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## THE ROLE OF FOLK MUSIC COMPOSERS IN NATIONAL MUSICAL ART PERFORMANCES.

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**Abstract:** The article examines the role of folk music heritage and composers' works in the performance of national choral art. This study analyzes the relationship between choral art and folk music heritage, as well as important elements in the process of integrating folk music heritage into choral music. Folk music, with its rich historical and cultural heritage, is widely used in choral art as an integral part of national music, and its features and melodic forms are combined by composers in new performance styles.

**Key words:** national choral art, folk music heritage, composers, performance, musical traditions, choral music, national culture, performance techniques, musical motifs, folk music.

### Introduction

Music originated with sound. For centuries, the art of singing existed before musical instruments were invented. In ancient times, the art of choral singing was related only to religious ceremonies - it took the form of professional choral art in churches. Western liturgical singing, similar to ancient Greek, was originally monophonic (or octave).

Choral art has a long history in expressing its ancient musical culture. Choral art first appeared in ancient Western countries. For centuries, church tunes have been considered the main performance in professional choral art. Lower and higher pitches (organum, treble) developed until the early church tunes appeared, similar to ancient Greek tunes.

In Western countries, romantic composers such as I.S. Bach, G. Handel, K. Gluck, later Meyerbeer, J. Verdi, as well as F. Schubert, B. Mendelssohn, R. Schumann, contributed greatly to the development of chamber choir music with their works. contributed.[1]

The art of choral singing is the collective performance of a vocal piece of music. Choral art awakens deep aesthetic pleasure in people, unites them, and helps to increase their spiritual level and artistic taste.

A choir is a team that performs songs, music with or without accompaniment, i.e. a cappella.

The peoples of Central Asia also became aware of the art of choral performance due to the rapprochement of cultures. Although they do not have their own professional choral culture formed historically, they have age-old songs and musical heritage, which are closely related to collective singing, people's lifestyle, life and work. During the development of the multi-century socio-cultural life of the Uzbek people, specific genres of various forms began to appear, among which group singing also developed massively.[2] Professional choral art is one of the newest art forms in Uzbekistan. "Although it entered our culture at the amateur level at the beginning, due to the demand of the times, attention was also paid to this performing direction. The formation of professional choral ensembles began to be implemented by the state. First of all, in 1952, the first professional choral chapel was established under the Uzbek Philharmonic. , was composed of specialists who had undergone a special training process. The performance of multi-voiced musical pieces required the skills of such teams, called a cappella talented choirmaster S.Valenkov was appointed as the leader of the team. This team was later led by A.Sultanov, R.Khublarov, H.Vahidov, A.Hamidov." [3]

Choir performance as a type of musical art is developing in two directions - academic and folk performance. The style of choral performance is determined depending on the method of singing, the nature of sound generation, the timbre of voices, the methods of performance techniques and the possibilities of means of expression. The main task of academic choirs is to perform and promote the best examples of Russian and foreign classical works. These works correspond to the academic style of performance and are considered a school of academic choral singing. In the performance of the academic choir, the works are performed under the leadership of the conductor and accompanied by the piano. The singing method is masked, the sound is smooth, the voices are clearly divided into choral parts.[4]

In the direction of folk performance, more folklore songs are performed by choirs.

Choirs come in many forms in terms of type and structure. They are in the form of children's, women's, men's and mixed choirs, and teams consist of two, three and more voices.

The article is aimed at analyzing the place of folk music heritage and composers' works in the performance of national choral art. The heritage of folk music, as an integral part of national art, is widely used in the performance of choral music. Folk music with its rich historical, cultural and musical heritage has had a great influence on choral art. The most important features of folk music, its melodic forms, rhythmic structure and verse structures are expressed in a new form in choral music.[5]



The role of the folk music heritage in choral performance is mainly related to the composers' use of this heritage and its combination in new, modern performance styles. National composers were inspired by the elements of folk music, its melodic and rhythmic structure, and created works for the choir. Such works have an important place in the development of performance techniques of choral music, while preserving the unique national diversity.[6]

The connection between folk music and choral art is manifested in the process of adaptation of national music by composers for choral performance. Folk music motifs, folk songs and rhythmic structure of dances are included in choral music, which creates new means of expression in performance. Composers reflected the archetypal forms of folk music in choral compositions and continued folk traditions in a modern musical context.

Preservation and development of folk music heritage in choral art is not only musical, but also cultural. This process allows to convey the national culture to the young generation, to express its musical heritage in modern art forms. Composers reveal elements of folk music in their works in a new way, which enriches performance techniques of choral music and expands its aesthetic expression.[7]

The article also discusses the importance of the heritage of folk music in the performance of the national choral art, the work being done to familiarize the young generation with the art of music, and introduce them to the traditions of folk music. The heritage of folk music can be preserved and transmitted to the new generation through choral art, as well as greatly contribute to its development. The heritage of folk music has an integral place in the performance of national choral art. In their works, the composers reflected the unique forms of folk music, melodic and rhythmic elements in their musical compositions and enriched the performance technique of choral music. Preservation and development of folk music heritage plays an important role in promoting national culture and introducing the young generation to musical traditions. This process makes it possible to achieve new achievements in the field of choral art by developing musical aesthetics, updating performance techniques and preserving elements of folk music.[8]

Folk music heritage and works of composers are very important in the performance of national choral art. Folk music is an integral part of national culture, and its contribution to choral music is important. The heritage of folk music reflects not only the historical and cultural experience of the nation, but also its emotional and aesthetic outlook. And choral art is a collective expression of music, a genre of music performed by a certain large group. The integration of folk music into choral music, and how it developed in performance and composition, is central to this theme.[9]

The heritage of folk music, its structure, melody, rhythmic and harmonic forms are widely used in choral music. Folk songs, dances, askiya and other genres of folk music are included in choral compositions, creating new opportunities for performance. Folk motifs of folk music, songs and dances, traditional methods and elements of folklore serve as a unique material for choral music. Such music often helps to enrich musical compositions while preserving national diversity.[10]

Choral performance creates new forms of folk songs and dances, often performed through the heritage of folk music. Synthesis of folk music melodies creates new performance techniques and expressive possibilities by choral art. Thus, choral music performance is an important tool in preserving and developing the heritage of folk music.[11]

National composers, inspired by the motifs and elements of folk music, create works for the choir. Traditional forms and styles of folk music are combined with new musical language in their works. For example, the combination of folk music melodies with modern and performing approaches creates new colors in musical compositions. Composers adapt certain melodies, rhythmic structures and poems of folk music to choral music and bring it into new forms.

The main goal of composers in working with folk music is to adapt it for choral music and introduce new performance techniques while preserving the originality of folk music. Their works not only preserve the styles of folk music, but also include modern musical techniques. This process makes it possible to enrich the genres of music and bring innovations to the performance.

The heritage of folk music and the works of composers allow the creation of new techniques and forms of performance for choral performance. The introduction of elements of folk music into choral music opens up new possibilities for collective expression and aesthetics of music. The introduction of folk music into choral music, in turn, serves the preservation and development of national art. Expression of folk music through choral performance is important in promoting national art and teaching it to the young generation.[12]

Folk music heritage and works of composers are of special importance in the performance of national choral art. Motifs and elements of folk music are integrated into choral music through the creative works of composers, which enriches musical art and develops its performance techniques. Preservation of the heritage of folk music is not only musical, but also cultural, and serves the development of national art, teaching national music to the younger generation. Composers' approach to working with folk music opens up new opportunities for choral performance and expands the aesthetic expression of music.



The type of choir is determined by the structure and quality of the choir. Choirs are divided into two according to their type: single, that is, homogeneous and mixed choirs. Yakhlit - for unisex choirs: children's choir - soprano, treble and alto voices; women's choir - soprano and alto voices; men's choir - includes tenor, baritone and bass voices.

The children's choir is made up of elementary and middle school students. These choirs mainly include treble, soprano and alto voices. Such choirs can consist of boys, girls, or girls and boys, and two, three, or four voices. Groups of voices are called parties. The general and working range of the children's choir is from the left minor octave to the second octave. When choosing a repertoire for a children's choir, it is necessary to use appropriate tonalities for them. The children's choirs organized under "Bulbulcha" and other music schools, which have been operating in our country for several years, are getting recognition from fans with their rich repertoire and beautiful songs. Composer Shermat Yormatov's contribution to the creation and growth of the "Bulbulcha" children's choir is incomparable. Another type of choir is one-sex choirs, that is, women's and men's choirs. Mixed choral ensembles are the most sophisticated of the wide range of choral types, which have 4 main voice parts: soprano, alto, tenor, bass-baritone. A fully mixed choir has a wide range of performance options, is technically advanced, and the overall musicality of each singer is at a high level. Such choirs can perform any complex works at a professional level. Talented Uzbek composers such as M. Burkhanov, S. Boboev, B. Umidjonov and choirmasters such as Sh. Yormatov, J. Shukurov, N. Sharafieva made a significant contribution to the development of choral performance.[12] So, the art of choral performance has been formed and developed over the years, and now it has its place and status in Uzbek art. One of the unique features of choral performance is that it requires performers to work together as a team and understand each other.

## **REFERENCES USED**

1. Sh. Roziyev. Choir studies. Tashkent 1987.
2. B. Shakhnazarova. Singing technique. Tashkent. 2017.
3. S. Kadyrova. Choir studies. Tashkent. 2019.
4. Y. Husnitdinova. Conducting the choir. Tashkent. 2016.
5. S. Kadyrova. Elementary course of choral studies. Tashkent. 2015.
6. Q. Mirzayev. Methodology of working with choral groups. Tashkent. 2008.
7. D. Abduhakimova. "Jalaluddin" is a new dance performance. Culture newspaper N1. (230). 12.01.2023, page 2.
8. Achildiyeva M. Ikromova F. The ballet "Tomaris" in the culture of Uzbek ballet place and significance Spectrum Journal of Innovation, Reforms and Development ISSN (E):2751-1731 pp. 15-19 (Berlin Germany 2022)
9. Achildiyeva M. Ikromova F. "The role of status in the art of Uzbek music" Proceedings of Global Technovation 2nd International Multidisciplinary Scientific Conference. London 2020 pp. 90-93
10. Achildiyeva M. Xojimamatov A. Yuldasheva D. Ikromova F. "Uyghur Folk Singing Genre" Turkish Online Journal of Qualitative (TOJQI) Inquiry (Turkiya 2021) 3509-3517 bet (scopus)
11. M.Achildiyeva 2021 Academic Yunus Rajabi and His Scientific Heristage Annals of Romanian Society for Cyell Biology 25(4) 9092-9100
12. Achildiyeva M, Xojimamatov A, Ikromova F (2022) Shashmaqom saboqlari: "Navo" maqomi xususida. International journal for engineering and management research 11(01) 55-58
13. Maxfuzakhon Karimova, Muyassarkhon Achildiyeva, Farangiz Ikromova (2021) use from redagogical technologies in music lessons european scholar journal "An open accyess, peyer reviyewyed multidisciplinary journal" 2 (4) 460-463
14. Ikromova F. O'zbekiston xalq hofizi ochilxon otaxonovning hayot yo'li chizgilari. Innovative development in the global science vol. 1 no. 3 (2022): 151-156



## THE IMPORTANCE OF COMMUNICATIVE COMPETENCE IN PERSONALITY DEVELOPMENT

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### Abstract:

In this article, in the process of out-of-class activities, the method of implementation of social and cultural adaptation of students and the emergence of the process of improving communicative competence with personality development, the theoretical foundations of socialization of students and the formation of a culture of social behavior in collective relations, from a socio-cultural point of view comments on modern approaches to the problem of educating the young generation are presented.

**Keywords:** sociality, communicativeness, competence, team, positive, virtue, society, negative attitude, education, competence, upbringing, behavior, activity, manners.

At a time when the world is digitized and artificial intelligence is developing, the formation of interpersonal communication skills is becoming a more urgent problem. Students are growing up under the influence of various technologies, the internet. On the one hand, this has a positive effect on their mental development, on the growth of thinking skills, but on the other hand, it has an invisible negative effect on their effective communication with others.

Formation of communicative competence in students in their native language and helps to acquire theoretical knowledge and practical skills from other subjects. Because students understand the world more widely as a result of communication.

Communication is undoubtedly the most important in the daily life of people in society is one of the common activities or processes. Etymologically

The word "communication" is derived from the Latin verb "communicative", which means to share, share or distribute to many. The term communicative competence means the ability to do something successfully or effectively [Oxford Dictionary]. Based on this definition, we can say that communicative competence is the ability to communicate effectively. Various definitions have been given to it by theorists. Communicative competence has been studied by various scholars. Below are some basic definitions of well-known researchers.

American linguist and cognitive scientist Chomsky coined the term Competence one of the first scientists to use it in relation to learning. "Syntax

aspects of the theory? (1965) competence is defined as "the speaker-listener's own.

The term communicative competence was first used by Hymes in 1972, who defined it as a necessary grammatical competence along with the ability to use this competence in various communicative situations.

acquire skills in when not to talk, with whom, when, where, and how to talk about what. In short, the child can perform a repertoire of speech acts, participate in speech events and evaluate their performance by others.

Language ability cannot be imagined without other abilities that serve to ensure the well-being of human life. That is why it is important to use the situations that occur in human life in its development. This, firstly, increases the student's interest and motivation towards the learning process; secondly, the speech used in it is better stored in a person's memory because it is within the context.

To develop effective communication skills in mother tongue classes we need to determine what skills we need to develop and In this regard, we will consider several methods.

The teacher encourages students to think about what they like to do in the classroom and as part of a team, summarizes the answers: building and playing with cars, doing construction work, drawing, reading books, sewing, "real" and so on. playing with fake dolls, running and so on. The teacher asks the students to remember who likes to do the named thing and to encourage them to remember specific things. At the same time, the teacher believes that the most important and favorite activity of students is trying to overcome egoistic aspirations. Suggested questions:

1. Do any of us like to work with a constructor?
2. Did he tell you this himself or did you guess? Why do you think you liked him?

After 5-6 types of activities are listed, the teacher and students begin to create "zones" focused on a specific type of children's activity, taking into account the inclination of a particular student. Most often, the following areas were identified:

3. 1. The area where the game is organized with constructors and cars.
4. 2. Games with dolls ("Barbie", "Cindy", "Family of dolls").
5. Play area with paper dolls complete with dress-up accessories.
6. Reading area.
7. The area of working with plasticine, etc.
8. Modeling and making from plasticine.
9. Area for painting and drawing.

Methods of organizing mutual assistance for children

Exercises on topics - cases of moral choice are offered to implement the mechanism of emergence of empathy and cooperation.

The child's attention is drawn to his friend who is in a bad mood and health, and he is invited to communicate with him. For example, the teacher suggests:

"Alisher is sadder today, his mother is ill, he is being hospitalized. It would be nice if he could be helped. If you want, play with him or tell him an interesting story, you can come up with stories. Don't you want it? Then do as you wish."



Or, focusing on the student next to him, he offers the following to the newly arrived student: "Will is in a bad mood because he's worried that he didn't paint well. If you want to make him happy, you can draw with him. If you don't want to, choose for yourself how to paint."

A student who is unable to complete the task should turn to his neighbor: "Do you want to help Dilmurod? Can he do it? Choose what you will do for yourself?" After the end of joint practical educational activities, they turn to the student: "You have already completed the task, you can go play. You can stay to help. Choose yourself."

Or classmates are asked to help a student who misses a lot of lessons due to illness. They provide mutual support to this child in class and outside of class. There are many similar situations, they can be related to different parts of students' lives, communication, relationships. In such situations, children learn to like and empathize, to be concerned about others, and to restructure their behavior in the direction of communal relationships. Using specific behaviors as models, they begin to understand generalized cases of moral behavior, particularly the distinctions between good and bad, justice and injustice.

Awareness of the most important moral categories is based on the specific actions of children of primary school age, which describe the development of their moral qualities, in relation to their peers, who show interest in this or that activity.

All conditions are created for the development of mutual support in the educational process and extracurricular situations. However, mutual assistance should be organized in such a way that it should not be carried out at the expense of suspending someone's activity, otherwise it makes the child unique and destroys his individuality. Thus, teachers offer students who have done this or that work earlier than others to help their friends. In this case, they are encouraged to help their weaker and less self-confident peers. This approach is very important for other students.

For example, a teacher who goes for a walk with children addresses all the students and informs them: "Today we have to get dressed quickly, because we are going on an excursion. Dilmurod helps Nadira, Kamil Yusuf. Who else will help whom?" By assigning and distributing children, he takes into account the individual capabilities of each person, social inclinations and friendly relations between students, creates all the conditions for attracting peers who are not close to each other by increasing their attention to each other. So, it is clear that some children do not have time to dress quickly, but the support of the teacher inspires them.

In order to strengthen the position of weak students, teachers emphasize their hard work, interest and good attitude, and in addition to strengthening their position with their peers, they help to increase their self-confidence. It should be noted that, in addition to uncertainties, this method helped to eliminate many shortcomings, in particular, it eliminates the habit of complaining in any situation, cheating, quarrels, etc., which prevent the formation of collective relations.

The use of various forms and methods of emotional influence on passive students, their interest in various activities, and connecting them to joint activities with active and talented students in the education of moral qualities of passive students brings good results. For example, this can be done through games where weaker students are afraid or ashamed to express themselves.

By organizing help or mutual cooperation, we gradually taught children to be moral and considerate to each other. When asking questions to the students, the teachers emphasized that the individual characteristics of each one are better revealed by using compassionate and complimentary communication methods. "Olima is a kind and caring girl, she can perform the assigned task for the corner of nature well. Kamil is a strong and brave boy who helps him bring a bucket of water." The teachers thanked themselves for the help and taught the students how to do it.

In the process of organizing support and mutual support, teachers encourage their students to actively empathize with their peers through the feelings of compassion that exist in students of junior school age. In particular, students who are good at drawing, worried about their sick friend, are invited to draw a beautiful picture and distribute it to their friends. They encourage students of junior high school age to see the good in each other with consistency, patience and determination, to be informative, interesting in games and activities, and to unite participants according to their inclinations. they teach. They support any kind of affection between them to prevent bitter words and insults.

### **Used literature**

1. Vakhobov M.M. Introduction of state education standards based on the competence approach - as a paradigm of modern education. /Modern education/ Sovremennoe obrazovanie. Issue 10 of 2016, p. 3.
2. Basics of pedagogical competence and creativity / Muslimov N.A., Usmanboyeva M.H., Sayfurov D.M., Torayev A.B. — Tashkent, 2015. — 94 pages.
3. Зимняя И.А. Ключевые компетентности — новая парадигма результата образования // Высшее Образование сегодня. — 2003. - № 5.
4. Общая и профессиональная педагогика / Под ред. В.Д. Симоненко. - М.



## EFFECTIVE PRODUCTION MANAGEMENT AND FINANCIAL CONTROL IN ENTERPRISES: IMPLEMENTATION OF FINANCIAL CONTROL MECHANISMS FOR EFFECTIVE MANAGEMENT OF PRODUCTION PROCESSES

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### Abstract:

Production management and financial control play crucial roles in the success and sustainability of enterprises, directly influencing productivity, efficiency, and profitability. This article explores the intersection of production management and financial control, emphasizing the importance of financial control mechanisms for enhancing production efficiency. It examines various financial control mechanisms, such as budgeting, cost accounting, and performance evaluation, and discusses their implementation within production processes. By using case studies and practical examples, the article demonstrates how enterprises can achieve operational excellence and financial stability through well-coordinated production management and robust financial controls.

**Keywords:** production management, financial control, cost accounting, budgeting, performance evaluation, production processes, efficiency, operational excellence.

### Introduction

In an increasingly competitive business environment, enterprises strive to enhance their productivity and efficiency through effective production management and financial control. Production management focuses on planning, organizing, and controlling production activities, while financial control ensures that resources are used efficiently, expenses are kept within budget, and profitability is maximized (Horngren et al., 2015). Both aspects are interlinked, with financial control mechanisms supporting production management to streamline costs, reduce waste, and optimize operations.

For effective management of production processes, financial control mechanisms such as budgeting, cost accounting, and performance measurement are crucial. These mechanisms provide insights into cost structures, identify inefficiencies, and enable informed decision-making. This article provides an in-depth look at these financial control mechanisms and discusses how enterprises can apply them to enhance production management.

## **Main Part**

### **1. The Importance of Production Management in Enterprises**

Production management is the process of overseeing and coordinating all activities involved in manufacturing goods or providing services. It encompasses everything from planning production schedules to controlling quality and ensuring that production costs are minimized without compromising quality. Effective production management ensures that enterprises can meet demand, maintain quality standards, and reduce waste (Slack et al., 2020). By focusing on efficiency, enterprises can remain competitive and maximize profitability.

### **2. Role of Financial Control in Production Management**

Financial control serves as the backbone of effective production management by ensuring that resources are used efficiently, costs are controlled, and the enterprise's financial health is maintained. Without proper financial control, production processes can easily spiral into inefficiency, resulting in higher production costs, reduced product quality, and financial losses (Anthony & Govindarajan, 2007). Financial control mechanisms offer structure and discipline, enabling enterprises to allocate resources optimally and make data-driven decisions.

### **3. Key Financial Control Mechanisms for Effective Production Management**

#### **a. Budgeting and Forecasting**

Budgeting involves planning for future expenses and allocating resources based on expected revenues and costs. It is a fundamental component of financial control, helping enterprises align their production goals with financial resources. Budgeting allows managers to estimate production costs, set spending limits, and evaluate whether production targets are achievable within budget constraints (Zimmerman, 2014).

Forecasting is also essential, as it predicts future demand and resource needs based on historical data and market trends. By integrating budgeting and forecasting, enterprises can ensure they have the resources needed to meet production demands while minimizing excess costs.

#### **Case Example: Toyota's Lean Budgeting Approach**

Toyota uses a lean budgeting approach, where budgets are continuously adjusted based on real-time production data. This allows Toyota to align its production with demand while keeping costs under control, resulting in higher efficiency and lower inventory costs (Liker, 2004).

#### **b. Cost Accounting and Cost Control**

Cost accounting is the process of recording, classifying, and analyzing costs associated with production activities. This control mechanism provides detailed insights into how resources are used, helping managers identify areas where costs can be reduced (Horngren et al., 2015). By breaking down production costs into direct and indirect costs, enterprises can target specific areas for cost savings.



Cost control, on the other hand, focuses on ensuring that actual production costs align with the budget. This involves monitoring expenses, identifying variances, and taking corrective actions. Enterprises that apply effective cost control can reduce waste and increase profitability.

**Case Example: General Electric's (GE) Cost Reduction through Cost Accounting**

GE utilizes advanced cost accounting methods to analyze production costs across different departments. This enables GE to identify high-cost areas, streamline processes, and achieve significant cost savings, especially in its manufacturing and engineering divisions (Jack Welch Institute, 2012).

**c. Performance Measurement and Key Performance Indicators (KPIs)**

Performance measurement involves evaluating the effectiveness of production activities through key performance indicators (KPIs). KPIs are metrics that provide insights into different aspects of production, such as efficiency, output quality, and cost per unit (Kaplan & Norton, 1996). By tracking KPIs, enterprises can monitor the performance of production processes, identify inefficiencies, and make adjustments as needed.

Performance measurement also enables benchmarking, allowing enterprises to compare their performance against industry standards. Through regular KPI analysis, enterprises can continuously improve their production management practices and maintain competitive advantage.

**Case Example: Apple's Use of KPIs in Production**

Apple uses KPIs such as yield rate, cost per unit, and cycle time to evaluate the performance of its production processes. These KPIs are monitored regularly to ensure that Apple's products meet high-quality standards while keeping production costs in check (Cusumano, 2015).

**d. Auditing and Financial Reporting**

Regular audits and financial reporting are essential for maintaining transparency and accountability in production management. Audits assess whether financial controls are effective and whether production activities comply with regulatory standards. Financial reporting, meanwhile, provides a snapshot of the enterprise's financial health, allowing stakeholders to evaluate the effectiveness of production management and financial control (Anthony & Govindarajan, 2007).

**Case Example: Siemens' Internal Auditing for Production Compliance**

Siemens conducts internal audits across its production facilities to ensure that financial controls are being followed and that production processes meet quality standards. These audits help Siemens maintain compliance with industry regulations and ensure that its production management aligns with financial goals (Siemens Annual Report, 2020).

#### **4. Challenges in Implementing Financial Control Mechanisms in Production Management**

Implementing financial control mechanisms is not without challenges. Enterprises may face resistance to change, lack of skilled personnel, or limitations in technology. Additionally, small to medium enterprises (SMEs) may struggle with the cost of implementing comprehensive financial controls (Kotter, 2012). Overcoming these challenges requires a strategic approach, including training employees, investing in technology, and fostering a culture of continuous improvement.

#### **Conclusion**

Effective production management and financial control are essential for the long-term success of any enterprise. By implementing financial control mechanisms such as budgeting, cost accounting, performance measurement, and auditing, enterprises can optimize their production processes, reduce costs, and enhance profitability. Case studies of industry leaders such as Toyota, GE, and Apple illustrate how these mechanisms contribute to operational excellence. While challenges exist, particularly for smaller enterprises, the benefits of robust financial control mechanisms are undeniable. By integrating financial control into production management, enterprises can improve decision-making, increase efficiency, and achieve competitive advantage in a dynamic business environment.

#### **References**

1. Anthony, R. N., & Govindarajan, V. (2007). *Management Control Systems*. McGraw-Hill.
2. Cusumano, M. A. (2015). *Strategy Rules: Five Timeless Lessons from Bill Gates, Andy Grove, and Steve Jobs*. HarperBusiness.
3. Horngren, C. T., Datar, S. M., & Rajan, M. (2015). *Cost Accounting: A Managerial Emphasis*. Pearson.
4. Kaplan, R. S., & Norton, D. P. (1996). *The Balanced Scorecard: Translating Strategy into Action*. Harvard Business School Press.
5. Kotter, J. P. (2012). *Leading Change*. Harvard Business Review Press.
6. Liker, J. K. (2004). *The Toyota Way: 14 Management Principles from the World's Greatest Manufacturer*. McGraw-Hill.
7. Siemens. (2020). *Siemens Annual Report*. Retrieved from Siemens.com.
8. Slack, N., Chambers, S., & Johnston, R. (2020). *Operations Management*. Pearson.
9. Zimmerman, J. L. (2014). *Accounting for Decision Making and Control*. McGraw-Hill.
10. Палванова, У., Якубова, А., & Юсупова, Ш. (2023). УЛЬТРАЗВУКОВОЕ ИССЛЕДОВАНИЕ ПРИ СПЛЕНОМЕГАЛИИ. *Talqin va tadqiqotlar*, 1(21).



11. Якубова, А. Б., & Палванова, У. Б. Проблемы здоровья связанные с экологией среди населения Приаралья мақола Научно-медицинский журнал “Авиценна” Выпуск № 13. Кемерово 2017г, 12-15.
12. Азада, Б. Я., & Умида, Б. П. (2017). ПРОБЛЕМЫ ЗДОРОВЬЯ СВЯЗАННЫЕ С ЭКОЛОГИЕЙ СРЕДИ НАСЕЛЕНИЯ ПРАРАЛЬЯ. Авиценна, (13), 12-14.
13. Степанян, И. А., Изранов, В. А., Гордова, В. С., Белецкая, М. А., & Палванова, У. Б. (2021). Ультразвуковое исследование печени: поиск наиболее воспроизводимой и удобной в применении методики измерения косого краниокаудального размера правой доли. Лучевая диагностика и терапия, 11(4), 68-79.
14. Stepanyan, I. A., Izranov, V. A., Gordova, V. S., Beleckaya, M. A., & Palvanova, U. B. (2021). Ultrasound examination of the liver: the search for the most reproducible and easy to operate measuring method of the right lobe oblique craniocaudal diameter. Diagnostic radiology and radiotherapy, 11(4), 68-79.
15. Batirovna, Y. A., Bahramovna, P. U., Bahramovna, P. S., & Ogli, I. A. U. (2019). Effective treatment of patients with chronic hepatitis, who live in ecologically unfavorable South zone of Aral Sea region. Наука, образование и культура, (2 (36)), 50-52.
16. Матмуратов, К. Ж. (2023). Разработка методов лечения нейроишемической формы диабетической остеоартропатии при синдроме диабетической стопы.
17. Бабадханов, Б. Д., Матмуротов, К. Ж., Моминов, А. Т., Касымов, У. К., & Атаханов, Т. Ш. (2020). Эффективность реконструктивных операций при нейроишемических язвах на фоне синдрома диабетической стопы.
18. Бабадханов, Б. Д., Матмуротов, К. Ж., Саттаров, И. С., Атаханов, Т. Ш., & Саитов, Д. Н. (2022). РЕКОНСТРУКТИВНЫЕ ОПЕРАЦИИ НА СТОПЕ ПОСЛЕ БАЛЛОННОЙ АНГИОПЛАСТИКИ АРТЕРИЙ НИЖНИХ КОНЕЧНОСТЕЙ НА ФОНЕ СИНДРОМА ДИАБЕТИЧЕСКОЙ СТОПЫ (Doctoral dissertation, Rossiya. Кисловодск).
19. Бабадханов, Б. Д., Матмуротов, К. Ж., Атаханов, Т. Ш., Саитов, Д. Н., & Рузметов, Н. А. (2022). Эффективность селективной внутриартериальной катетерной терапии при лечении диабетической гангрены нижних конечностей (Doctoral dissertation, Узбекистон. тошкент.).
20. Dushanbaevich, B. B., Jumaniyozovich, M. K., Saparbayevich, S. I., Abdirakhimovich, R. B., & Shavkatovich, A. T. (2023). COMBINED ENDOVASCULAR INTERVENTIONS FOR LESIONS OF THE PERIPHERAL ARTERIES OF THE LOWER EXTREMITIES ON THE BACKGROUND OF DIABETES MELLITUS. JOURNAL OF BIOMEDICINE AND PRACTICE, 8(3).
21. Abdurakhmanov, F. M., Korikhonov, D. N., Yaqubov, I. Y., Kasimov, U. K., Atakov, S. S., Okhunov, A. O., & Yarkulov, A. S. (2023). COMPETENCY-BASED APPROACH

- IN THE SCIENTIFIC-RESEARCH PROCESS OF HIGHER MEDICAL INSTITUTIONS' TEACHERS. Journal of education and scientific medicine, 1(1), 28-31.
22. Jonson, W. S., Okhunov, A. O., Atakov, S. S., Kasimov, U. K., Sattarov, I. S., Bobokulova, S. A., ... & Boboyev, K. K. (2023). The microbiological environment of wounds and skin in patients with purulent-inflammatory diseases of soft tissues. Journal of education and scientific medicine, 2(2), 72-81.
23. de Gavieres, F., Khalmatova, B. T., Okhunov, A. O., & Atakov, S. S. (2023). COMPLUTENSE UNIVERSITY OF MADRID: Impressions. JOURNAL OF EDUCATION AND SCIENTIFIC MEDICINE, 1(1), 62-72.
24. Матмуротов, К. Ж., Саттаров, И. С., Атахонов, Т. Ш., & Саитов, Д. Н. (2022). Характер и частота поражения артериальных бассейнов при синдроме диабетической стопы. «Вестник» ТМА, (1), 128-131.
25. Матмуротов, К. Ж., & Жанабаев, Б. Б. (2011). Влияние микобактериальных ассоциаций на кратность повторных оперативных вмешательств при диабетической гангрене нижних конечностей. Врач-аспирант, 46(3.3), 394-399.
26. Babadjanov, B. D., Okhunov, A. O., Atakov, S. S., Kasimov, U. K., Sattarov, I. S., Matmuratov, K. J., ... & Korikhonov, D. N. (2023). WHY DOES SURGICAL INFECTION OFTEN AFFECT DIABETICS?: Literature review of recent data. Journal of education and scientific medicine, 1(3), 66-75.
27. Bobokulova, S., Khamdamov, S., Bobobekov, A., Sattarov, I., Boboev, Q., & Abdurakhmanov, F. (2022). Treatment of acute purulent-destructive lung diseases considering the assessment of the degree of impairment of non-respiratory lung function. JOURNAL OF EDUCATION AND SCIENTIFIC MEDICINE, (1), 79-82.



**<HAYOT MAZMUNI YO'NALGANLIGI= METODIKASINING  
SINALUVCHILARNING ISHLI YOKI ISHSIZLIGA KO'RA  
KO'RSATKICHLARINING PSIXOLOGIK TAHLILI**

Xusanov Samariddin Maxmadaminovich

<Oila va xotin-qizlar= ilmiy-tadqiqot instituti doktoranti

**Annotatsiya**

Ushbu maqolada mehnat motivining muaffaqiyatga intilish motivi bilan bog'liqlik jihatlari ishli yoki ishsizligi va ma'lumot darajasi kategoriyalari ko'rsatkichlari misolida o'rganilgan. Shuningdek mehnat motivatsiyasi va unga ta'sir qiluvchi hayotiy faktorlar ichki, kognitiv, qochish motivi, tortishuv, joriy faoliyatni o'zgartirish va o'z-o'zini hurmat qilish motivlari o'rganildi.

**Tayanch soʻzlar:** motivatsiya, mehnat motivatsiyasi, intilish darajasi, ichki motiv, natijalariga qiziqish, qochish motivi, ishli, ishsiz, tortishuv motivi, tashabbuskorlik, ma'lumot darajasi, faoliyatni o'zgartirish.

Hozirgi kunda hukumatimiz tomonidan olib borilayotgan ishsizlikni tugatish bo'yicha olib borilayotgan keng chora-tadbirlarga qarmasdan ishsizlik ko'rsatkichlariga mehnat motivatsiyasi yetishmayotgan mehnat layoqatiga ega shaxslar ham yuqoridagi ko'rsatkichning sezilarli qismini tashkil qilishi ijobiy ko'rsatkichlardan hisoblanmaydi. Bundan kelib chiqadiki mehnat motivatsiyasi muhim hayotiy ko'rsatkichlardan biri hisoblanadi.

**1-jadval D.A. Leontevning <Hayot mazmuni yo'nalganligi= metodikasining  
sinaluvchilarning ishli yoki ishsizligiga ko'ra tahlili (Mann-Uittni – U mezon)**

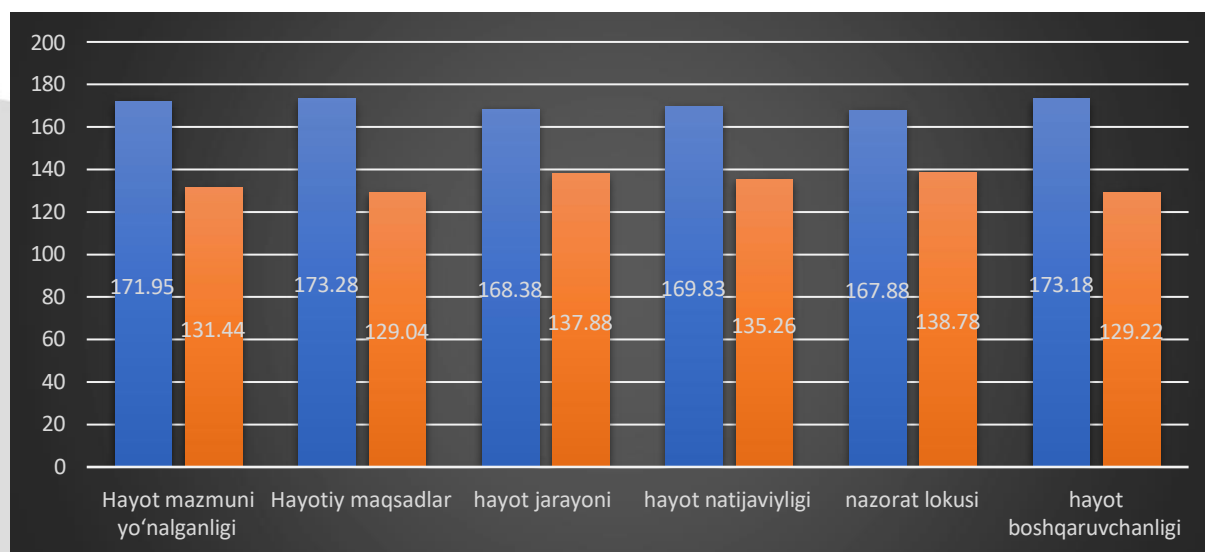
№	Shkalalar	O'rtacha rang		Statistik qiymat	
		Ishli (n=202)	Ishsiz (n=112)	U	p
1	Hayotning umumiy mazmuni	171,95	131,44	8393,000	0,000**
2	Hayotiy maqsadlar	173,28	129,04	8124,500	0,000**
3	hayot jarayoni	168,38	137,88	9114,000	0,004*
4	hayot natijaviyligi	169,83	135,26	8821,000	0,001**
5	nazorat lokusi	167,88	138,78	9215,000	0,006*
6	hayot boshqaruvchanligi	173,18	129,22	8144,500	0,000**

\* statistik tafovutlar mavjud

D.A. Leontevning <Hayot mazmuni yo'nalganligi= metodikasining sinaluvchilarning ishli yoki ishsizligiga ko'ra farqlari solishtirilganida hayotning umumiy mazmuni ko'rsatkichida ishlilarda o'rtacha rang qiymati 171,95 ni, ishsizlarda 131,44 ni tashkil etdi. ( $U=8393,000$ ;  $r<0,01$ ) Hayotdan qoniqqanligi nuqtayi nazaridan, o'zini boshqarish hayotiy sohalarida, maqsad quyish nuqtayi nazaridan jihatdan ishlilarda ishonchli farqlar chiqishi tabiiy jarayon

edi va bu ularning moddiy tamondan ta'minlanganligi, iqtisodiy va ijtimoiy jihatdan sug'urtalanganligini anglab etganligi bilan izohlanishi mumkin. Shuningdek, **Ishlayotganlar** o'z hayotlarini maqsadga yo'naltirilgan va mazmunli deb his qilishadi, **ishsizlar** esa, ko'pincha o'zlarining hayotlarida maqsad va mazmunni yo'qotganliklarini sezishlari mumkin. Bu farq, ish bilan band bo'lmagan shaxslarning ruhiy holatini, psixologik ta'sirlar va hayotdagi qiyinchiliklar bilan bog'lash mumkin. Hayotiy maqsadlar shkalasida ishlilarda o'rtasha rang qiymati 173,28 ni, ishsizlarda 129,04 ni tashkil etdi. ( $U=8124,500$ ;  $r<0,01$ ). Ishlilarda hayotiy maqsadlar maqsadga intiluvchanlikni, sinaluvchi hayotida uning hayotiga mazmun, yo'nalganlik beruvchi va davriy istiqbolini ko'rsatuvchi kelajak maqsadlari bor yoki yo'qligi bilan tavsiflanadi. Shuning uchun ham ishlilarda hayotiy maqsadlar yuqori chiqqan. Bunga sabab esa ishlilarda o'z oldiga qo'ygan aniq maqsadlari bo'ladi. Bu maqsadlar jamiyatda obro'-e'tibor qozonish, farovon turmush-tarziga erishish, farzandlariga yaxshi shart-sharoit yaratib berish kabi hayotiy maqsadlar bilan sodir bo'ladi. Ishsizlarda esa bu tendensiya biroz boshqacha yani, o'z oldiga quygan maqsadlarning tarqoqligi ba'zi hollarda umuman past darajada ekanligi bilan ta'riflanadi. Bundan tashqari maqsadlarning pastligi ularning ma'lum turdagi faoliyatni uddalay olmaganligiga ham bog'liq bo'ladi. Hayot jarayoni shkalasida ishlilarda o'rtasha rang qiymati 168,38 ni, ishsizlarda 137,88 ni tashkil etdi. ( $U=9114,000$ ;  $r<0,01$ ) Bu ko'rsatkichning ishlilarda yuqori chiqqanligining boisi ishlilar o'z hayot jarayonini qiziqarli, hissiy jihatdan boy va mazmunli deb qabul qilishi deb o'ylashlarini ko'rsatadi. Chunki mehnat faoliyati bilan band insonda har doim ham hayot jarayini qizg'in va samarali kechadi. Bu esa hayot jarayoni ko'rsatgichlari past chiqqan va natijada hozirgi hayotidan norozi ishsiz insonlardan farq qiluvchi belgidir. Hayot natijaviyligi shkalasida ishlilarda o'rtasha rang qiymati 169,83 ni, ishsizlarda 135,26 ni tashkil etdi. ( $U=8821,000$ ;  $r<0,01$ ) Ushbu o'lchovdagi ballar hayotning o'tishini baholashni, uning hayoti qanchalik samarali va mazmunli bo'lganligini his qilishni aks ettiradi. Ushbu shkala bo'yicha ishlilarda chiqqan yuqori ball o'z hayotini o'tgan va o'tkazayotgan bosqichlaridan roziligi va ular amalga oshirgan ishlarning hozirgi hayotiga ma'no berishi mumkin bo'lgan sababiyat sifatida ko'rishlari bilan tavsiflanadi. Ishsizlarda chiqqan past ball hayotlarining o'tgan qismidan norozilik sifatida namoyon bo'lganligi bilan tariflash mumkin. Nazorat lokusi shkalasida ishlilarda o'rtasha rang qiymati 167,88 ni, ishsizlarda 138,78 ni tashkil etdi. ( $U=9215,000$ ;  $r<0,05$ ) Ishlilarda chiqqan yuqori ball o'z hayotini o'z maqsadlariga va uning mazmuni haqidagi g'oyalariga muvofiq qurish uchun etarli tanlov erkinligiga ega bo'lgan kuchli shaxs sifatidagi g'oyaga mos keladi. Chunki ular o'z hayotlarini moddiy va ma'naviy tomondan nazarat qilish uchun etarli potinsialga ega ekanliklarini bilishadilar. Ishsizlarda namoyon bo'lgan past ball-o'z hayotlaridagi voqealarni nazorat qilish qobiliyatiga ishonch yo'qligi bilan tariflanadi.





**1-rasm <Hayot mazmuni yoʻnalganligi= metodikasining sinaluvchilarning ishli yoki ishsizliga koʻra statistik farqlari**

Hayot boshqaruvchanligi shkalasida ishlilarda oʻrtasha rang qiymati 173,18 ni, ishsizlarda 129,22 ni tashkil etdi. ( $U=8144,500$ ;  $r<0,01$ ) Bu koʻrsatgich boʻyicha ishlilarda chiqqan yuqori ball ulaning oʻz hayotini nazorat qilish, erkin qaror qabul qilish va ularni amalga oshirish qobiliyatiga ega ekanligiga ishonishini koʻrsatadi. Ishsizlarda chiqqan past ball esa ulada fatalizm, inson hayoti ongʻli ravishda nazorat qilinmasligiga ishonch, tanlash erkinligi xayoliy va kelajak uchun rejalar tuzish befoya ekanligi bilan tavsiflanadi.

**Foydalanilgan adabiyotlar roʻyxati**

1. Леонтьев Д. А. Тест смыслохизненных ориентаций. 2-е изд. М.: Смысл, 2000. 18 с.
2. А. А. Крылов (ред.) Практикум по экспериментальной и прикладной психологии: учебное пособие.
3. S. Jalilova, N.A. Gʻayibova. Umumiy psixodiagnostika. —T.: «Fan va texnologiya», 2018. ISBN 978-9943-11-883-6
4. Lawler, Edward E; Suttle, J.Lloyd (1973). "Expectancy theory and job behavior"
4. Психология мотивации достижения / Хекхаузен Х. - Санкт-Петербург: Речь, 2001; 81 стр.

## TA'LIM TIZIMIDA O'QUVCHILARGA DARS MASHG'ULOTLARINI O'TKAZISHDA SUN'IY INTELLEKTDAN FOYDALANISH

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### Annotatsiya

Ta'lim tizimida sun'iy intellekt texnologiyalaridan foydalanish o'quvchilar uchun ta'lim jarayonini shaxsiylashtirish va yanada samarali qilish imkonini beradi. Sun'iy intellekt yordamida o'quvchilarning ehtiyojlari va o'rganish qobiliyatlari tahlil qilinib, ularga individual yondashuvlar ishlab chiqiladi. Bu jarayonda sun'iy intellekt dasturlari darslarni interaktiv va o'quvchilar uchun qiziqarli shaklda o'tkazishni ta'minlaydi. Avtomatlashtirilgan test va baholash tizimlari o'quvchilar bilimini real vaqt rejimida tekshirish, xatolarni aniqlash va shaxsiy o'sishni kuzatishga imkon beradi.

**Kalit so'zlar:** Ta'lim texnologiyalari, sun'iy intellekt, shaxsiylashtirilgan o'qitish, avtomatlashtirilgan baholash, interaktiv o'quv materiallari, virtual yordamchilar, o'quvchilarning faoliyatini tahlil qilish, dars mashg'ulotlarini optimallashtirish, o'yin asosidagi o'qitish, vaqtni boshqarish, o'quv jarayonini kuzatish.

## ИСПОЛЬЗОВАНИЕ ИСКУССТВЕННОГО ИНТЕЛЛЕКТА ПРИ ОБУЧЕНИИ УЧЕНИКОВ В СИСТЕМЕ ОБРАЗОВАНИЯ

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### Аннотация:

Использование технологий искусственного интеллекта в системе образования позволяет персонализировать учебный процесс для студентов и сделать его более эффективным. С помощью искусственного интеллекта анализируются потребности и способности учащихся и разрабатываются для них индивидуальные подходы. При этом программы искусственного интеллекта гарантируют, что уроки проводятся интерактивно и интересно для учащихся. Автоматизированные системы тестирования



и выставления оценок позволяют ученикам учиться в режиме реального времени, выявлять ошибки и отслеживать личностный рост.

**Ключевые слова:** Образовательные технологии, искусственный интеллект, персонализированное обучение, автоматизированное оценивание, интерактивные учебные материалы, виртуальные помощники, анализ успеваемости учащихся, оптимизация уроков, игровое обучение, тайм-менеджмент, мониторинг учебного процесса.

## THE USE OF ARTIFICIAL INTELLIGENCE IN TEACHING PUPILS IN THE EDUCATION SYSTEM

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### Annotation:

The use of artificial intelligence technologies in the educational system allows to personalize the educational process for students and make it more effective. With the help of artificial intelligence, the needs and learning abilities of students are analyzed and individual approaches are developed for them. In this process, artificial intelligence programs ensure that lessons are conducted in an interactive and interesting way for students. Automated testing and grading systems allow for real-time student learning, error detection, and personal growth tracking.

**Keywords:** Educational technology, artificial intelligence, personalized learning, automated assessment, interactive learning materials, virtual assistants, student performance analysis, lesson optimization, game-based learning teaching, time management, monitoring the educational process.

So'nggi paytlarda sun'iy intellektning inson faoliyatining barcha sohalariga, shu jumladan ta'limga kirib borishi haqida tez-tez eshitishingiz mumkin. Umuman olganda, neyron tarmoqlar – bu matematik model, berilgan savol mezonlarini baholash asosida qo'yilgan intellektual muammoni hal qilish orqali bashorat qilishga qodir bo'lgan ulkan hisoblash kodi, juda ko'p miqdordagi ma'lumotlarni, ma'lumotlar bazalarini tahlil qilish, sun'iy intellekt eng haqiqiy va to'g'ri javobni tashkil qiladi. Neyron tarmoqlarning afzalligi ularning o'rganilishida, ular mustaqil ravishda, mashinani o'rganish bo'yicha IT-mutaxassisning bevosita ishtirokisiz o'qitilishi mumkin.

Barchamiz yaxshi bilamizki, insonning ongi va dunyoqarashi, fikri o'zgarmasa, jamiyat o'zgarmaydi. Jamiyat o'zgarmagan joyda hech qanday ijobiy natija ham, taraqqiyot ham bo'lmaydi. Odamlarning ongu tafakkurini o'zgartiruvchi kuch esa, hech shubhasiz, avvalo, o'qituvchi-murabbiylar, oliygoh domlari, ilm-fan arboblari, madaniyat va san'at, adabiyot namoyandalaridir.

2020 yilda O'zbekiston Respublikasi Prezidenti Shavkat Mirziyoyevning <Raqamli O'zbekiston – 2030= Strategiyasi tasdiqlandi<sup>1</sup>. Ushbu strategiyada sun'iy intellekt texnologiyalarini rivojlantirish va joriy etish davlat uchun ustuvor yo'nalishlardan biri sifatida ko'rsatildi. Shu bilan birga, texnologik taraqqiyot va innovatsiyalarni qo'llab-quvvatlash maqsadida bir nechta davlat dasturlari, ilmiy markazlar va universitetlar sun'iy intellekt bo'yicha tadqiqotlarni kengaytirishni boshladi.

Hozirgi vaqtda sun'iy intellektlar asosida yangi o'quv tizimini yaratish uchun yetarlicha kuchli asos yo'q, ammo mamlakatimiz rahbari Sh. M. Mirziyoyev tomonidan 2021 yil 26 avgustda <Sun'iy intellekt texnologiyalarini qo'llash bo'yicha maxsus rejimni joriy qilish chora-tadbirlari to'g'risida= gi PQ-5234-sonli Qarori qabul qilindi. Bu birinchi bo'lib ta'limda namoyon bo'ldi: 4 ta nufuzli oliy ta'lim muassasalarida sun'iy intellekt sohasida yangi fakultet tashkil etildi. Bu universitetlar: Toshkent axborot texnologiyalari universiteti, O'zbekiston Milliy universiteti, Samarqand davlat universiteti, Texnika universitetlari. 15 ta universitetlarda amaliy fan sifatida kiritildi. Shuningdek, Raqamli texnologiyalar vazirligi qoshida Sun'iy intellekt texnologiyalari ilmiy tadqiqot instituti tashkil qilindi<sup>2</sup>.

Qolaversa, <O'zbekiston – 2030= strategiyasida davlat xizmatlarini raqamlashtirishning ko'lamini kengaytirish orqali aholi uchun <Servis davlat= tizimini joriy qilish, fuqaro va davlat o'rtasidagi munosabatlarda byurokratik tartibotlarga barham berish maqsadida davlat xizmatlarini <3 qadam=, <foydalanuvchi uchun moslashtirilgan=, <barchasi bir mobil ilovada= tamoyillari asosida raqamlashtirish hamda <Elektron hukumat= tizimining yangi bosqichi – <Raqamli hukumat= tizimiga o'tilib, barcha hujjatlar va munosabatlarning raqamli shaklda bo'lishini ta'minlash ko'zda tutilgan<sup>3</sup>.

Hozirgi vaqtda sun'iy intellekt yoki mashinani o'rganish ta'limda faol qo'llanilmoqda, imtihonlarni o'tkazish va tekshirishdan tortib, o'quvchilar o'rganishda qiyinchiliklarga duch keladigan sohalarida avtomatik ravishda material tanlashgacha, o'quvchini mavzuni ongli ravishda o'rganishga, bilim va qobiliyat darajasini oshirishga taklif qiladi.

Bugun biz yashayotgan jamiyatga yangi fikr, yangi g'oya, eng muhimi, islohotlarni amalga oshirishga qodir bo'lgan yangi avlod kadrlari kerak. Albatta, xalqimizning mardona mehnati,

<sup>1</sup> 2020 yil 5 oktabrdagi "Raqamli O'zbekiston – 2030" strategiyasini tasdiqlash va uni samarali amalga oshirish chora-tadbirlari to'g'risida" gi PF-6079-sonli Farmoni

<sup>2</sup> O'zbekiston Respublikasi Prezidentining 2021 yil 26 avgustda "Sun'iy intellekt texnologiyalarini qo'llash bo'yicha maxsus rejimni joriy qilish chora-tadbirlari to'g'risida" gi PQ-5234-sonli Qarori qabul qilindi

<sup>3</sup> O'zbekiston Respublikasi Prezidentining 2023 yil 11 sentabrdagi "O'zbekiston – 2030" strategiyasi to'g'risida" gi PF-158-sonli Farmoni



o'qituvchi va murabbiylarning jonbozligi tufayli ta'lim sohasini tubdan modernizatsiya qilish bo'yicha ko'p ish qildik. Lekin hammamiz yaxshi tushunamizki, bular – katta maqsad yo'lida tashlangan dastlabki qadamlar, xolos. Zamon shiddat bilan o'zgarib, barcha sohalar qatori ta'lim tizimi oldiga ham o'ta dolzarb va murakkab vazifalarni qo'ymoqda. Biz dunyo miqyosidagi keskin raqobatga bardosh bera oladigan milliy ta'lim tizimini yaratishimiz zarur. Shu maqsadda, avvalo, ta'lim maskanlarining moddiy-texnik bazasini, kadrlar salohiyatini mustahkamlash, darsliklar va o'quv qo'llanmalarini zamon talablari asosida takomillashtirish, o'quv dasturlari va standartlarini optimallashtirish, soha xodimlarining ish haqini bosqichma-bosqich oshirib borish, ularning mashaqqatli mehnatini munosib qadrlash bundan buyon ham doimiy e'tiborimiz markazida bo'ladi.

O'qituvchilarning yelkasida har doim katta mas'uliyat qatlami va o'quvchilar bilan ishlash hajmi - taraqqiyotni nazorat qilish, standart vazifalarni tekshirish, bilim darajasi va darslarga tayyorgarlik. Bunday odatiy vazifalar sinfdagi qimmatli o'quv jarayonidan ko'p vaqt talab etadi. Ta'limning samaradorligi va sifatini oshirish uchun endi bunday muntazam ishlarni sun'iy intellektga topshirish imkoniyati mavjud<sup>4</sup>. Hozirgi kunda ta'limni shaxsiylashtirish haqida ko'p takliflar aytilmoqda. Ta'lim muhitiga sun'iy intellekt texnologiyalarini joriy etish orqali mutaxassislarni tayyorlashda har bir fanni o'rganish uchun shaxsiy rejalarni yaratishni amalga oshirish, so'ngra o'quvchilar faoliyati ustidan nazoratni amalga oshirish mumkin. Ta'limda sun'iy intellektdan foydalanish o'qituvchilar va psixologlar tomonidan o'quvchilarning qobiliyatlari, motivatsiyasi, irodasi va boshqa ko'rsatkichlarini aniqlash usullarini ishlab chiqish orqali amalga oshiriladi, ularning asosida individual o'quv dasturi ishlab chiqiladi.

O'quvchilar uchun o'quv dasturlari va ixtisoslashtirilgan tarkibni yaratish, shuningdek, o'quv jarayonini shaxsiylashtirishga yordam beradi. Ushbu funktsiya ko'plab o'quvchilar va o'qituvchilar tomonidan faol qo'llaniladi.

Ta'lim tizimida dars mashg'ulotlarini o'tkazishda sun'iy intellektdan foydalanish o'quvchilarning bilim olish jarayonini yanada samarali, qiziqarli va individualizatsiyalashgan qilishga yordam beradi. Quyida dars mashg'ulotlarini tashkil etishda sun'iy intellektdan foydalanishning asosiy yo'nalishlari keltirilgan:

Shaxsiylashtirilgan o'qitish: Sun'iy intellekt texnologiyalari o'quvchilarning bilim darajasini tahlil qilib, ularga individual ta'lim dasturlarini taklif etadi. Masalan, har bir o'quvchining qiyinchilik darajasini aniqlab, ularga mos topshiriqlar berish mumkin. Bu, o'quvchilarni o'z qobiliyatlariga ko'ra rivojlantirishga imkon yaratadi.

Automatlashtirilgan test va baholash tizimlari: SI yordamida o'quvchilar bilimni baholash jarayoni avtomatlashtiriladi, bu esa o'qituvchilarga vaqtni tejash imkonini beradi. Shu orqali o'quvchilar o'z javoblari bo'yicha tezkor mulohazalar olishadi, bu esa ularning xatolarni tahlil qilish va tuzatishga yordam beradi.

<sup>4</sup> Бессмертный И.А. "Искусственный интеллект" Учебное пособие. Санкт-Петербург 2010. 27–32 с

Interaktiv va vizual o'quv materiallari: Sun'iy intellekt yordamida tayyorlangan interaktiv o'quv materiallari – videolar, 3D modellash, animatsiyalar va simulyatsiyalar o'quvchilar uchun murakkab mavzularni tushunishni osonlashtiradi. Masalan, biologiya yoki fizika fanlarida murakkab jarayonlarni vizualizatsiya qilish orqali o'quvchilarning qiziqishi va tushunishi oshiriladi.

Til o'rgatish dasturlari va chatbotlar: Chet tillarni o'rgatish jarayonida SI asosidagi dasturlar nutqni tanish va talaffuzni yaxshilashda yordam beradi. Shuningdek, chat-botlar yordamida o'quvchilar bilan suhbatlashish, savollarga javob olish va matnli mashg'ulotlar bajarish imkoniyati yaratiladi.

Vaqt va o'quv jarayonini boshqarish: Sun'iy intellekt asosida tuzilgan platformalar o'quvchilarga vaqtni rejalashtirish, dars jadvalini kuzatish va o'z mashg'ulotlarini nazorat qilish imkoniyatini beradi. Bu o'quvchilarga darslarni o'z vaqtida bajarishga yordam beradi. STEAM fanlarida masofaviy yordamchilar: SI texnologiyalari o'quvchilarga STEAM fanlari bo'yicha masofadan turib maslahat beruvchi tizimlar orqali yordam ko'rsatadi. Masalan, matematik masalalarni yechishda yordam beruvchi tizimlar o'quvchilarning bilimlarini mustahkamlashga xizmat qiladi.

Gamifikatsiya (o'yinga asoslangan o'qitish): Sun'iy intellekt yordamida o'quv jarayonida o'yinga asoslangan usullarni kiritish mumkin. Bu o'quvchilar uchun qiziqarli raqobat muhiti yaratib, ularning motivatsiyasini oshiradi va bilimlarni mustahkamlaydi.

Ta'lim oluvchilar faoliyatini kuzatish va tahlil qilish: Sun'iy intellekt o'quvchilarning darsdagi faoliyati, bilim olish darajasi va qiyinchiliklarini kuzatib, o'qituvchilarga ularning o'sish dinamikasini ko'rsatib beradi. Shu orqali o'qituvchilar o'quvchilarga mos pedagogik yondashuvlarni tanlash imkoniga ega bo'ladilar.

Sun'iy intellekt yordamida dars mashg'ulotlarini o'tkazish o'quvchilarning o'zlashtirish darajasini oshirishga va ta'lim sifatini yaxshilashga yordam beradi. Bu texnologiyalar o'qituvchilar uchun ham qulaylik yaratib, o'quv jarayonini yanada qulay va samarali qilish imkonini beradi.

Bundan tashqari, sun'iy intellekt til o'rgatish va STEAM fanlarida o'quvchilar bilan ishlashda qo'llanilib, ular uchun o'yin ko'rinishidagi mashqlar, virtual yordamchilar va simulyatsiyalar orqali murakkab tushunchalarni soddalashtirishda yordam beradi. Sun'iy intellekt yordamida vaqtni boshqarish tizimlari va o'quvchilar faoliyatini tahlil qilish vositalari esa o'qituvchilarga o'quv jarayonini samarali boshqarish imkonini yaratadi. Shu tarzda sun'iy intellekt o'qituvchilar va o'quvchilar uchun ta'lim jarayonini qulay, samarali va o'zlashtirishga yengil qilishda muhim rol o'ynaydi.



### **Adabiyotlar**

1. O‘zbekiston Respublikasi Prezidentining 2020 yil 5 oktabrdagi <Raqamli O‘zbekiston – 2030= strategiyasini tasdiqlash va uni samarali amalga oshirish chora-tadbirlari to‘g‘risida=gi PF-6079-sonli Farmoni
2. O‘zbekiston Respublikasi Prezidentining 2021 yil 26 avgustda <Sun'iy intellekt texnologiyalarini qo‘llash bo‘yicha maxsus rejimni joriy qilish chora-tadbirlari to‘g‘risida= gi PQ-5234-sonli Qarori qabul qilindi
3. O‘zbekiston Respublikasi Prezidentining 2023 yil 11 sentabrdagi <O‘zbekiston – 2030= strategiyasi to‘g‘risida=gi PF-158-sonli Farmoni
4. Бессмертный И.А. <Искусственный интеллект= Учебное пособие. Санкт-Петербург 2010.
5. [https://uz.wikipedia.org/wiki/Sun%27iy\\_intellekt](https://uz.wikipedia.org/wiki/Sun%27iy_intellekt)
6. <https://lex.uz> - O‘zbekiston Respublikasi qonunchilik ma'lumotlari milliy bazasi.

## BIOTEXNOLOGIYA: IJTIMOIIY, FALSAFIY VA AXLOQIY YONDOSHUV KONTEKSI SIFATIDA

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### Annotatsiya:

Ushbu maqolada insoniyatga ta'sir etadigan turli jarayonlarni o'rganishda falsafaning ontologik-gnoseologik yondashuvi, moddiy va ma'naviy ishlab chiqarish jarayonlari, yuzaga kelayotgan turli iqtisodiy va ijtimoiy manfaatlar to'qnashuvi hamda foydalanayotgan ilmiy-texnikaviy yutuqlar bugungi taraqqiyotimizning bir bo'lagi sifatida o'rin olayotgan biotexnologiya bilan aloqalar yoritilgan. Bundan tashqari biotexnologik xavflarning falsafiy jihatlarini shakllantirish, biotexnologiyalarni rivojlantirish bilan bog'liq muammolarni gumanitar aks ettirish, ularning metodologik darajasi, biotexnologik amaliyotning rivojlanishi hamda ijtimoiy-gumanitar va falsafiy muammolarini aniqlash kabi ilmiy va nazriy dalillar keltirib o'tilgan.

**Kalit so'zlar:** biotexnologiya, biotexnologik jarayonlar, moddiy va ma'naviy ishlab chiqarish, yondashuv, daraja, texnologiya, bioetika.

Jahon mamlakatlarida yuzaga kelayotgan falsafiy va axloqiy muammolar insoniyat o'rtasida bevosita va bilvosita, yashirin, aniq va ravshan namoyon bo'lib bormoqda. Biotibbiyotda, axborot texnologiyalarining rivojlanishida hamda nanotexnologiyaning boshqa ko'plab tadqiqot sohalaridayangi imkoniyatlarning ochibberilishi <biotexnologiya= atamasining mazmun-mohiyatini yanada kengroq o'rganishga imkon bermoqda. Shu munosabat bilan biotexnologiyaning rivojlanishi natijasida eng keskin falsafiy va axloqiy muammolar shakllanmoqda.

Moddiy va ma'naviy ishlab chiqarish jarayonlari, yuzaga kelayotgan turli iqtisodiy va ijtimoiy manfaatlar to'qnashuvi hamda foydalanayotgan ilmiy-texnikaviy yutuqlar bugungi taraqqiyotimizning bir bo'lagi sifatida o'rin olayotgan biotexnologiya bilan muhim aloqadadir. Biotexnologiya – bu tabiat va insonlarga maqsadli ta'sir etish orqali ular uchun foydali mahsulotlar yaratish hamda yangi kimyoviy texnologiyalar va boshqa bir qator tabiatshunoslik sohasidagi amaliy yutuqlar natijasida paydo bo'layotgan bilim sohasidir.

<XX asrda o'tgan so'nggi texnologik inqilob eng yangi biotexnologik usullarning rivojlanishi bilan ajralib turadi=1. Shu jihatdan, zamonaviy ahamiyatga ega bo'lgan yangi texnologiyalarga ega bo'lish, ular orqali insonlar o'z ehtiyojlarini qondirish bilan bog'liq bo'lgan jarayonlar.

<sup>1</sup> Лидеман Р.Р. Молекулярная генетика и общество / Р.Р. Лидерман // Биотехнология и общество: реферативный сборник. – М., 1991. – С. 19.



biotexnologiyaning jamiyat rivojidadagi o'rnini ko'rsatib beradi. Bunda milliy iqtisodiyotni yanada rivojlantirish, kimyo texnologiyalarning murakkabligi, iqtisodiy maqsadga muvofiq yo'naltirish, yangi, arzonroq va turli xil ishlab chiqilgan mahsulotlar (gormonlar, oqsillar, antibiotiklar uglevodlar, spirtlar, vitaminlar va boshqalar) inson va uning bugungi hayotida juda zarurdir.

Biotexnologiya termini ikki qismdan iborat ya'ni – <bio= va <texnologiya=. <biotexnologiya=ni asosi bios, ya'ni grekcha ildiziga taqaladi va u <bio=, <hayot=, <tirik olam= degan ma'noni bildirib, butun jonli jarayonni o'z ichiga oladi.

Albatta, bu jarayonlar inson va tabiat o'rtasidagi keskinlashuv sifatida namoyon bo'lmoqda. Bu esa, ko'p jihatdan, insonning o'z oldiga qo'ygan maqsadi bilan bog'liq bo'lib, ya'ni sog'liq, shaxsiyat, jamiyat va ijtimoiy farovonlikka erishish yotibdi. Bu borada Prezidentimiz Shavkat Mirziyoyev aytib o'tganidek: <Jamiyat islohotlar tashabbuskori degan yondashuv kundalik faoliyatimizga tobora chuqur kirib bormoqda. Inson har tomonlama erkin va farovon yashaydigan yangi davlatni barpo etishdek buyuk xalq harakati tobora kengaymoqda. Bunday qudratli safda bo'lishning o'zi katta baxt, katta sharaftir. Bugun yaxshi niyatlar bilan juda katta marralarni o'zimizga belgilab olar ekanmiz, hayotimizning turli sohalarida muammo va kamchiliklar yetarli ekanini ham yaxshi tasavvur etamiz<sup>2</sup>. Bu o'rinda jamiyatimizdagi majburiyatning o'zini tan olish emas, balki bu qo'yilgan mas'uliyat nimalardan iboratligini hamda bu mas'uliyatni qanday taqdim etish mumkinligini amaliyotda ko'rsatishdir. Ya'ni, ma'lum ahamiyatga ega keng tarmoqli tamoyillarni asoslash, boshqa tomondan, berilgan vazifalarni falsafiy, axloqiy va ijtimoiy nuqtayi nazardan tahlil etish muhimdir. <Bugun hayotning o'zi bizdan professional, tezkor va samarali davlat xizmati tizimini shakllantirish, yangicha fikrlaydigan, tashabbuskor, el-yurtga sadokatli kadrlarga keng yo'l ochish bo'yicha samarali tizim ishlab chiqishni talab etmoqda<sup>3</sup>, – deydi Sh.M.Mirziyoyev. Shu o'rinda ijtimoiy adolat va yaxshilik haqidagi falsafiy g'oyalar jamiyatda insonning o'zini o'zi rivojlantirishga bo'lgan tabiiy istagini amalga oshirishga, boshqa tomondan, biotexnologik innovatsiyalarning barcha yangi turlaridan foydalanish hozirgi vaqtda bir qator yondashuvlar orqali ajratib ko'rsatish mumkin. Ya'ni: Birinchi yondashuv, axloqiy va huquqiy masalalar tahlilini amalga oshiruvchi, falsafiy tafakkurga asoslangan, undan xabardor bo'lgan hamda turli ijtimoiy munosabatlarining fanlararo bilimlar tizimi bo'lgan bioetikadir.

Ikkinchi yondashuv, biotexnologiyalarni konvergensiya qilish (masalan, nanotexnologiyalarning biotexnologiyalarga birlashishi) hamda harakatlarini ko'rsatadigan terminologik tilning rivojlanishi sifatida namoyon etish.

<sup>2</sup>Mirziyoyev Sh.M. Yangi O'zbekiston taraqqiyot strategiyasi. T.: O'zbekiston-2022 y - B. 19

<sup>3</sup>Мирзиёев Ш.М. Халқимизнинг розилиги бизнинг фаолиятимизга берилган энг олий баъодир. 2-хилд, -Т.: Ўзбекистон, 2018. Б. 90.

Uchinchi yondashuv, yangi turdagi xavf-xatar muammosi kontekstida mavjud bo'lgan bioetik yondashuvlarni qayta talqin qilish, nanotexnologiyalar bilan bog'liq sifatni shakllantirish hamda uning biotexnologiyalarga bo'lgan yondashuvlarni rivojlantirish.

To'rtinchi yondashuv, bu insonni takomillashtirishga doir fikrlarni tanqidiy tahlil qilish asosida axloqiy tushuncha va tamoyillarni sezilarli darajada kengaytirish.

Beshinchi yondashuv, biotexnologiyalarning taraqqiy etishi va biotexnologiyalar va hozirgi zamon texnologiyalari o'rtasidagi o'zaro aloqadorlik natijasida falsafiy-axloqiy qarashlarning aks etishini ochib berish (gumanitar ekspertiza)dir.

Keyingi o'n yilliklarda biz zamonaviy biotexnologiyaning taraqqiyot bilan bog'liq jarayonlarga guvoh bo'lmoqdamiz. Gap texnologiya fanlarining so'nggi yutuqlariga, birinchi navbatda, ixcham ishlab chiqarish sanoatini yaratish haqida bormoqda.

Biotexnologiya termini, asosan, sanoat uchun muhim turli ishlab chiqarish faoliyatidagi biotransformatsiyani anglatadi hamda uning asosiy amaliy faoliyat yo'nalishlari (masalan, yangi turdagi oziq-ovqat va chorva ozuqalarini yaratish; hayvonlarning yangi zotlarini va o'simliklarning yangi navlarini ko'paytirish; biotexnologik usullarni shakllantirish orqali atrof-muhitni muhofaza qilish)dir.

Bundan tashqari biotexnologiya sun'iy tahlilning bir turi bo'lib, unda ilmiy bilishning zamonaviy xilma-xilligi mavjudligini aniqlash juda muhimdir. Buning uchun quyidagi muammolarni hal qilish lozimdir.

Biotexnologiyaning o'ziga xosligini ochib berish hamda falsafiy-biologik jixatdan tahlil qilish. Biotexnologiyani falsafiy, axloqiy, madaniy va ijtimoiy muammolar bilan uzviy bog'liqligini tizimlashtirish va ochib berish.

Inson hayotiy faoliyatida muhim hisoblangan axloqiy, madaniy, texnologik, ilmiy, ijtimoiy, huquqiy aspektlarning biotexnologik jarayon bilan o'zaro bog'liqligini ko'rsatib o'tish.

Hozirda yangi biotexnologik usullarning ishlab chiqilishi va ilmiy jihatdan o'rganish XX asrning oxirlaridagi texnologik inqiloblar nomi bilan bog'liq hamda dolzarb masalaga aylandi.

<Ijtimoiy sohani takomillashtirish va bu boradagi islohotlar bilan aloqador bo'lgan idoraviy axborot tizimlar, elektron resurs va ma'lumotlar bazalari mavjud emasligi ham bu boradagi ishlarimiz rivojiga xalal bermoqda<sup>4</sup>. Bu davrda mikrobiologiya, bioximiya, genetika va boshqa barcha sohalarida sanoat ishlab chiqarish faol rivojlandi. Tabiiy va aniq fanlarning rivojlanish tadqiqot obyekti bo'lgan kimyo, fizika, amaliy matematika va kibernetika sohasidagi erishilgan yutuqlar ijobiy ahamiyat kasb eta boshladi.

XX asrning 70-yillarida ilmiy bilimlarning integratsiyalashib borishi natijasida ijtimoiy-madaniy hayotda biotexnologiya fenomini keng qo'llanila boshladi. Biotexnologiya turli texnologiyalar, chorvachilik, biologiya, meditsina va boshqa soha yutuqlari bilan emas, balki yangi turdagi ko'plab yangi sohalar bilan ham uzviy bog'liq rivojlandi. <Ammo biotexnologiya deganda, ular nafaqat biologiya, tibbiyot va ilmiy malakani talab qiladigan

<sup>4</sup> Mirziyoyev Sh.M. Yangi O'zbekiston Strategiyasi. - Toshkent: «O'zbekiston» nashriyoti, 2021. – B. 201.



boshqa fanlarning yutuqlaridan foydalanishni, balki bir qarashda bir-biriga bog'liq bo'lmagan juda ko'p turli xil texnologiyalarni – chorvachilikdan tortib, to genom bilan ishlashgacha, biologik xilma-xillikni saqlashga qaratilgan=5. Insoniyat tarixida biotexnologiya jarayoni kamroq texnologiyalarni o'z ichiga olsa, yillar sayin uning mohiyati ham murakkablashib bordi. Shu bois biotexnologiya termini etimologiyasini bilishni lozim deb hisoblaymiz.

Turli xil ijtimoiy guruhlariga turli yo'llar bilan ta'sir etish, texnologiya umumiy g'oyaga o'xshaydi. Jumladan, <Huquq falsafasi= kitobida Gegel: <Fuqarolik jamiyati – bu kishilarning o'z ehtiyojlari asosida huquqiy tizim orqali fuqarolar va ularning mol-mulklari xavfsizligini ta'minlash vositasi sifatidagi birlashmasidir=6, deb ta'kidlaydi. Tadqiqotchi M.Meta fikriga ko'ra, nanotexnologiya tadqiqotlari, ular atrofida yuzaga keladigan ijtimoiy muammolar hamda mavjud texnologiyalar muvaffaqiyatli integratsiya jarayonlari bilan amalga oshadi.

Insonning sun'iy texnologiyalar bo'yicha rivojlanishi texnologik qayta tiklash konsepsiyasi sifatida qarash mumkin. Ya'ni, modellashtirilgan ishlab chiqarish, insonni takomillashtirish, shu bilan birga, jamiyatning turli sohalarida texnologiyani rivojlantirishga tayyorgarlik allaqachon dolzarb muammoga aylanmoqda.

Biotexnologiyalarning faol rivojlanishi jamiyat uchun normativlikni shakllantirishning ikki omilidan kelib chiqadi: 1) biotexnologiya ta'siri natijasida yuzaga keladigan yangi imkoniyatlar; 2) ushbu imkoniyatlarni jamiyatga keng miqyosida integratsiyalashtirishdir. Bundan ko'zlangan maqsad muayyan texnologiyalar xavfini kamaytirish va bartaraf etish, muammoni hal qilish shu bilan birga, axloqiy va adolat tamoyillarni hurmat qilishga o'rgatishdir. Chunki, biotexnologiyalar atrofida shakllangan falsafiy va axloqiy muhitda olingan natijalar normativlik manbaiga aylanadi hamda xatarlarning yangi turlari aks ettiriladi va bir me'yorda baholanadi.

Shu bilan birga, biotexnologiyalarni rivojlantirishda ijtimoiy-gumanitar sohalarining roli ortib bormoqda. Biotexnologiyalar inson turmush tarzi sharoitini yaxshilash tashqari, ilmiy va amaliy faoliyatda o'ziga xos xususiyat kasb etib o'z oldiga ijobiy maqsad va vazifalarni belgilab olishi zarurdir. Bu esa insonlar uchun: yangi va xilma-xil mahsulotlarni olish imkonini; turli tadqiqotlar, boshqarish ustidan ongli nazorat qilishni; texnologik jarayonning ketma-ketligini tartibga solishni beradi.

Ilmiy faoliyat shakli sifatida qaralganda biotexnologiyaning asosiy xususiyatlari epistemologik, ilmiy va texnologik, prakseologik, iqtisodiy, axloqiy va boshqa shakllarida ko'zga tashlanadi. Shu bois hozirgi davrda keng rivojlanayotgan sun'iy intellekt, global axborot tarmoqlari va nanotexnologiyalarning biotexnologiya bilan o'zaro aloqada insonparvarlashtirish dolzarb bo'lib qolmoqda. Madaniy jarayonlar, insonlar tomonidan biotexnik ilmiy ishlarning ko'nikmalari, tajribasi, normalari va gumanistik g'oyalarni

<sup>5</sup> Конвенция о биологическом разнообразии [Электрон. ресурс] - 16 март. 2012. – Режим доступа: <http://www.ecorazvitie.by/download/KonvBio.pdf>

<sup>6</sup> Гегель Г.В. Философия права. – М.: Мир книги, 2009. С. 73.

o'zlashtirish natijasida biotexnologiya ijtimoiy hodisaga aylanmoqda. Natijada, biotexnologiya inson faravonligini yaxshilashda, u bilan bog'liq tegishli vazifalarni bajarishda ma'naviy-axloqiy muhitni rivojlantirishda hamda ijtimoiy-madaniy jarayonlarining tezlashuvini keltirib chiqardi.

Chunki texnologiya bir butunlikni tashkil etuvchi dinamik ya'ni o'zgaruvchan tizimdir. Shu bois, turli yondashuvlarni umumlashtiradigan bo'lsak, texnologiya - bu bilimlar tizimi va faoliyatning boshqarish usullari, biror aniq maqsadga yo'naltirilgan, foydali muammolar yechimi hamda ijtimoiy munosabatlardagi fikr va qadriyatlarining ma'lum bir tizimidir.

Bugungi kunda biotexnologiya jadal sur'atlar bilan rivojlanmoqda. Fan sifatida mikroorganizmlardan, barcha turdagi biologik tizimlardan amaliy foydalanishga asoslangan ishlab chiqarish jarayonlarini amalga oshirishni o'rganadi. O'zbekiston Respublikasi Prezidenti Shavkat Mirziyoyevning Oliy Majlisga Murojaatnomasida <Ilm-fan yutuqlarining elektron platformasi, mahalliy va xorijiy ilmiy ishlanmalar bazasini shakllantirish lozimligi, har bir oliy ta'lim va ilmiy-tadqiqot dargohi nufuzli chet el universitetlari va ilmiy markazlari bilan hamkorlikni yo'lga qo'yishi shartligi=7 alohida ta'kidlangan. Shu bois nafaqat ilm-fanda, balki tabiat va o'simlik, hayvon to'qimalari, shuningdek, genetik jihatdan butunlay o'zgartirilgan organizmlardir.

Darhaqiqat, hozirgi yillarda falsafiy, axloqiy va ijtimoiy tadqiqotlarda biotexnologiya asosiy mavzu sifatida o'z rivovlanishini boshdan kechirmoqda. <Tarixan amaliy falsafa sifatida tushunilgan, ya'ni, birinchi navbatda, axloqiy tanlov uchun asos va inson harakatlarini axloqiy baholash mezoni sifatida tushunilgan etika zamonaviy biotibbiyot tomonidan yuzaga kelgan muammolarda uning rivojlanishi uchun kuchli turtki bo'ldi=8. Bu o'z navbatida bioetikani gumanitar tadqiqotlar doirasiga aylantirildi hamda biotexnologik qarashlarni liberal, ya'ni erkin qarashlarga aylantirdi.

### **Xulosa sifatida qaraydigan bo'lsak:**

Birinchidan, biotexnologiyada inson tabiiy ravishda harakat qiladi, hayotning turli shakllarini o'zgartiradi. Biotexnologik jarayonlarda inson ilmiy faoliyatining o'zi ma'naviy ishlab chiqarish shakli bo'lib, muhandislik va ishlab chiqarish faoliyatining xususiyatlariga ega bo'ladi.

Ikkinchidan, biotexnologik innovatsiyalarning barcha yangi turlaridan foydalanish hozirgi vaqtda bir qator yondashuvlar orqali ajratib ko'rsatish mumkin. Ya'ni: 1) axloqiy va huquqiy masalalar tahlilini amalga oshiruvchi, falsafiy tafakkurga asoslangan, undan xabardor bo'lgan hamda turli ijtimoiy munosabatlarining fanlararo bilimlar tizimi bo'lgan bioetikadir. 2) biotexnologiyalarni konvergensiya qilish (masalan, nanotexnologiyalarning

<sup>7</sup>Ўзбекистон Республикаси Президенти Шавкат Мирзиёевнинг Олий Махлисга Мурожаатномаси. 2020 йил 24 январь. [uz.uz/01-2020](https://uz.uz/01-2020)

<sup>8</sup> КиришйилдаБиоэтика.Остида ед. Юдина В. Г., Тищенко Р. D.M.: Тара□□иёт-Анъана, 1998. Билан.10.



biotexnologiyalarga birlashishi) hamda harakatlarini ko'rsatadigan terminologik tilning rivojlanishi sifatida namoyon etish.

Uchinchidan, Madaniy jarayonlar, insonlar tomonidan biotexnik ilmiy ishlarning ko'nikmalari, tajribasi, normalari va gumanistik g'oyalarni o'zlashtirish natijasida biotexnologiya ijtimoiy hodisaga aylanmoqda. Natijada, biotexnologiya inson faravonligini yaxshilashda, u bilan bog'liq tegishli vazifalarni bajarishida ma'naviy-axloqiy muhitni rivojlantirishda hamda ijtimoiy-madaniy jarayonlarining tezlashuvini keltirib chiqardi.

### **Foydalanilgan adabiyotlar ro'yxati**

1. Ўзбекистон Республикаси Президенти Шавкат Мирзиёевнинг Олий Махлисга Мурохаатномаси. 2020 йил 24 январь.
2. Mirziyoyev Sh.M. Yangi O'zbekiston Strategiyasi. - Toshkent: «O'zbekiston» nashriyoti, 2021. – B. 201.
3. Мирзиёев Ш.М. Халқимизнинг розилиги бизнинг фаолиятимизга берилган энг олий баодир. 2-хилд, -Т.: Ўзбекистон, 2018. Б. 90
4. Лидеман Р.Р. Молекулярная генетика и общество / Р.Р. Лидерман // Биотехнология и общество: реферативный сборник. – М., 1991. – С. 19.
5. Гегель Г.В. Философия права. – М.: Мир книги, 2009. С. 73.
6. Киришйилда. Биотика.Остида ед. Юдина В. Г., Тишченко Р. D.M.: Тараққиёт-Анъана, 1998. Билан.
7. Конвенция о биологическом разнообразии [Электрон. ресурс] - 16 март. 2012. – Рехим достуца: <http://www.ecorazvitie.by/down/KonvBio.pdf>
8. Chilmatovich, Shermanov Isobek. "FIN TA'LIM TIZIMINING O'ZBEK TA'LIM TIZIMIGA ISLOH QILINISHI SABABLARI." Ustozlar uchun 57.4 (2024): 39-42.
9. Chilmatovich, Shermanov Isobek. "HISTORY AND METHODOLOGY OF BIOGEN TECHNOLOGIES (ONTOLOGICAL-EPISTEMOLOGICAL ANALYSIS)." (2023).
10. Shermanov, Isobek. "BIOETIKA: FAN-TEXNOLOGIYA VA ISHLAB CHIQARISH JARAYONIDAGI AHAMIYATI (ijtimoiy-falsafiy tahlil)." Farg'ona davlat universiteti 1 (2023): 194-194.
11. Chilmatovich, Shermanov Isobek. "Main tasks in the material and spiritual transformation of biotechnological processes." Asian Journal Of Multidimensional Research 12.7 (2023): 24-30.
12. Шерманов, Исобек. "Ихтимой таракқиётда биотехнологик хараёнларни шакллантириш: муаммо ва таклифлар." Общество и инновации 3.6 (2022): 64-69.
13. Chilmatovich, Shermanov Isobek. "БИОТЕХНОЛОГИК ЖАРАЁНЛАР ТАРАҚҚИЁТИДА МОДДИЙ ВА МАЪНАВИЙ ИШЛАБ ЧИҚАРИШ УЙФУНЛИГИ МАСАЛАЛАРИ." PHILOSOPHY AND LIFE INTERNATIONAL JOURNAL SI-1 (2022).

14. Шерманов, И. "МИЛЛИЙ ИЖТИМОЙ ИШЛАБ ЧИҚАРИШ ВА УНИНГ МУСТАҚИЛ ИЖТИМОЙ ТАРАҚҚИЁТДА TUTGAN YRNI VA AҚАМИЯТИ." ВЕСТНИК КАРАКАЛПАКСКОГО ГОСУДАРСТВЕННОГО УНИВЕРСИТЕТА ИМЕНИ БЕРДАХА 35.2 (2017): 103-104.
15. Шерманов, Исобек Чилмаматович. "СОЦИАЛЬНОЕ РАЗВИТИЕ: ОСНОВЫ МАТЕРИАЛЬНОГО И ДУХОВНОГО СООТНОШЕНИЯ." Актуальные научные исследования в современном мире 3-7 (2017): 142-146.
16. Shermanov, Isobek Chilmamatovich. "DIALECTIC AND SINERGETIC PECULIARITIES OF MATERIAL PRODUCTION PROCESS." Theoretical & Applied Science 2 (2017): 81-86.
17. Шерманов, И. Ч. "ИЖТИМОЙ ТАРАҚҚИЁТДА МАЪНАВИЙ ИШЛАБ ЧИҚАРИШНИНГ ФАЛСАФИЙ МЕТОДОЛОГИК АҚАМИЯТИ." ILMIY XABARNOMA: 44.
18. Негматова, Шахзода, and Хасан Орипов. "Проблемы формирования интернет-грамотности среди молодежи." Наука и образование сегодня 5 (6) (2016): 37-39.
19. Negmatova, Shakhzoda Shukhratovna, and Nodirjon Ergashevich Togaev. "Diversity in social development." Школа Науки 5 (2019): 43-45.
20. Негматова, Шахзода, and Хасан Вахобович Орипов. "Влияние глобальных кризисов на духовность человека." Достижения науки и образования 10 (32) (2018): 33-35.
21. Negmatova, Shahzoda. "Competition between political parties in Uzbekistan." European Journal of Humanities and Social Sciences 1 (2016): 25-27.
22. Negmatova, Shahzoda Shuxratovna. "Legal processes of ensure of socio-economic competition." The Fourth International Congress on Social Sciences and Humanities. 2015.
23. Shukhratovna, Negmatova Shakhzoda, and Oripov Khasan Abdivakhobovich. "The influence of intellectual competition to social development in the 21st century." European science 7 (49) (2019): 44-47.
24. Shukhratovna, Negmatova Shakhzoda. "A Paradigm of Synergetics and Nonlinear Thinking." (2023).
25. Shukhratovna, Negmatova Shakhzoda. "Modern Scientific Thinking: Innovative And Euristic Aspects." The American Journal of Social Science and Education Innovations 3.10 (2021): 13-17.
26. Negmatova, Sh Sh. "THE CONCEPT OF COMPETITION IN THE SCIENTIFIC COMMUNITY." Актуальные направления фундаментальных и прикладных исследований. 2016.
27. Negmatova, Shahzoda Shuxratovna. "MORAL NORMS OF THE ECONOMIC COMPETITIVE." Teoretičeskaâ i prikladnaâ nauka 7.27 (2015): 44-47.