder., Rubia resniczenkoana Litv., Salix caspica Pall., Salix fragalis L, Липтерис болотный Schott., Trapa saissanica (Fler) против Vassil., Trapa rossica против. Для этой территории были указаны Vassil., Tulipa altaica Pall., Veronica arenosa Lind. (Аралбай, 2015) [3].

Целью данного исследования является оценка современного состояния растительных сообществ в долине реки Черный Иртыш, составление актуального флористического списка высших растений Черного Иртыша и определение степени антропогенного воздействия на биоразнообразие этой территории [4].

Материалы и методы. Для составления предварительного списка видов, ранее отмеченных на этой территории, а также для разработки маршрутов экспедиций был проведен критический обзор гербарных коллекций, хранящихся в основных хранилищах: Алтайском ботаническом саду (АБГ) – 750 гербарных листов и Институте ботаники и фитоинтродукции (АА) – 250 гербарных листов. простыни.

При сборе фактического материала в полевых условиях на территории Зайсанской котловины, в связи со сложностью рельефа и большими площадями, использовались методы маршрутной разведки (Peet et al., 1998). Для получения полного представления о компонентах природной флоры исследуемых территорий была разработана серия маршрутов. Общая протяженность маршрутов по обоим берегам реки Черный Иртыш от границы с Китаем до впадения в Бухтарминское водохранилище составила 110 км.

Было проведено три экспедиционных выезда (апрель – сентябрь), чтобы рассмотреть все этапы изменения растительности. Маршруты пролегали по обоим берегам вдоль поймы Черного Иртыша: от пограничной заставы с Китаем до впадения в озеро Зайсан, чтобы максимально охватить флористический состав.

Результаты. Анализ гербарных коллекций анализ архивных и гербарных фондов показал высокую степень ботанического разнообразия. Была проведена экспертиза гербарных листов, хранящихся в основных хранилищах: Алтайском ботаническом саду (АБГ) и Институте ботаники и фитоинтродукции (АА). Было проанализировано более 1000 гербарных листов. Были установлены фактические места обитания 395 таксонов. По предварительным данным гербарных коллекций, во флористическом составе долины реки Черный Иртыш преобладают ксерофитные и ксеромезофитные виды из 57 семейств. Доминирующими семействами являются: Chenopodiaceae – 58 видов (15%), Asteraceae – 43 вида (11%), Fabaceae – 38 видов (10%), Poaceae – 42 вида (11%), Polygonaceae – 26 видов (7%) (рисунок 3). Высока доля гигрофитных видов из семейства Potamogetonaceae – 15 видов (4%).

Полевые исследования флоры Черного Иртыша в течение полевого сезона 2023 года в результате экспедиций во флоре долины реки Черный Иртыш в пределах казахстанской части было выявлено 217 видов из 139 родов, 43 семейств высших сосудистых растений.

Изучение флористического состава с начала формирования растительного покрова позволило выявить редкие и уязвимые виды ранневесенней флоры: Gagea fedschenkoana Pasche, Tulipa altaica Pall. например, Спренг, T. patens C.Agardh, например, Шульт. И Шульт, T. uniflora (L.) Бессер и Бэкер.

В ходе экспедиционных исследований не было выявлено большинства таксонов, перечисленных в архивных и гербарных коллекциях. Из ранее зарегистрированных (395 видов) видов флоры Черного Иртыша было идентифицировано 55%. Доминирующие семейства значительно изменились. Ранее доминировавшие Chenopodiaceae (15%) и Poaceae (11%) были заменены Asteraceae (12%) и Caryophyllaceae (9%). Следует отметить, что семейство Caryophyllaceae ранее не включалось в состав ведущего семейства.

В результате проведенного исследования было установлено, что флора Черного Иртыша сходна по составу с флорой всей Зайсанской котловины и составляет 18% от общего числа видов в этом флористическом регионе. По составу основных доминирующих семейств флора Черного Иртыша также соответствует Зайсанской котловине: преобладают Poaceae, Asteraceae, Chenopodiaceae, Caryophyllaceae, Rosaceae и Fabaceae.

Преобладание ксеромезофитных видов изменилось в сторону ксерофитных. Доля гигрофитных видов снизилась с 4 до 2% (представители семейства Nuphaeaeceae). Количество родов во флористическом составе сократилось со 151 до 139 родов. По количеству видов род Artemisia также остается доминирующим – 7 видов (ранее 14). Доля таких родов, как Allium, снизилась с 13 до 3 видов, Astragalus - с 12 до 3. Заметно увеличилась доля таких петрофитных родов, как Silene и Dianthus. Это указывает на изменение почвенного покрова с песчаного на каменистый.

Обсуждение. Изучение флористического состава территорий, оценка состояния растительных сообществ и установление лимитирующих факторов и степени нарушенности сообществ являются важной частью сохранения биоразнообразия растительного мира.

Ранее Аскарова и др. провели первоначальную оценку состояния биоразнообразия растений в Казахстане (Аскарова и др., 2018). Н. Гемеджиева и др. изучено флористическое разнообразие эндемиков Казахстана – 775 видов растений (Гемеджиева и др., 2010). Марчин Нобис и соавт. открыли 7 новых видов для флоры Казахстана (Nobis et al., 2015, 2017). Кечайкин и соавт. открыли 12 новых таксонов из рода Potentilla L. для территории Казахстана (Кечайкин и соавт., 2020). Для исследуемого региона Котухов установил встречаемость 83 новых таксонов из семейства Poaceae из Восточного Казахстана (Котухов, 2021). Кроме того, был изучен флористический состав различных территорий Восточного Казахстана. Так была описана флора хребта Ушкурмынкер и прилегающих территорий – 127 видов растений (Болботов, 2022), а также флора Архатинского (393 вида растений) и Черновинского лесничеств (383 вида растений) Катон-Карагайского национального природного парка (Артемов, 2020). Котухов составил описание флоры гор Коктау Калбинского нагорья (576 видов высших растений) (Котухов, 2020). Оразов и др. создана флора ассоциированных видов Prunus ledebouriana в Тарбагатайском государственном национальном парке – 511 видов растений (Оразов и др., 2021). В нашей работе описан флористический состав Черного Иртыша – 217 видов. Таким образом, наше исследование гармонично дополняет знания о биоразнообразии высших растений Восточного Казахстана.

Фактическое флористическое разнообразие показало заметное уменьшение степных песчаных видов и заметное увеличение петрофитных горных видов. Следует предположить, что в будущем эта тенденция будет только усиливаться, и в долине Черного Иртыша идет интенсивный почвообразовательный процесс. Кроме того, увеличение доли деревьев и кустарников указывает на процесс лесообразования в прибрежной зоне. Таким образом, влияние расположения между крупными горными хребтами Казахстанского Алтая и Сауро-Тарбагатайского хребта изменяет флору Черного Иртыша и флору Зайсанской впадины в целом.

Редкие виды, выявленные в ходе экспедиций, значительно сократили ареал обитания и плотность популяции. К сожалению, в ходе экспедиций не удалось идентифицировать ранее произраставший редкий вид Rheum compactum L., но были обнаружены популяции другого вида Rheum nanum Siev.

Хозяйственное значение флоры Черного Иртыша довольно велико, поскольку здесь преобладают кормовые и лекарственные виды растений. Особое внимание следует уделить западной части долины реки (профиль 3), которая отличается высоким уровнем проективного покрытия. Профиль 3 – место максимального разлива Черного Иртыша в местности с постоянной влажностью и наличием кустарникового яруса. Проективное покрытие на профиле 1 не превышало 30%, что связано с отсутствием богатого почвенного покрова и высокой засоленностью почв. Кроме того, только в западной части сосредоточены основные эксплуатационные запасы кормовых растений - в среднем 30-35 ц/га.

Вывод. Изучение флоры долины реки Черный Иртыш выявило сильную степень антропогенного воздействия. В результате первоначальной оценки архивных гербарных данных была установлена возможная встречаемость 395 таксонов. Фактически, в результате экспедиционных поездок был установлен рост только 217 видов. Было установлено, что основными негативными факторами для биоразнообразия долины реки Черный Иртыш являются неконтролируемый выпас скота, многочисленные пожары, выгоревшие участки и поваленные деревья, чрезмерный выпас скота и незаконные рубки леса.

Тем не менее, флора Черного Иртыша богата полезными растениями: кормовых – 29 видов, лекарственных – 30, пищевых – 3, медоносных – 18, ядовитых – 3, декоративных – 7, технических – 3, редких – 4 и реликтовых – 3. Ранней весной были обнаружены 2 краснокнижных вида: Tulipa patens и Tulipa uniflora, которые имеют статус 3-й категории.

Описанные флористические профили довольно схожи по видовому составу и доминирующим видам. Никаких характерных отличительных особенностей выявлено не было. Для установления стабильных значимых закономерностей во флористическом составе и районировании Черного Иртыша необходимы долгосрочные исследования, поскольку на флористическое разнообразие в течение исследуемого периода существенно повлияла аномальная засуха летом.

ЛИТЕРАТУРА

1. Бекмухамедов Э. Л. и др. Лекарственная флора Казахстана. – 2022.
2. Аверьянова А. Л. Позднеэоценовая флора Зайсанской впадины (Восточный Казахстан) : дис. – Ботанический институт им. ВЛ Комарова Российской Академии наук, 2012.
3. Котухов Ю. А. Дополнение к «Флоре Казахстана». Злаки Восточного Казахстана //Turczaninowia. – 2021. – Т. 24. – №. 2. – С. 156-169.
4. Камелин Р. В. и др. Дополнения к флоре Алтая //Turczaninowia. – 2001. – Т. 4. – №. 1-2. – С. 79-85.

Utilization of Biotechnological Methods for Enhancing Yield and Quality of Spirulina Production

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Spirulina (Arthrospira platensis) is recognized as one of the most promising sources of protein and a rich repository of bioactive compounds. To enhance both the yield and quality of spirulina production, various biotechnological approaches and methods have been employed.

One of the key aspects of spirulina cultivation lies in optimizing the growth conditions. Biotechnological methods enable the creation of optimal conditions for the growth and development of the microorganism, including temperature control, illumination, pH levels, and CO_2 concentration.

The cultivation of spirulina using biotechnological methods offers several advantages over conventional approaches. Bioreactor systems provide precise control over environmental factors such as temperature, light intensity, pH, and nutrient availability, resulting in optimized growth conditions for spirulina. Photobioreactors, in particular, offer advantages in terms of scalability, productivity, and sterility, making them a preferred choice for large-scale spirulina cultivation.

In addition to environmental control, genetic engineering plays a crucial role in enhancing spirulina production. By introducing genetic modifications, researchers can tailor spirulina strains to exhibit desired traits such as increased growth rate, higher biomass yield, and elevated content of bioactive compounds. Genetic manipulation also enables the development of strains with improved tolerance to environmental stresses, such as high light intensity, temperature fluctuations, and nutrient limitations, thereby enhancing overall productivity and robustness of spirulina cultures.

Biotechnological methods are also employed to optimize nutrient utilization and reduce resource inputs in spirulina cultivation. Metabolic engineering approaches aim to enhance carbon fixation efficiency and redirect metabolic fluxes towards target compounds of interest, such as proteins, lipids, or pigments. By optimizing nutrient uptake and metabolic pathways, researchers can maximize biomass accumulation and improve the nutritional profile of spirulina biomass, enhancing its value as a sustainable source of food, feed, and bioactive compounds.

Furthermore, biotechnological innovations have led to advancements in downstream processing techniques for spirulina biomass. Novel extraction methods, such as ultrasound-assisted extraction, enzymatic hydrolysis, and supercritical fluid extraction, offer efficient and environmentally friendly alternatives to conventional extraction methods, enabling the recovery of high-value compounds from spirulina biomass with minimal processing steps and energy consumption.

Furthermore, the utilization of genetically modified strains of spirulina allows for increased yield and enhanced content of beneficial compounds. Through genetic engineering, it is possible to improve spirulina's properties, such as increasing protein content, pigments, or vitamins.

To optimize the process of harvesting and purifying spirulina, biotechnological methods such as membrane filtration, centrifugation, and chromatography are employed. These methods yield a product of high purity while preserving its beneficial properties.

The latest advancements in biotechnology address challenges related to the efficiency and stability of spirulina production. The application of molecular biology methods for diagnostics and monitoring enables the rapid detection and mitigation of risks associated with the development of pathogenic microorganisms or contaminants in the culture.

In summary, the utilization of biotechnological methods in spirulina production contributes to the enhancement of both yield and quality, rendering it more accessible and efficient for use in various industries, including food, pharmaceutical, and cosmetic sectors.

The continuous integration of biotechnological advancements with traditional cultivation practices holds the promise of further improving spirulina production efficiency and sustainability in the future.

Biotechnological approaches also hold promise for addressing challenges related to contamination and quality control in spirulina production. Rapid detection methods based on molecular biology techniques, such as polymerase chain reaction (PCR) and next-generation sequencing (NGS), allow for early identification of microbial contaminants and genetic drift in spirulina cultures, facilitating timely interventions to prevent crop loss and maintain product quality.

Overall, the integration of biotechnological methods into spirulina production offers a pathway towards sustain able and efficient cultivation practices, with potential applications in food security, nutrition, and environmental sustainability. Continued research and innovation in this field are essential for unlocking the full potential of spirulina as a valuable resource for human health and well-being.

Philosophical Sciences

On understanding the Category "Time" in the History of Philosophy: from "chronos" to Heidegger

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Annotation: The article reveals the relevance of the fundamental ontological nature of the philosophical category "time". The authors substantiated the conclusion that within the framework of modern society with its sociocultural challenges, increasing dehumanization, and total digitalization, "time" has again become relevant for humanity as a "product" of human subjectivity. In this regard, the approach of the authors of the article to the problems of time through the prism of "being and nothingness" is an attempt at an analytical commentary, the purpose of which is to evaluate from the position of "today and now" the reception of one of the main ontological categories, from the ancient mythologeme of Chrono's to Heidegger and Husserl.
Keywords: time, being, temporality, metaphysics, ontology, philosophy, paradigm, existentialism, substance, reflection.

As wrote Berdyaev N.: "The problem of time is the main problem of human existence" [1]. Obviously, it is important to distinguish the concept of time in such dimensions as physical, subjective, philosophical, logical, linguistic, historical, literary and artistic, etc. The object of study in this article is the concept of time as one of the most "voluminous" fundamental concepts of philosophy. As a methodological basis, the works of outstanding representatives of the most significant eras for the study of time were used: from antiquity to the New and Modern times, with an emphasis on the works and ideas of ancient schools and ancient philosophers with their idea of chronos as a fundamental philosophical concept (from the Pre-Socratics to Plato, Aristotle and further to Neoplatonism), ideas of theologization of time in Christianity (from Aurelius Augustine to Thomas Aquinas), the fundamental subjectivity of time in Kant ("time is not something that would exist in itself or would be inherent in things as an objective determination") and finally, to the transcendental nature of the study of time by M. Heidegger.

In ancient Greek philosophy and literature, "αἰών" was often used to refer to a long period of time or era. It may refer to historical epochs, cosmic cycles, or long periods of time in a more abstract sense. In some cases, "αἰών" has been used to denote immortality or eternity, especially in the context of religious or metaphysical texts. Sometimes this word is used to denote the cosmic order or structure of the world, including its duration and structure.

In ancient poetry, in particular in the poems of Hesiod and Homer, one can find the use of the concept "αἰών" as a designation of life [2]. The concept of measuring the problematics of time clearly appears in the philosophy of Plato. In Plato's philosophy, "αἰών" usually refers to world eras, higher forms of reality, or ideal worlds. He uses this concept to describe higher entities or forms that lie beyond the material world. In Plato's dialogues, "αἰών" can mean the world of ideas or forms, which are more real and permanent than the world of sense perception. It is worth noting that in the Timaeus, Plato presents a "positive doctrine" regarding the cosmos, in contrast to other dialogues such as the Phaedo, Cratylus, Republic and Phaedra. The author unequivocally emphasizes the perfection of the created world, rooted in the goodness of the demiurge ("Timaeus"): "It is obvious to everyone that the original image was eternal (ἀίδιος): for indeed, the cosmos is the most beautiful (κάλλιστος) of all that has arisen, and its demiurge - the best (ἄριστος) of reasons. Having thus arisen, the cosmos was created on the model of that which is comprehended by the mind and always remains the same" [3].

This interpretation leads us to a clear conclusion regarding the early use of αἰών: Plato's concept of eternity presupposes a unique mode of model existence that is "recreated" by the demiurge in heaven at the time of creation. The sky, serving as a copy of the fullness of life of the model, represents a structure - a kind of simplification or schematization of life. This structure, expressed through numerical relations, is what we call time. Time, intricately intertwined with the divine principle through mathematics, constitutes the structure of the created cosmos, accessible to rational understanding. To illustrate Plato's concept, we can use a geometric metaphor: eternity is analogous to a sphere (a three-dimensional figure), the sky is represented by a circle (a two-dimensional figure), or more precisely, the outline of a circle, and time contains formulas that describe this circle. Thus, when Plato uses the term αἰών, he does not mean a transcendent eternity devoid of duration, or an infinite timelessness, as the "traditional interpretation" suggests. Instead, he uses the word in a manner close to Plotinus and the early tradition, adapting it to his own cosmological framework. Plato's Αἰών embodies the fullness of being, representing the mode of existence of the model. The outstanding Neoplatonist Plotinus is rightfully considered the successor and finalizer of Platonic philosophy in general and in particular the philosophy of time. Plotinus' treatise "On Time and Eternity" is one of his important philosophical works, where he explores the concepts of time and eternity from the point of view of Neoplatonism. In his treatise, Plotinus views time as a changeable and relative reality associated with movement and change in the material world. He argues that time exists only in the world of sensory perception and changes depending on various conditions and factors.

Plotinus defines eternity as a state devoid of change and temporary fluctuations. Eternity is not subject to temporary processes and exists outside of time. He represents eternity as a higher and more real reality than time and as belonging to the higher aspects of the cosmos. In his treatise, Plotinus develops the Neoplatonic concept of time and eternity, which is based on the teachings of Plato and Aristotle, but also includes new aspects and interpretations. He views time and eternity as key elements of cosmic structure and hierarchy, reflecting higher principles and aspects of reality. Plotinus's treatise "On Time and Eternity" is a deep philosophical study of the concepts of time and eternity, which reveals the Neoplatonic understanding of the cosmos and its structure. Plotinus's views on the mystery of time and eternity had a significant influence not only on subsequent Neoplatonism (Proclus, Damascene) [4], but also on early Christian thought (Boethius, Augustine) [5].

Aristotle stands out for his careful exploration of the nature of time. The philosopher lived at the intersection of classical thought, which sought to delve into the essence of phenomena and understand the world holistically, and Hellenism with its pragmatic and scientific approach to the study of phenomena; Aristotle combined these two trends in his work. For Aristotle, time is associated with movement and change in the world. He defines time as "the measure of motion in relation to before and then". Time, according to Aristotle, does not exist independently of movement and changes in the world. He believes that time is related to observable physical processes and changes in states of things. Aristotle distinguishes eternity from time: Aristotle believes that eternity is a more real and permanent reality than time. Time stems from movement and change, which are associated with the material world, while eternity is associated with a fixed and permanent reality. For Aristotle, time is relative and mobile, while eternity is an absolute and permanent reality. Time and eternity in Aristotle's philosophy represent important aspects of his cosmological and metaphysical teachings, which influence his understanding of the nature and structure of the world. Aristotle argues that time comes into being when we actively observe and delineate the beginning and culmination of processes amidst ongoing motion, measuring the intervening space with numerical precision. Hence Aristotle's brief definition of time as "the number of movements in relation to "before" and "after" [6]. However, by recognizing that motion encompasses a myriad of specific phenomena beyond the celestial spheres, Aristotle implicitly recognizes the subtle relationship between time and individual objects. As he astutely observes, "Just as movement is constantly changing, so is time" [7]. And yet, despite this variability, there is a coherence between the "inner times" of various entities, collectively forming a single temporal structure.

Aristotle explains that each entity operates within its own temporal frame of reference, characterized by unique reference points and rates of change. Thus, while the concept of "now" remains consistent in one aspect, marking the constant flow of temporal existence, it diverges in another, reflecting the different temporal substrata of individual entities. As Aristotle succinctly puts it, "The present is in itself identical in one respect, different in another: it is different because it is always in another time, and yet it is identical from the point of view of substance".

A different ideological position regarding "time" in the religious and philosophical reflection of "time" in the Middle Ages, which we will consider using the examples of the views of Aurelius Augustine and Thomas Aquinas. For Augustine, time appears as a psychological category. Augustine argues that time cannot be separated from essences; it has no substance. Essentially, the movement of time correlates with the movement of entities. Significantly, he emphasizes the interrelated nature of movement and time within the ancient tradition, suggesting that they form an interdependent system. Moreover, Augustine suggests that in a scenario of eternal, unchanging tranquility, time would also cease to exist, according to patristic beliefs. An important conclusion follows from this chain of reasoning: just as every movement in the world has a cause, time itself had its beginning. Augustine postulates that God, an eternal and unchanging entity, serves as the prime mover of the universe.

Augustine argues that time completely permeates the world, permeating our existence and the entities around us. However, the origin of time does not lie within a temporal linearity marked by specific dates, but rather in a causal or genetic sense. Time, along with the Universe, traces its origin to unchanging eternity. Augustine relates the ontological essence of time to psychological perception, emphasizing not simply sensory perception or biological rhythms, but rather the soul's perception of time. The soul, eternal and unchanging, is a fragment of the eternal divine essence, while the body in which it dwells is subject to constant movement through time. Various aspects of time manifest within the soul:

- The past is embodied in memory (memoria), a concept borrowed from Plato, whose eternal soul has memory.
- The present presupposes the contemplation (intuitus) of things.
- The future entails anticipation (expectatio) of things.

Augustine shares Plotinus' idea that time exists within the soul and is intertwined with its activities. However, due to the discrepancy between the doctrine of the universal soul and Christian theology, Augustine shifts his attention to the individual human soul.

According to Augustine, there was no time "before" the creation of the world. When thinking about what happened "before" creation, we need to think not in terms of sequence, but rather in terms of cause and effect. The sequential order attributed to the six-day period does not correspond to the first day, the actual act of creation. This concept raises questions regarding the relationship between time and eternity. The question of what God did "before He created the world" is considered incorrect and illogical from a Christian point of view, since God cannot be understood anthropomorphically. In eternity there are no events "before" and "after".

The quest to understand the nature of time becomes a key element in thinking about faith and humanity's position in relation to it. Essentially, this involves the "creation" of the soul as an image of eternity within the framework of Christian doctrine. To summarize, we can say that for Augustine the temporal order is associated with the concept of the creation of the world by God. Time exists together with the world and has its beginning at the moment of creation of the world. He believes that before the world was created there was no time, for time appeared with it. This time, according to him, is organized as a sequence of past, present and future.

Another great philosopher of the Middle Ages, Thomas Aquinas, views time as a form of movement of created substance. Thomas Aquinas argues that God is unchangeable, the embodiment of being, the essence of eternity. Material substances, subject to change, constantly strive towards the fullness of existence, but achieve it gradually, their duration being divided into countless successive moments, constituting what we call time. Immaterial substances, such as the immortal souls of men and angels, have their being immediately and completely, but their essence is different from their being. Thomas Aquinas calls the form of duration inherent in them, distinct from both time and eternity, aevum or sempiternitas. Unlike time, this duration is infinite, but, unlike eternity, it is not indivisible and lasts indefinitely.

Distinguishing between time (tempus), infinite duration (aevum, sempiternitas) and eternity (aeternitas), Thomas Aquinas, following Aristotle, defines time as a measure of movement in relation to what precedes and follows it. He considers motion broadly, covering any kind of sequence, and argues that there are as many measures of time as there are motions. To preserve the universal measure of motion established by the rotation of the celestial sphere, Thomas Aquinas distinguishes between "internal" and "external" time. Thomas Aquinas clearly defines Aristotle's argument: "if the soul alone exists, then if the soul does not exist, neither does time exist" as a dialectical "objection" to the opinion that Aristotle would accept, and not a demonstrative argument and not Aristotle's own opinion. The problem of time and soul is the same as the problem of movement and soul, for every thing without a soul is a sequential being. Thomas says: "If therefore motion had a fixed, that is, imperishable existence in nature (in rebus), like a stone or a horse, then it could be said without limitation that, just as there is a number of stones, although there is no soul, so and there is also a number of motion, which is time, even if the soul did not exist. But motion has no fixed existence in nature, and nothing of motion is found in an act in nature, except some indivisible part of motion, which is a division of motion; but the totality of motion is established by consideration of the soul, comparing the previous disposition of the moving body with the subsequent. Therefore, in the same way, time has no existence outside the soul only due to its own indivisibility. However, the totality of time is established by the ordering of the soul, numbering the preceding and subsequent movement, as has already been said. And therefore Aristotle directly says that if the soul does not exist, time exists imperfectly, just as it would be said that motion exists imperfectly if it occurs without a soul" [8]. Thus, in the philosophy of Thomas Aquinas, the understanding of the essence of time has roots in his Aristotelian metaphysics, but is also influenced by Christian theology and the teachings of the Church. In his works, especially in the Summa Theologica, Aquinas develops his concept of time. Time is part of the created world and has its beginning in the creation of the world by God. He defines time as a measure of movement, relating it to the changing world, which he views as a sequence of movements and changes. He argues that time exists only where there is movement and change, for it is measured by movement. Aquinas also views time in the context of human experience, noting that for us time is related to our experiences of the past, present and future. An important aspect of his teaching is the understanding of time as a potential duration that can be measured, but can also be perceived in human subjective experience. For Thomas Aquinas, the temporal order also has theological significance, being part of God's creation. In general, in the philosophy of Thomas Aquinas, the understanding of time is closely related to his metaphysical and theological beliefs, reflecting his desire to integrate Aristotelian philosophy with the Christian faith and the teachings of the Church.

In modern times, paradigmatic shifts occurred in the understanding of time, which was especially clearly manifested in the philosophy of I. Kant, who considered time as an a priori form of knowledge. Kant recognizes the primacy of time over space. He argues that time is the absolute first formal principle of the sensible world. Kant emphasizes that all sensory objects, without exception, can be conceptualized either together or sequentially during one time, forming a formal whole - a world of appearances that is not part of something else.

Considering time as an a priori form of internal sensation, Kant emphasizes that time does not arise from sensory experience, as Locke, Berkeley and Hume argued. However, Kant also rejects the idea that time is objective and independent of the knowing subject, as Descartes, Spinoza, Newton and even Leibniz believed. Instead, Kant characterizes time as a subjective condition necessary for the human mind to harmonize sensory phenomena in accordance with a certain law.

Kant argues that time is an intuition, not a concept. He emphasizes that contemplation is by its nature a singular idea rather than a universal one. "Every time is conceived as a part of the same immeasurable time… We imagine that all real things are in time, and not contained in its general concept…" Thus, Kant emphasizes the unique nature of contemplative forms - time and space, emphasizing that, unlike rational concepts, each part of both time and space has an inherent unity. "No matter how much we dismember all space and time," explains E. Cassirer, "this will not lead us to something mentally simpler; …in every foot and yard, in every minute and second, to understand them at all, we must also think about the totality of spatial compatibility and temporal sequence" [9]. However, for Kant, time is not a real aspect of things in themselves. He argues that we cannot know anything about time except how it structures our experience. Thus, time remains a pure form of sensory contemplation, inaccessible to our knowledge outside of this form.

In general, the understanding of the essence of time in Kant's philosophy represents a radical rethinking of time as an a priori form of consciousness that structures our experience of the world, and reflects his broad epistemological approach to philosophy.

A fundamentally new interpretation of time was proposed by Martin Heidegger in the 20th century: time as the existential of finitude. Heidegger's philosophy reveals a deep understanding of the depth and expansiveness of human existence, depicting humanity not as isolated monads, but as luminous beings intertwined with the world. In Being and Time, Heidegger explores in detail the concept of time, which becomes a central thread in his philosophical studies. It challenges us to confront deep questions about the nature of existence itself, beyond simple chronological or empirical considerations.

Therefore, in Heidegger's system of temporal regimes (past, present and future), the future has priority. A fundamental aspect of existentialism is the individual's orientation toward the future. However, since Heidegger primarily connects human activity with a state of anxiety, he establishes a connection between the idea of the future and concern. Concern anticipates possibilities, arises from the past, and implies the future. All three modes of time - past, present and future - mean "being outside oneself". The future represents aspiration, the present involves interacting with things, and the past involves thinking about facts and accepting situations. Heidegger calls all modes of time "ecstatic," meaning existence outside of oneself. Thus, temporality reveals itself as pure ecstasy, and the phenomena of past, present and future embody ecstatic temporality. M. Heidegger views the past not simply as a passive perception of tradition, but as a call to trust the possibilities emanating from a living tradition. On the other hand, the present represents a turning point when the individual, by recognizing the unreliability of his environment and rejecting it, ultimately determines his destiny. Within this framework, Heidegger distinguishes between unreliable time, which represents real time, and authentic existence, characterized by a deep sense of fear that reveals the insignificance of human effort. Although people live in the spirit of their time and society, immersed in the world, they also transcend it, confronted with the anticipatory experience of death, which reveals the nothingness inherent in human existence.

Thus, for Heidegger, time appears as a fundamental way through which a person realizes his being and understanding of the world.

Heidegger argues that time is the fundamental way through which man (Dasein) carries out his design and organization of his life. He introduces the concept of "future", "present" and "past" (Zukunft, Gegenwart, Vergangenheit) to describe the modes through which a person builds his relationship to the world. An important aspect of his theory is the assertion that human existence is always directed towards the future (programmed for death), and that awareness of this fact is the key to authentic life.

In addition, Heidegger developed the concept of temporality (Zeitlichkeit), which indicates that time is not simply the background condition for existence, but also determines its structure and organization. He argued that our understanding of the world and ourselves depends on our temporal experience and our relationship to time.

Thus, we drew attention to how various philosophical schools and traditions in different historical periods interpreted the temporal aspect of existence and its metaphysical nature. The study made it possible to identify similarities and differences in approaches to understanding time among various philosophers, as well as to identify key themes and problems that remained relevant over time.

Bibliography:

1. Berdyaev N. Eternity and time. - Electronic resource: http://chronos.msu.ru/old/RREPORTS/berdyaev_vechnost.htm
2. Homer. Odyssey / Transl. V.V. Veresaeva. - M.: Ladomir, 2002. - 256 p.
3. Plato. Timaeus//Collected Works. In 4 vols., vol. 3/ed. A.F. Loseva, V.F. Asmusa, A.A. Tahoe-Godi. – M.: Mysl, 1990. – P. 421–500.
4. Gaidenko P.P. History of Greek philosophy in its connection with science. – M.: Librocom, 2012. – 264 p.
5. Pleshakov A.A. The origins of the philosophy of time: Plato and predecessors. M.: Publishing House of the Higher School of Economics, 2021. 328 p.
6. Gaidenko P.P. Time and eternity: paradoxes of the continuum//Questions of Philosophy. – 2000. – No. 6. – P. 110–136.
7. Aristotle. Physics//Aristotle. Essays. In 4 volumes, volume 3. – M.: Mysl, 1981. – P. 59–262.
8. Aristotle. Metaphysics//Aristotle. Essays. In 4 volumes. T. 1/entry. Art. and note. V.F. Asmus. – M.: Mysl, 1976. – P. 65–368.
9. Mesch W. Reflektierte Gegenwart, eine Studie über Zeit und Ewigkeit bei Platon, Aristoteles, Plotin und Augustinus. Frankfurt am Main, 2003. S. 145–157.

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HIGH-TECH RADIATION THERAPY FOR MALIGNANT TUMORS

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Annotation: Malignant tumors continue to be one of the leading causes of death worldwide, not weakening, but building their potential, despite active anti-cancer measures carried out at all levels of the organization of medical care for the population. In the fight against this ailment, radiation therapy occupies an important place, along with a surgical method of treatment and chemo-targeted therapy. Modern technologies have significantly improved the possibilities of radiation therapy, making it more targeted and highly effective, which contributes to improving both the quality of life of patients and the prognosis of the disease itself.

Key words: oncology, malignant tumors, high-tech radiation therapy.

Today, high-tech radiation therapy is one of the most promising areas in the treatment of patients with malignant neoplasms from various localizations of the oncological process. Radiation therapy is used both independently and as part of combined and complex treatment. At the same time, radiation therapy is often the main radical method of treating malignant tumors, for example, for some forms of head and neck tumors, skin cancer, etc. The proportion of patients requiring radiation therapy is steadily growing. At the same time, the problem of improving the quality of radiation therapy is becoming increasingly urgent. It should be noted that the effectiveness and acceptability of a radiation therapy regimen depends both on the use of modern high-tech equipment and on the adequate implementation of preventive measures to reduce the consequences of radiation damage to irradiated healthy organs and tissues while maintaining their normal functioning. At the same time, the role of qualified medical personnel conducting radiation therapy is difficult to overestimate, and well-coordinated professional work of the team is the key to good treatment results for cancer patients in need of this treatment method [1,2,3].

Ionizing radiation is radiation that, when interacting with a medium, transforms neutral atoms into ions - particles carrying positive or negative electrical charges. All radiation that, when interacting with the environment, is capable of causing ionization of atoms (i.e., their decay into oppositely charged particles - ions), including atoms that make up the human body, is called ionizing. Ionizing radiation is of two types: 1) quantum (electromagnetic) - consists of photons: a) X-ray radiation (bremsstrahlung and characteristic); b) gamma radiation; 2) corpuscular - consist of particles (beams of particles: electrons, protons, neutrons, mesons, etc.). The radiosensitivity of cells, tissues and organs is usually called their reaction to ionizing radiation. The most sensitive to radiation are hematopoietic tissue, the glandular apparatus of the intestines, the epithelium of the gonads, the epithelium of the skin and the bags of the lens of the eye. However, functional disorders can also be observed in other tissues and organs at relatively small doses, for example, in nervous tissue. The radiosensitivity of tissues and cells is not a constant value; it can change depending on the state of the body, and under the influence of a number of factors that are studied by clinical radiobiology [4].

In radiation oncology, sources of ionizing radiation and devices created on their basis are divided into: 1) radioactive substances: a) gamma installations (for long-distance and short-distance irradiation); b) radioactive drugs (closed, open); 2) charged particle accelerators: a) linear electron accelerator; b) cyclic electron accelerator (betatron); c) X-ray therapy units (for long-distance and short-distance irradiation).

At the same time, radioactive substances are substances capable of spontaneously and continuously emitting corpuscular or electromagnetic radiation. In medical practice, radioactive substances are used as radiation sources in γ-installations or in the form of radioactive drugs. γ-installations are of two types: type 1 - for long-distance irradiation - long-focus – tele – γ-installations and type 2 - for close-range irradiation - close-focus - short-focus γ-installations. Type 1 γ-installations are charged with a large amount of radioactive substance and are designed to expose γ-radiation to foci located deep in the human body. Most often the emitter is radioactive Cobalt. It emits β-radiation (with a particle energy of 0.318 MeV, which is completely absorbed by a special filter) and γ-rays with energies of 1.17 and 1.33 MeV. There are γ-installations charged with radioactive Iridium, producing γ-radiation with an energy of 0.88 MeV, radioactive Cesium with a photon energy of 0.66 MeV, etc. Type 2 γ-installations are charged with a small amount of radioactive Cobalt (Co60) or radioactive Cesium (Cs137). Devices of these types are intended for therapeutic effects on lesions located no deeper than 5 cm from the surface of the body. As for radioactive drugs, some of them are radioactive substances enclosed in various shells and filters that prevent direct contact of the isotope with human tissue and do not enter into the metabolic processes of the body (closed sources of radiation). In accordance with various purposes, different types of preparations are made - tubes, needles, disks, beads (in which the radioactive isotope is located inside a sealed metal channel or container with two walls - sealed glass inside and metal outside), nylon threads with a radioactive charge, radioactive gauze and bandages, catheters with inflatable balloons into which a solution of a radioactive substance is poured, charged particle accelerators, and γ-therapeutic devices. Another part of radioactive drugs are solutions of radioactive substances or various chemical compounds that contain radioactive atoms. These compounds or solutions, after being introduced into the patient's body for the purpose of diagnostic studies or for irradiating pathological foci, enter into the metabolic processes (metabolism) of the body (open sources of radiation). In addition, a radioactive isotope can be placed in hollow catgut threads, which are sewn into the stump of an organ resected for a malignant tumor, and as they are absorbed, the radioactive substance enters the tissue (a conditionally closed source of radiation). Charged particle accelerators (X-ray units, linear accelerators and cyclic accelerators - betatrons). The starting point of the accelerator is a source of charged particles. The source of electrons can be any heated piece of metal, from which electrons constantly jump out and immediately return. In this case, two problems are automatically solved: particles can be kept in orbit for as long as necessary, and the accelerating electric field does not have to be large (a thousand passes through a potential difference of one kilovolt is equivalent to a megavolt linear generator) [4].

Now, regarding radiation protection. Radiation protection is one of the areas of medical radiobiology. This is a set of measures aimed at protecting living organisms from ionizing radiation, as well as finding ways to reduce the damaging effects of ionizing radiation [4,5].

What means of radiation protection are used? Means of protection are divided into collective and individual. Collective protective equipment is divided into protective equipment: 1) means of protection against external radiation include protective screens and devices for remote work; 2) means of protection against internal radiation used when working with open sources of ionizing radiation, depending on the method of protection, are divided into the following groups: sealing devices (chambers, protective boxes, capsules); protective coatings (paint and varnish, polymer, metal, ceramic, glass); air and liquid purification devices (ventilation, filtering, condensation, fixing) and decontamination means (decontamination solutions and decontamination dry materials); 3) means of protection against combined radiation include a combination of devices for protection from both external and internal radiation; 4) general purpose protective equipment includes automatic control, blocking and alarm devices; remote control devices; means of protection during transportation and temporary storage of radioactive substances (containers and packaging); safety signs (radiation hazard sign, warning signs); containers for solid and liquid radioactive waste [4].

The main factors (means) of protection are stationary and non-stationary devices. Stationary devices are fixed structures - walls, ceilings, security doors, observation windows, walls for local protection. They provide protection from direct and scattered radiation to all persons located in rooms adjacent to the radiation source. Based on the power of the installations and radioactive substances used, the thickness of all protective devices is calculated. Brick, concrete, barite concrete, and barite plaster are used to make walls. Barite contains barium, so it absorbs ionizing radiation to a large extent. Doors to radiology rooms are lined with sheet lead or made of metal. Thick leaded glass is inserted into the observation windows. Non-stationary (moving) protective devices are movable devices designed to protect personnel and patients located in the same premises where radiation sources are located (protective screens, casings in which radioactive drugs or X-ray tubes are placed, safes, containers, protective screens, devices for individual protection: special aprons made of leaded rubber, protective skirts, gloves, caps, sheets of leaded rubber or special lead plates, special remote tools - syringes, pipettes) [4].

Radiation therapy works by using ionizing radiation to damage the DNA of cancer cells, preventing them from dividing and causing them to die. There are different types of radiation therapy, depending on the type of radiation and how it is delivered:

1. X-ray therapy - the use of x-rays.
2. γ-therapy - the use of γ-rays, usually from radioactive sources.
3. Proton therapy - the use of protons, providing a more precise effect on the tumor.

4. Therapy using heavy ions - ions of carbon and other elements, providing high efficiency in the treatment of resistant tumors.

Classification of radiation therapy methods [6]: I. External beam radiation therapy: 1) X-ray therapy; 2) remote γ-therapy with traditional two-dimensional irradiation; 3) radiation therapy with high-energy X-ray bremsstrahlung (two-dimensional radiation therapy (conventional); three-dimensional radiation therapy; 3DCRT; IMRT; IGRT; 4D RT; SRS; SRT; 4) radiation therapy with charged particles (β-, α-, protons, neutrons , ions, etc.); II. Contact radiation therapy (brachytherapy): 1) application radiation therapy; 2) intracavitary radiation therapy; 3) interstitial radiation therapy.

Technological advances in radiation therapy clearly include intensity-modulated radiation therapy (IMRT) [7,8,9].

IMRT is a high-tech technique of external three-dimensional radiation therapy used to treat patients with malignant and some types of benign tumors, allowing ionizing radiation to more precisely adapt to the tumor.

In this case, a very precise distribution of the dose of ionizing radiation is created around a target (tumor) of complex shape, its entire volume is outlined and painted over with a high dose of radiation. The use of IMRT makes it possible to minimize radiation exposure to healthy tissues and critical organs by creating a radiation field of any desired shape and delivering irradiation at different intensities during the same session [7].

IMRT is a technique in which the intensity of the beam is modulated during the treatment process. This allows high doses of radiation to be delivered directly to the tumor while minimizing exposure to surrounding healthy tissue. The benefits of IMRT include improved tumor control and reduced side effects.

When performing IMRT of tumors of various localizations, external beam radiation therapy is used, and the indications for its implementation are: 1) the presence of a malignant neoplasm of any localization with mandatory morphological verification of the diagnosis after surgical treatment or biopsy; 2) the presence of a malignant neoplasm of any location or benign tumors of the central nervous system without morphological verification with diagnosis based on clinical and instrumental research methods (CT, MRI, PET-CT); 3) the presence of a secondary (metastatic or without a primarily defined focus) tumor with morphological confirmation of the diagnosis after surgical treatment or open biopsy, or the absence of morphological confirmation of metastasis, but the presence of histological verification of the primary focus.

At the same time, the following requirements are imposed on the qualifications of medical personnel: 1) personnel working in radiation therapy departments (radiology departments) of medical organizations providing oncological care to the population must have the appropriate knowledge and qualifications, confirmed by the necessary documents, and belong to group A personnel, and have access to work with sources of ionizing radiation, as well as unexpired certificates for completing radiation safety courses; 2) a specialist with a certificate in the specialty «Radiation Therapy» (Radiation Oncology) with at least 5 years of experience in the specialty, advanced training in high-tech methods of radiation therapy for at least 216 hours over the last 5 years; 3) a specialist with a higher education in physics and/or higher technical education with at least 3 years of experience in the specialty, and at least 2 years of experience working with linear (cyclic) accelerators.

Further, as regards the algorithm for carrying out the medical procedure/intervention IMRT. The standard IMRT procedure includes the following main steps:

Stage 1: Prescribing a course of IMRT indicating the radiation treatment plan. The radiation therapist (radiation oncologist) determines the indications for radiation therapy and prescribes a course of IMRT indicating the radiation treatment plan, in which it is necessary to indicate GTV, CTV, PTV, OR. Depending on the fractionation mode, Single Focal Dose from 1.6 Gy to 8.0 Gy per week Total Focal Dose from 8.0 to 84.0 Gy 5 fractions per week in a continuous or split course. The patient is positioned therapeutically on the deck of the CT table using fixing individual thermoplastic masks, special supports for the legs, head, and vacuum bags. The type (brand) of the linear accelerator is determined.

Stage 2: Pre-radiation topometric preparation on an X-ray simulator and/or CT scanner with a virtual simulation function. A radiation therapist (radiation oncologist) and a radiation diagnostics doctor (radioisotope diagnostics) conduct pre-radiation topometric preparation on an X-ray simulator using CBCT and/or a CT tomograph with the obligatory performance of: 1) positioning - selection of the patient's position; 2) fixation with individual thermoplastic masks; 3) applying topographic marks; 4) transfer of data in DICOM format to the dosimetric planning system.

Stage 3: Computerization of radiation images: 3-D reconstruction, spatial registration of images, volume contouring for IMRT with the obligatory setting of tolerance of critical organs. A medical physicist (radiology physicist) together with a radiation therapist (radiation oncologist) perform computerization of radiation images - 3-D reconstruction by creating a 3-dimensional reconstruction of the area of the body of interest according to a series of CT slices obtained under identical conditions of patient positioning and fixation, reproducible during topometric preparation and further daily irradiation sessions. Next, together with the participation of a radiation diagnostics (radioisotope diagnostics) doctor, spatial co-registration of images (matching, fusion) is carried out - combining digital data in DICOM format CT with MRI or PET-CT to obtain accurate information about the spread of the tumor and organs at risk, indicating them tolerance according to international protocols: RTOG/EORTC, TD5/5 and TD50/5, QUANTEC, etc.

Stage 4: Dosimetric planning IMRT: 1) creation and selection of dosimetric plans with their approval; 2) an independent system for checking dosimetric plans - quality control; 3) verification of the dosimetric plan.

After receiving all the contours, the medical physicist (radiology physicist) conducts IMRT dosimetric planning - calculating the radiation therapy plan to achieve optimal dose distribution within the tumor, with maximum protection of critical (healthy) organs/tissues surrounding the tumor. Together with a radiation oncologist, a clinical analysis of the selected and alternative dosimetric plans is carried out - joint discussion and approval of the optimal dosimetric plan, by comparing the dose distribution with the shape of the planned target volume and critical organs and assessing dose-volume histograms. Additionally, an independent system of verification of the selected dosimetry plan (quality control) is carried out by a medical physicist (radiology physicist) who did not participate in their planning: each IMRT exposure plan is re-checked on an independent dosimetry planning system and an independent MU check is performed. As well as verification of the dosimetric plan of radiation therapy, in order to reduce the discrepancy in dosimetric and geometric parameters between the actual and planned treatment of the patient before the start of radiation therapy. Each treatment plan is tested on a linear accelerator using an array detector + a cylindrical phantom or on an array with plastic plates, or by portal dosimetry. After completing all dosimetric procedures, the finished plan is tested on the patient. A radiation therapist (radiation oncologist) performs the so-called procedure of simulation (imitation) of radiation treatment - checking the geometric parameters of the dosimetric plan of radiation treatment on the patient's body under fluoroscopic control of the simulator with correction of topographic marks.

Stage 5: Implementation of the IMRT plan: carrying out radiation procedures, with mandatory portal megavoltage or kilovoltage imaging (positioning check and verification) before the radiation therapy session according to the drawn up scheme. After all the parameters planned and obtained during the simulation coincide with the correction of skin marks, the radiation therapist (radiation oncologist) together with the medical physicist (radiology physicist) and the nurse (laboratory assistant) begin to implement the approved IMRT plan. Before each patient is positioned for an irradiation session, it is necessary to conduct portal megavoltage imaging, which allows for the highest possible positioning accuracy and verification using EPID. After correcting possible inaccuracies and errors in the patient's positioning, the IMRT procedure for tumors of the central nervous system is performed. The presence of a radiation therapist (radiation oncologist) and a medical physicist (radiology physicist) is mandatory during the first treatment positioning of the patient; subsequent treatment placements of the patient are allowed only by a specially trained and trained nurse to work on linear accelerators. It is mandatory to fill out: radiological cards with completion at the end of the dispensed radiation doses for all volumes, a quality control report protocol for visual verification using megavoltage imaging on EPID.

The indicators of the effectiveness of the procedure are as follows. The effectiveness of IMRT is assessed after completion of the procedure - a full course of radiation therapy based on an analysis of the objective effect criteria on the RECIST scale in accordance with WHO and EORTC recommendations, taking into account the objective and subjective effects obtained during clinical examination, control laboratory and instrumental studies: complete regression - 100 % disappearance of tumor; partial regression – reduction in size by 50% or more; stabilization of the process – reduction in tumor size by less than 50%; progression is an increase in tumor size by more than 25% [7].

Summarizing the above, we can conclude that at the present stage of development of clinical radiation oncology, knowledge of algorithms and the use of high-tech radiation therapy methods makes it possible to provide effective full-fledged antitumor treatment to patients with malignant neoplasms with different localizations of the oncological process. This, in turn, makes it possible to improve long-term treatment results, disease prognosis and, most importantly, the quality of life of these patients.

LITERATURE

1 Gupta T., Chatterjee A. Modern Radiation Therapy for Pituitary Adenoma: Review of Techniques and Outcomes. Neurol India. 2020 May-Jun;68(Supplement): S113-S122. doi: 10.4103/0028-3886.287678.

2 Wilmas K.M., Garner W.B., Ballo M.T., McGovern S.L., MacFarlane D.F. The role of radiation therapy in the management of cutaneous malignancies. Part I: Diagnostic modalities and applications. J Am Acad Dermatol. 2021 Sep;85(3):539-548. doi: 10.1016/j.jaad.2021.05.058.

3 Montay-Gruel P., Meziani L., Yakkala C., Vozenin M.C. Expanding the therapeutic index of radiation therapy by normal tissue protection. Br J Radiol. 2019 Jan;92(1093):20180008. doi: 10.1259/bjr.20180008.

4 Shanazarov N.A., Nalgieva F.H. Osnovy luchevoj terapii // Nur-Sultan: 2021. -100 s. (In Russ.).

5 Ye F., Sun C., Xie Y., Wang B., Cai L. Editorial: medical application and radiobiology research of particle radiation. Front Public Health. 2022 Jul 22;10:955116. doi: 10.3389/fpubh.2022.955116.

6 John P. Gibbons Khan's The Physics of Radiation Therapy – 6-th Edition, Wolters Kluwer Health, 2020. - 592 p.

7 Klinicheskij protokol medicinskogo vmeshatel'stva «Intensivno-modulirovannaja luchevaja terapija opuholej razlichnyh lokalizacij» - Odobren Ob#edinennoj komissiej po kachestvu medicinskih uslug Ministerstva zdravoohranenija Respubliki Kazahstan ot 11 ijunja 2020 goda, Protokol №97 – 11 s. (In Russ.).

8 Kong V.C., Dang J., Li W., Navarro I., Padayachee J., Malkov V., Winter J., Raman S., Berlin A., Catton C., Warde P., Chung P. Dosimetric comparison of MR-guided adaptive IMRT versus

3DOF-VMAT for prostate stereotactic radiotherapy. Tech Innov Patient Support Radiat Oncol. 2022 Mar 2;21:64-70. doi: 10.1016/j.tipsro.2022.02.003.

9 Jiang Z., Zhang G., Sun T., Zhang G., Zhang X., Kong X., Yin Y. Advantages of IMRT optimization with MCO compared to IMRT optimization without MCO in reducing small bowel high dose index for cervical cancer patients-individualized treatment options. Transl Cancer Res. 2023 Dec 31;12(12):3255-3265. doi: 10.21037/tcr-22-2792.

EMBRYO IMPLANTATION FAILURE

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Implantation is the first stage of cross-interaction between the embryo and the endometrium, which is a key point for a successful pregnancy. The implantation process involves apposition, adhesion, and invasion. Successful implantation is defined as an intrauterine gestational sac visible on ultrasound. Failure of implantation can occur during the process of attachment and migration, with a negative urine or blood test for human chorionic gonadotropin (hCG), or if the intrauterine gestational sac does not form with a positive hCG. Recurrent implantation failure (RIF) is a clinical phenomenon that does not have a generally accepted definition. Key factors to consider when determining RIF are the number of embryos transferred or failed IVF cycles, the quality of the embryos, whether the embryos are fresh or frozen, and the age of the mother, which is controversial. The increase in the cumulative live birth rate with increasing number of IVF-ET cycles showed a gradual decrease (1). Other analyzes have shown that after three cycles of IVF-ET, the cumulative pregnancy rate does not increase significantly, and the pregnancy rate per cycle tends to decrease after three failed treatment cycles (2–4). When RIF was defined as two or more implantation failures, the live birth rate was significantly lower than when RIF was defined as three or more implantation failures, which was considered to be an overinflated denominator (5). Therefore, blindly increasing the number of IVF-ET cycles may not lead to successful pregnancy, and we need to establish a cut-off point for treatment cycles to recognize patients with RIF. Due to varying embryo quality, the number of embryos transferred varies from 3 to 10 or more (6). A good quality embryo has an appropriate developmental status depending on the day of its development (7). A low-quality embryo means that in order for a successful pregnancy to occur, the patient needs to transfer a larger number of embryos. Another factor to consider when determining RIF is the age of the mother. It is well known that pregnancy rates decrease with maternal age (8); older patients require more blastocyst transfer cycles to achieve the same implantation rate as younger women (9). Determining RIF without taking into account the mother's age does not make sense. Based on the above considerations, the generally accepted definition of FIF, as presented by Coughlan, is the failure to achieve a clinical pregnancy after the transfer of at least four good quality embryos over a minimum of three fresh or frozen cycles in a woman under 40 years of age (10). The European Society of Human Reproduction and Embryology (ESHRE) Preimplantation Genetic Diagnosis Consortium has defined RIF as when more than three transfers of good quality embryos or ten embryos in multiple transfer cycles do not result in a clinical pregnancy (11). In clinical practice, an international survey of clinicians and embryologists found that the majority defined RIF as failure of embryo transfer in three cycles, either fresh or frozen, with no agreement on the upper cut-off age (6).

Successful implantation is a process of immune tolerance between mother and fetus that involves various molecules. Trophoblast invasion may activate the maternal immune response to fetal antigens. Local immune cells at the site of implantation in the endometrium, which are activated by the embryo, mediate maternal and fetal immune tolerance and promote placental development. They are involved in the regulation of decidual cell differentiation, uterine vascular remodeling, promote epithelial attachment and regulate immune activation. During this phase, immune cells are activated, including innate lymphocytes, T cells, decidual dendritic cells, and macrophages, which are also associated with adverse pregnancy outcomes such as RIF (12).

Innate lymphocytes (ILCs) have been shown to exist in the human decidua (16). They are divided into two subtypes: natural killer (NK) cells and noncytotoxic helper ILCs (ILC1s, ILC2s, and ILC3s) (13). Uterine NK cells (uNk cells) constitute more than 70% of all endometrial leukocytes in early pregnancy and have unique functions that distinguish them from peripheral NK cells. They secrete specific chemokines, express unique cell surface markers, and have a large granule morphology. However, they exhibit low cytotoxicity because they are unable to polarize granules into the immune synapse (14).

Macrophages regulate implantation, placentation, fetal development, and vascular remodeling at maternal and fetal interfaces (15). Macrophages located near trophoblast invasion and spiral arteries promote implantation in early pregnancy (17). In patients with RIF with chronic endometritis and adenomyosis, the proportion of uterine macrophages was high, which indicates the participation of macrophages in the pathological process leading to impaired implantation in these patients. However, the mechanism underlying this process remains unknown (18, 19).

Thrombophilia pregnancy is a hypercoagulable state. Thrombophilias are conditions that predispose to abnormal formation of blood clots (20). Thrombophilia has been implicated in recurrent pregnancy loss (RPL), but the relationship between thrombophilia and RIF has not yet been clarified. Thrombophilias are thought to affect implantation by disrupting embryo vascularization and decidual blood flow.

Spermatozoa influence early embryogenesis and placental function; the relationship between male factors and RIF remains poorly understood. Sperm DNA damage is associated with poor embryo development, and testing of sperm DNA integrity is thought to be associated with reproductive failure (21). However, a prospective study with a small number of patients showed that a high DNA fragmentation index did not correlate with RIF (22), which is consistent with the results of another prospective study (23). Therefore, routine testing for DNA fragmentation is not recommended by the American Society for Reproductive Medicine (ASRM) (23). When assessing the incidence of sperm aneuploidy using fluorescence in situ hybridization, there was a significant increase in the incidence of sex chromosome abnormalities in patients with a previous history of RIF, but the implantation rate did not increase significantly in patients undergoing subsequent IVF-ET cycles (22).

In addition, the largest number of nuclear proteins in human sperm are protamines, which are divided into protamine 1 (P1) and protamine 2 (P2). They are able to more effectively package compacted chromatin and protect sperm from oxidative damage. Recently, the P1/P2 ratio was identified as a new parameter of sperm function that may partially predict fertilization outcome in IVF-ET (149, 150). An abnormal P1/P2 ratio is associated with infertility (21). A decreased P1/P2 ratio is associated with poor pregnancy outcomes, including lower IVF fertilization rates and lower single embryo implantation rates in IVF-ET patients (20). Moreover, the sperm of male partners of women with PCa contained significantly higher amounts of P1 and P2 and a lower P1/P2 ratio, indicating that protamines are not only important for fertilization but also play a role in early embryogenesis (23).

In conclusion, there is insufficient evidence for an association between male factors and RIF.

List of references:

1. Luke B, Brown MB, Wantman E, Lederman A, Gibbons W, Schattman GL, et al. Cumulative fertility rates with linked cycles of assisted reproductive technology. N Engl J Med (2012) 366:2483-91.

2 Croucher CA, Lass A, Margara R, Winston RM. Прогностическая ценность результатов первого цикла экстракорпорального оплодотворения для исхода последующих циклов. Hum Reprod (1998) 13:403-8.

3. Osmanagaoglu K, Tournaye H, Camus M, Vandervorst M, Van Steirteghem A, Devroey P. Cumulative delivery rates after intracytoplasmic sperm injection: 5-летнее наблюдение за 498 пациентами. Hum Reprod (1999) 14:2651-5. doi: 10.1093/humrep/14.10.2651

4. Sharma V, Allgar V, Rajkhowa M. Factors influencing the cumulative conception rate and discontinuation of in vitro fertilization treatment for infertility. Fertil Steril (2002) 78:40-6.

5. National Institute for Healthand Care Excellence. guidance, fertility problems: assessment and treatment. London, National Institute for Health and Care Excellence; (2017).

6. Li D, Zheng L, Zhao D, Xu Y, Wang Y. Роль иммунных клеток в рецидивирующем самопроизвольном аборте. Reprod Sci (2021) 28:3303-15.

7. Mori M, Bogdan A, Balassa T, Csabai T, Szekeres-Bartho J. The decidua-the maternal bed embraising the embryo-maintaints the pregnancy. Semin Immunopathol (2016) 38:635-49.

8. Eberl G, Colonna M, Di Santo JP, McKenzie AN. Innate lymphoid cells. Врожденные лимфоидные клетки: новая парадигма в иммунологии. Science (2015) 348:6566.

9. Sheng YR, Hu WT, Wei CY, Tang LL, Liu YK, Liu YY, et al.. Insights of efferocytosis in normal and pathological pregnancy. *Am J Reprod Immunol* (2019) 82:13088. doi: 10.1111/aji.13088

10. Ticconi C, Pietropolli A, Di Simone N, Piccione E, Fazleabas A. Endometrial immune dysfunction in recurrent pregnancy loss. *Int J Mol Sci 20* (2019) 20:5332. doi: 10.3390/ijms20215332

11. Li Y, Yu S, Huang C, Lian R, Chen C, Liu S, et al.. Evaluation of peripheral and uterine immune status of chronic endometritis in patients with recurrent reproductive failure. *Fertil Steril* (2020) 113:187–196 e1. doi: 10.1016/j.fertnstert.2019.09.001

12. Tremellen KP, Russell P. The distribution of immune cells and macrophages in the endometrium of women with recurrent reproductive failure. *II: adenomyosis macrophages. J Reprod Immunol* (2012)

13. Khan S, Dickerman JD. Hereditary thrombophilia. *Thromb J* (2006) 4:15.

14. Caseiro AL, Regalo A, Pereira E, Esteves T, Fernandes F, Carvalho J. Implication of sperm chromosomal abnormalities in recurrent abortion and multiple implantation failure. *Reprod BioMed Online* (2015) 31:481–5.

15. Coughlan C, Clarke H, Cutting R, Saxton J, Waite S, Ledger W, et al.. Sperm DNA fragmentation, recurrent implantation failure and recurrent miscarriage. *Asian J Androl* (2015) 17:681–5.

16. Bronet F, Martinez E, Gaytan M, Linan A, Cernuda D, Ariza M, et al.. Sperm DNA fragmentation index does not correlate with the sperm or embryo aneuploidy rate in recurrent miscarriage or implantation failure patients. *Hum Reprod* (2012) 27:1922–9.

17. Practice Committee of the American Society for Reproductive Medicine Practice committee of the American society for reproductive, evaluation and treatment of recurrent pregnancy loss: A committee opinion. *Fertil Steril* (2012) 98:1103–11.

18. Rubio C, Gil-Salom M, Simon C, Vidal F, Rodrigo L, Minguez Y, et al.. Incidence of sperm chromosomal abnormalities in a risk population: relationship with sperm quality and ICSI outcome. *Hum Reprod* (2001) 16:2084–92.

19. Steger K, Wilhelm J, Konrad L, Stalf T, Greb R, Diemer T, et al.. Both protamine-1 to protamine-2 mRNA ratio and Bcl2 mRNA content in testicular spermatids and ejaculated spermatozoa discriminate between fertile and infertile men. *Hum Reprod* (2008) 23:11–6.

20. Rogenhofer N, Dansranjavin T, Schorsch M, Spiess A, Wang H, von Schonfeldt V, et al.. The sperm protamine mRNA ratio as a clinical parameter to estimate the fertilizing potential of men taking part in an ART programme. *Hum Reprod* (2013) 28:969–78.

21. Carrell DT, Emery BR, Hammoud S. Altered protamine expression and diminished spermatogenesis: what is the link? *Hum Reprod Update* (2007) 13:313–27. doi: 10.1093/humupd/dml057

22. de Mateo S, Gazquez C, Guimera M, Balasch J, Meistrich ML, Ballesca JL, et al.. Protamine 2 precursors (Pre-P2), protamine 1 to protamine 2 ratio (P1/P2), and assisted reproduction outcome. *Fertil Steril* (2009) 91:715–22.

23. Rogenhofer N, Ott J, Pilatz A, Wolf J, Thaler CJ, Windischbauer L, et al.. Unexplained recurrent miscarriages are associated with an aberrant sperm protamine mRNA content. *Hum Reprod* (2017) 32:1574–82.

Art History

KAZAKH TRADITIONAL MUSIC IN THE CONTEXT OF GLOBAL GENRES-STYLISTIC TRENDS IN MUSICOLOGY[1]

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At the end of the twentieth and twenty-first centuries, especially over the last 10 years, computer technologies, Internet sites, mass media (radio, television, newspapers, magazines) actively penetrated into the life of society, contributing to the public consciousness. Consequently, various phenomena related to the era of globalization have influenced the genres of traditional musical culture. The development of society is constantly striving for new things, in this regard, it is necessary to note the processes of synthesis in traditional music. Through this, new concepts, trends, styles and genres are defined in musicology.

To understand the genre realities in the art of kuy, it is necessary to use classical works devoted to this problem in musical science (A.A.Alshvang, V.A.Zuckerman, L.A.Mazel, A.N.Sokhor, S.S.Skrebkov), research on folklore works (V.N.Putilov, I.I.Zemtsovsky, I.V.Matsievsky), developments on typology and various modifications of the genre (T.V.Popova, M.S.Skrebkova-Filatova, T.M.Smirnova, E.M.Tsareva, I.N.Naletova, I.Ya.Neistadt), thoughts put forward by scientists on the threshold of modern times (V.N.Kholopova, E.V.Nazaikinsky). The study of this block of scientific literature convinces of the legitimacy of the implementation of a multi-genre systematization based on a specific parameter; it is no coincidence that the conditions for the performance or content of music, or applied tasks (functions), etc. are put forward in such a quality.

The practice of studying the art of song, kuy, zhyr, which form the basis of Kazakh traditional music, in connection with monodic cultures, is reflected in the works of domestic researchers. So, A.I.Mukhambetova, emphasizing the issues that go back to the nature of the Kazakh kuy, analyzes the features of correlation of subsections (vocal, instrumental) in the structure of shashmaqom and kuy, fixes the commonality of rhythmic units, compares specific terms, L.Ya.Kopbayeva, noting the correspondence of the concept "maqam" of the modal and genre spheres, shows the dependence of the genre designation in kuy on the modal structure, R.T. Nesipbai, based on the works of scientists who studied the theoretical foundations of monody (Yu.Plakhov, S.Galitskaya, T.Djani-Zade, T.Osina, L.Khaltaeva and others), studies the structure and composition of the kuy in the context of bourdon polyphony and oriental monody.

Since the Kazakh musical art is based on the traditions of improvisation, the works of the same name from the of Kazakh kuys and issues of systematization in artistic culture were chosen as the basis for the study.

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It is emphasized that, having presented the systematization of internal factors in the study of maqom as the main genre of monodic culture, T.B.Gafurbekov, in fact, opens up new opportunities for solving complex problems that generate discussions, in particular, in determining the essence of the “genre”. The specificity of the "triple factor", which is reflected in his theoretical concept, led to a new formulation of the issues and systematization of categories, determined by the immanent nature of the Kazakh kuy art.

In the process of classification (based on internal parameters), the specifics of improvisational art and the development line of the performing traditions in the creativity of the kuyshi were taken into account. As a result, the significance of such characteristics of the Kazakh kuys as cyclicity, variations, situational and regional specifics was determined. The proposed system allows solving problems that relate to the categories of “genre” and “style” involved in the study of the Kazakh kuys.

In the process of studying of Kazakh instrumental music the category of “genre” is often used for heterogeneous phenomenon: concerning the art of kuy, the “Tokpe” and “Shertpe” traditions of performance, towards to subject characteristics of kuys (historical and philosophical genre), their functional aspects (ceremonial and magical genre), ones or others homonymous kuys are also determined as separate type.

The inadequate use of the genre category is illustrated by the following quote: “So, the concept of maqam is both a mode and a genre. Genre varieties of Shashmakom, for example, Without hands, Rast, etc. they are also determined by generic characteristics. Kazakh kuy (one of the meanings of this word is melody) is a genre that can also be considered as a kind of fret formula unfolding over time. The same is true in the field of genre varieties of kuy, such as “Baizhuma”, “Zhiger”, “Akzhelen”, “Balburau”, etc., the meaning of these names rises to the meaning of lada” [1, p.124]. It is known that in monody music, maqam can be considered as a mode in research “inside” this problem, and in the system of multinational cultures it performs the function of a genre. In Kuy's art, these concepts are of different order.

Differences in the opinions of kuyeved specialists in connection with the issues of genre formation led to the development of theoretical issues that are directly related to genre and style and their systematization in dombra music from the point of view of musical and extra-musical components. At the same time, the degree of her study in musicology, kuylogy, in scientific works on the monody culture of the Central Asian region was important. The stylistic directions are indicated through performing traditions (tokpe, shertpe), regional style (the practically unexplored Karatau region is represented), the style of the Kuyshi school (using the example of the work of Sugura and his followers), author's style (shown based on the phenomena of modern culture) and historical style.

In the development of this problem, it was assumed that the confirmation was based on specific material: here the groups of homonymous kuys such as “Кenes”, “Arnau”, “Bozaygir”, “Nauayi”, etc. are under special study. In this process of study the examples of various local styles, dombra traditions, and kuys that present different temporary layers of Kazakh instrumental music (folk, folk-professional and contemporary kuy-performers) are used. Some of them are known and studied, but also less studied and unexposed in scientific works examples are presented.

The systematization of various examples of Arnau kuuis became a result of their practical mastering, the subject aspect was significant along with the substantial factors that reflected in titles of kuys, their programs, textual features, etc. Musical characteristics of the analysed kuys are presented at the reflection of their emotional contents, the moments of pictures, and material introduced in the connection of dedication. For the ungerstanding the nature of Arnau kuys data from linguistics and philology are attracted; a new step is made in the comparative study of phenomenon of typologically different cultures. Arnau kuys, like other kuys of the same name, are characterized as forming separate groups, but not independent genres. The statement of the scientist E.V.Nazaikinsky is noteworthy: "...A group of variants of the same song begins to act as a genre, especially if the song becomes widely known and gets into various genre situations that differ from the primary one. However, among the folklore speakers themselves, a song remains a song and is not defined as a genus at all. The word genre is not used here at all. It turns out that in the self-consciousness of this environment there is no category of genre, but there are specific tunes, plays, melodies, song lyrics and their variants" [2, 110 p.].

Due to the fact that almost all musical art patterns have improvisational nature, the works with the same titles are widely represented in the traditions that have different regional, genre and style characteristics. In the process of studying their intrinsically distinctive nature, the significance of such categories as cyclicality, variability, situationality, and locality have been determined.

So, in the song culture, there are nine independent texts of the song "Galiya", which were created in different periods of the life cycle of their author - composer-singer Baluan Sholak. The kuy "Akzhelen", "Kosbasar", "Nauayi" and others should be classified as cyclical.

The patterns of one song or kuy, their versions in different performing interpretations are considered as variants. If one fixes the variations of one kuy, for example, "Adai" by Kurmangazy Sagyrbayev, which is transmitted literally "from hand to hand", then it should be recognized that its performance by Dina Nurpeissova and Kali Zhantleuov is different from each other, as well as his "Kyzyl Kayin" in the preserved in time versions of Okap Kabigozhin and Lukpan Mukhitov.

Among those kuy which form a separate group, it is important to show situational kuy as well. Their "affinity" is based on common history of origin, accompanying the main musical text of the legends, names, and functions. These include such works as "Kenes", "Bozaygyr", "Shattyk", "Okinish", "Sangynysh" etc.

Kuy by Kurmangazy and Tattimbet "Balbyrauyn" illustrate different style traditions – tokpe and shertpe – in terms of locality.

As a rule, the musical features of the kuy with the same name are analyzed from different research positions in terms of their genre formation, style trends, historical events contest, etc. In the system of attracted research methods, the significance and prospects of comparative analysis are increasing, since it particularly enhances the identification both of common features and differences of the patterns with the same name, the composer's style, local features, and the originality of performing versions. The kyu "16-zhyl" by folk composers- kuyshi Dina and Seytek are indicative as illustrations.

Their similarity, predetermined by the reflection of one historical event, manifests itself in a common name; in accordance with the tempo designations (Dina "16 zhyl" – "with deep feelings", Seitek "16 zhil" - "not in a hurry"); size variability; instability of rhythms and strokes (in both patterns similar means of musical expression are involved: triol, syncope, dash, simple rhythms).

Differences of the kuy are evident in the incomparability of their structures: kuy by Seytek "16 zhyl" - as defined by G. Omarova, "variant-stanza within three-part reprisal form (a b a^1)", and "16 zhyl" by Dina, according to R. Nesipbay, " three-five-part". In Seytek's kuy, the direction of development of the main melodic-intonation course (IIC) is determined by its transposition increase in the dynamic "line"; in Dina's kuy – in unstable sections constant updating takes place/ i. e. there is a new IIC). Both have a minor inclination, however, the main support tones, as well as signs of tonality, are different: Seytek "16 zhyl" - in support of "g-g" with signs b, es, in Dina's – fis sign on support "e-a"; in Seytek's kuy, along with the transfer of the IIC to another height, there is a Phrygian mode of inclination through a lowered II stage; in Dina's text, the original signs are preserved, which change only when entering the culmination zone (saga).

Thus, the styles of the works of professional kuyshi, while preserving the nature of improvisation, observe the specific laws of compositional logic (the idea of a circle), the author's structure, based on certain "fingering position" of the melodic-intonational structure, quart or fifth system, etc.

Based on the purpose of the scientific research – to study the kuy of the same name in connection with the theoretical aspects of the problems of genre and style, to check their compliance with the category "genre" – the following conclusions were outlined:

The main matters submitted to the defense:

- The presented systematization of musical and non-musical components in the kuy art discovers the problem of genre and style newly;
- The parallel and interrelated research of the problem of genre and style in Kazakh instrumental music gives the possibility for study their typology;
- Arnau Kuys as the other homonymous kuys can not be considered as a new genre, they form only the separate group.

Thus, the matters of genre and style in the kuy art are considered through the system of musical and non-musical components and their interaction. In the research a new level of development of genre and style problem is achieved on basis of "folk knowledge", on the methods of historical and theoretical musicology and interdisciplinary sciences. At that the vast facts material (including previously unstudied one) are used and it received a new interpretation. Arnau kuys as a numerous group of homonymous kuys are first studied in the context of problem of genre and style.

In the era of globalization in the Kazakh musical culture, the interaction of genres and styles, trends and directions is perceived as a natural phenomenon. If before, in the context of the development of improvisational art, it was carried out in a spontaneous "order", unconsciously, now it appears as the result of creative search and special experiments corresponding to modern requirements.

REFERENCES:

1. Kopbaeva L.Ya. Kazakh kuy in a number of traditional genres of music of Central Asia (A look in the aspect of Turkology) // Collection of abstracts of the I International Symposium "Music of the Turkic peoples". – Almaty, 1994. – 193 p.

2. Nazaikinsky E.V. Style and genre in music. – M.: Vlados, 2003. – 248 p.

Chemical Sciences

МОДИФИКАЦИЯ ГЕЛЛАНА МЕТАКРИЛОВОЙ КИСЛОТОЙ

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В последнее время микробиологические полисахариды стали объектом интенсивных исследований из-за их полезных физико-химических свойств. Также нужно отметить, что новые микробиологические полисахариды приобретают все большее коммерческое значение и производятся в больших масштабах путем промышленной ферментации. Микробиологические полисахариды могут производиться по требованию и с неизменным качеством, так что доступность и вариабельность не вызывают проблем [1].

Большое структурное разнообразие этих биомолекул привело к их многочисленным применениям в пищевой промышленности, средствах личной гигиены, фармацевтике и медицине. В настоящее время одним из наиболее широко изученных и полностью описанных представителей этой группы является геллан. Это линейный полимер, вырабатываемый *Sphingomonas elodea*, который образует гель в присутствии катионов [2]. Кроме того, он биосовместим и нетоксичен [3].

Повторяющиеся соединения D-глюкозы, D-глюкуроната и L-рамнозы образуют тетрасахарид. Благодаря уникальной структуре и полезным свойствам геллан выступает в качестве полифункционального ингредиента в фармацевтической промышленности, в частности, его разнообразное применение представлено как оболочка капсул, набухающая матрица, желирующий агент и загуститель, биоадгезив, связующее вещество, разрыхлитель [4]. Также особые свойства гелеобразования геллана в различных средах привели к разработке лекарственных форм, включая гидрогели, наногидрогели, шарики, пленки или пластыри, с настраиваемыми механическими и физико-химическими свойствами [5]. При этом показано, что геллан проявляет более высокие гелеобразующие и механические свойства, будучи находясь в смесях с другими компонентами, а также при его химическом сшивании и в модифицированном состоянии. На основании этого в работе был проведен эксперимент по модификации геллана с использованием метакриловой кислоты.

Синтез был проведен согласно методике, описанной в работе [6], в ходе которого к раствору геллана при определенных условиях (температура 50°C и pH 8) было добавлено различное количество метакриловой кислоты, 2 и 8 мл. В результате синтеза были получены образцы Me-GG-2 и Me-GG-8 с предполагаемым различным степенем замещения. По результатам органолептического анализа метакрилированный геллан представляет собой вещество белого цвета. При этом можно отметить, что модифицированный геллан с более высокой степенью замещения по топологической структуре более плотный, чем модифицированное производное геллана с низкой степенью замещения.

Далее была определена структура полученных модифицированных образцов геллана с помощью ИК-спектроскопии, а также структура самого геллана для проведения сравнительного анализа и подтверждения процесса модификации. В результате ИК-спектрометрического анализа геллана были определены основные характеристические полосы поглощения полисахарида. Данные полосы соответствуют основным функциональным группам геллана, таким как карбоксильная и гидроксильная группы. Подобные полосы, соответствующие данным функциональным группам, обнаружены также и на ИК-спектрах метакрилированного геллана. Данный факт ведет к выводу, что основная структура цепи геллана сохраняется. При этом установлено, что интенсивность полос поглощения, соответствующих гидроксильным группам резко снижена. Это свидетельствует о том, что модификация геллана метакриловой кислотой проходит преимущественно именно по гидроксильной группе геллана. Также на ИК-спектрах метакрилированного геллана можно наблюдать появление характеристической полосы, соответствующей связи С=С, что в свою очередь подтверждает успешность процесса модификации геллана метакриловой кислотой.

На основании полученных результатов ИК-спектроскопии была предположено, что замещение метакриловой кислотой в основной цепи геллана происходит по первичной гидроксильной группе. В результате реакция протекает между гидроксильной группой в глицерильном остатке геллана и карбоксильной группой метакриловой кислоты. Следует предположить, что в результате реакции возможно также замещение и по вторичной гидроксильной группе, непосредственно присоединенной к глицерильному циклу, однако условия синтеза, в частности повышение pH среды при проведении синтеза, способствуют активации и дальнейшей реакционноспособности именно первичной гидроксильной группы -CH_2OH.

В результате проделанной работы был синтезирован модифицированный геллан с применением метакриловой кислоты, были получены 2 образца Me-GG-2 и Me-GG-8 с различным добавлением метакриловой кислоты и, как следствие, с различной степенью замещения. Структура модифицированного геллана была исследована методом ИК-спектроскопии. Показано, что реакция прививки метакриловой группы к цепи геллана протекает по первичной гидроксильной группе.

Список использованной литературы.

1. Sanderson G.R. Food Gels // Gellan gum chapter. – 1990.

2. Osmalek T., Froelich A., Tasarek S. Application of gellan gum in pharmacy and medicine // International Journal of Pharmaceutics. – 2014. V. 466. P. 328-340.

3. Villarreal-Otalvaro C., Coburn J.M. Fabrication Methods and Form Factors of Gellan Gum-Based Materials for Drug Delivery and Anti-Cancer Applications // ACS Biomater. Sci. Eng. – 2023. V. 9. P. 3832–3842.

4. Rodrigues F.C., Singh K., Thakur G. Natural Polymers for Pharmaceutical Applications. – 2020.

5. Cencetti C., Bellini D., Longinotti C., Martinelli A., Matricardi P. Preparation and characterization of a new gellan gum and sulphated hyaluronic acid hydrogel designed for epidural scar prevention // Journal of Materials Science Materials in Medicine. – 2011. V. 22. P. 263–271.

6. Agibayeva L.E., Kaldybekov D.B., Porfiryeva N.N., Garipova V.R., Mangazbayeva R.A., Moustafine R.I., Semina I.I., Mun G.A., Kudaibergenov S.E., Khutoryanskiy V.V. Gellan gum and its methacrylated derivatives as in situ gelling mucoadhesive formulations of pilocarpine: In vitro and in vivo studies // International Journal of Pharmaceutics. – 2020.

ПОЛУЧЕНИЕ ГИДРОГЕЛЕЙ НА ОСНОВЕ МЕТИЛЦЕЛЛЮЛОЗЫ

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В настоящее время гидрофильные полимеры широко используются в сельском хозяйстве, фармацевтической промышленности, текстильной промышленности, медицине, нанотехнологии и наноэлектронике, а также при изготовлении товаров бытовой химии и косметики [1-6]. Одним из важных неионных гидрофильных эфиров целлюлозы является метилцеллюлоза (МЦ), которая применяется во многих производствах [7].

МЦ широко используется в качестве наполнителей, связующих в пищевой, бумажной, фармацевтической и текстильной промышленности, в качестве загустителя красок, пищевых продуктов, при получении строительных конструкций, керамики и цемента, а также в качестве стабилизатора водно-жировых фармацевтических составов и эмульгатора при суспензионной полимеризации мономеров [8, 9]. МЦ обладает низкой критической температурой растворения (НКТР) и растворяется в воде при температурах ниже 40ºС [10, 11]. Учитывая эти свойства эфиров целлюлозы, различными исследователями проделаны работы по изучению физико-химических свойств и получению композиционных материалов на их основе [12-14]. Как было показано в данных работах, можно добиться сохранения термочувствительных свойств МЦ при ее химическом и физическом превращениях. Данная статья посвящена изучению физико-химических свойств гидрогелей на основе МЦ, полученных методом радиационного облучения.

Синтез гелей МЦ проводился путем обработки радиационно-элекронным пучком растворов МЦ. Для этого заранее приготовленные растворы МЦ были упакованы в двухслойную вакуумную полиэтиленовую пленку и хранились в холодильнике в течение 3-4 суток для гомогенизации раствора и во избежание пенообразования. Облучение проводилось на установке ИЛУ-10 (ИЯФ, Алматы) при дозе 80 кГр. Концентрации метилцеллюлозы составила 5 и 10 масс. % в растворе. В результате облучения растворы МЦ теряли текучесть, и были получены гели сетчатой структуры. Далее радиационно синтезированные гели были отмыты в дистиллированной воде в течение 7 суток от непрореагировавшего полимера и продуктов деструкции. По истечении 7 суток гели были исследованы методом золь-гель анализа.

По результатам золь-гель анализа установлено, что увеличение концентрации приводит к снижению образования гель фракции. В данном случае снижение доли гель фракции в результате радиационного синтеза свидетельствует о том, что повышение концентрации способствует образованию более плотной упаковки макромолекул и приводит не к их сшиванию, а к их частичной деструкции. В связи с тем, что растворы МЦ представляют собой систему с низкой критической температурой растворения (НКТР), можно предположить, что в растворе 10% МЦ тепло, выделяющееся в результате радиационного облучения, способствует более быстрому наступлению фазового расслоения системы, что в свою очередь препятствует сшиванию макромолекул.

Далее в работе была изучена кинетика набухания гидрогелей МЦ, полученных путем радиационного облучения, в различных средах: вода, этиловый спирт, водный раствор 1 М NaCl, буферный раствор pH=4. Установлено, наибольшие значения степени набухания гидрогелей МЦ наблюдаются в воде, 16-23 г/г. Это обусловлено гидрофильным строением метилцеллюлозы. В этаноле, солевом и буферном растворах наблюдаются довольно низкие показатели степени набухания, что можно обьяснить снижением термодинамического качества растворителя. Дополнительное влияние на ухудшение взаимодействия полимер-растворитель оказывает наличие метильного заместителя в цепи метилцеллюлозы. Подобное строение способствует усилению гидрофобного эффекта и, как следствие, ухудшению набухающих свойств.

Как было описано ранее, водные растворы линейных макромолекул МЦ характеризуются наличием низкой критической температуры (НКТР), то есть являются термочувствительными. В связи с этим в работе было изучено наличие термочувствительных изменений у метилцеллюлозы сшитой структуры. Для изучения чувствительных свойств полученных гидрогелей было исследовано изменение их относительного объема (V/V_0) в зависимости от температуры. Установлено, что гидрогели МЦ также обладают термочувствтельными свойствами как линейные макромолекулы МЦ. Смещение точки фазового перехода может быть обусловлено сшитой структурой геля и жесткоцепным строением метилцеллюлозы. Таким образом, методом радиационного сшивания при определенных концентрационных условиях можно получить гидрогели на основе МЦ, обладающие термочувствительностью.

Список использованной литературы:

1. Желтоножская Т.Б., Загданская Н.Е., Демченко О.В., Момот Л.Н., Пермякова Н.М., Сыромятников В.Г., Куницкая Л.Р. Привитые сополимеры с химически комплементарными компонентами – особый класс высокомолекулярных соединений // Успехи химии. – 2004. – №73. – С.877-893.

2. Ергожин Е.Е., Зезин А.Б., Сулейменов И.Э., Мун Г.А. Гидрофильные полимеры в нанотехнологии и наноэлектронике. – Алматы - М.: LEM: Библиотека нанотехнологии, 2008. – 214 с.

3. Gu C., Lt V., Lang M., Liu J. Preparation of polysaccharide derivates chitosan-graft-poly (ε-caprolactone) amphiphilic copolymer micceles for 5- fluorouracil drug delivery // Colloids and Surfaces. – 2014. Vol. 5 – P.177-185.

4. Vijay K., Manju K. Graft copolymers from cellulose: Synthesis, characterization and evaluation // Carbohydrate Polymers. – 2013. –Vol. 97, Issue 1.– P.18-25.

5. Искаков Р.М., Батырбеков Е.О., Сулейменов И.Э., Бектуров Е.А., Жубанов Б.А. Полимерные биоматериалы. – Алматы: Print.-S., 2006. – 204 с.

6. Cao K., Jiang X., Yan L., Wu W. Phenylboronic avid modified silver nanoparticles for colorimetric dynamic analysis of glucose // Biosensors and bioelectronics. – 2014. – Vol. 52. – P.188-195.

7. Anita S., Manjeshwar L., Tejraj M., Naik N. Microspheres of poly (vinyl alcohol) and methyl cellulose for the controlled release of losartan potassium and clopidogrel bisulphate // American J. Adv. Drug Deliv. – 2014.– Vol. 2. – P.407-423.

8. J. Carlstedt, J. Wojtasz, P. Fyhr, V. Kocherbitov Understanding starch gelatinization: The phase diagram approach // Carbohydrate Polym. – 2015. – V. 129. – P. 62-69.

9. Eid M. Gamma radiation preparation of poly (acrylamide/maleic acid/gelatin) hydrogels for adsorption of chromium ions from wastewater / M. Eid // Amer. J. Polym. Sci. Technol., – 2015. – V. 1. – № 1. – P. 9-14.

10. Abeer, M.M. A review of bacterial methylcellulose-based drug delivery systems: their

biochemistry, current approaches and future prospects / M.M. Abeer, M.C.I.M. Amin, C. Martin // J. Pharm. Pharm. – 2014. – V. 66. – № 8. – P. 1047-1061.

11. Duan, J. The synthesis of a novel cellulose physical gel / J. Duan, X. Zhang, J. Jiang, C. Han, J. Yang, L. Liu, D. Huang // J. Nanomat. – 2014. – V. 2014. – 7 p.

12. Abbas D., Elham N. Surface modification of cellulose nanowhisker throughout graft polymerization of 2-ethyl-2-oxazoline // Carbohydrate Polymers. – 2013. – Vol. 97, Issue 1. – P.98-104.

13. Kamal H., Abd-Elrahim F.M., Lotfy S. Characterization and some properties of cellulose acetate-co-polyethylene oxide blends prepared by the use of gamma irradiation // J. of Radiation Research and Applied Sci. – 2014. – Vol. 23. – P.348-359.

14. Anirudhan T.S., Tharun A., Rauf. Adsorbtion performance of amine functionalized cellulose grafted epichlorhydrin for removal of nitrate from aqueous solutions // J. of Industrial and Engineering Chem. – 2013. –Vol. 19, Issue 5. – P.1659-1667.

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