

ОБРАЗОВАНИЕ,

**НАУКА И ИННОВАЦИОННЫЕ ИДЕИ
В МИРЕ**

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MEDITATION DURING PREGNANCY: NURTURING MIND AND BODY

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Key words: pregnancy, techniques, emotions, hormonal changes, visualizations, distraction.

Abstract: This article contains information about the benefits of meditation for pregnant women and the tips and techniques how to meditate during this period. And it answers to the following questions: Why pregnant women should meditate? Is there any benefits for baby too?

Introduction:

Pregnancy is a profound journey filled with a mix of excitement, anticipation, and sometimes anxiety. As the body undergoes significant changes, expectant mothers often seek ways to enhance their well-being, both physically and emotionally. One powerful practice that has gained popularity among pregnant women is meditation. This article explores the benefits of meditation during pregnancy, various techniques, and tips for incorporating it into daily life.

The Benefits of Meditation During Pregnancy

1. Stress Reduction

Pregnancy can be a time of heightened emotions and stress. Meditation helps to calm the mind and reduce anxiety by promoting relaxation and mindfulness. Studies have shown that regular meditation can lower cortisol levels, the hormone associated with stress, contributing to a more peaceful pregnancy experience.

2. Improved Sleep Quality

Many pregnant women struggle with sleep disturbances due to hormonal changes, physical discomfort, and anxiety about childbirth. Meditation can help quiet the mind, making it easier to fall asleep and stay asleep. Techniques such as guided imagery or body scans can be particularly effective in promoting restful sleep.

3. Enhanced Emotional Well-Being

Meditation encourages self-awareness and emotional regulation, which are crucial during pregnancy. By practicing mindfulness, expectant mothers can better manage mood swings, reduce feelings of overwhelm, and cultivate a positive outlook on their pregnancy journey.

4. Connection with the Baby

Meditation provides an opportunity for mothers to connect with their unborn child. Techniques such as loving-kindness meditation or visualizations can foster a deep sense of bonding, allowing mothers to send love and positive energy to their baby.

5. Pain Management

As the body changes and prepares for labor, many women experience discomfort and pain. Mindfulness meditation can help women develop greater awareness of their bodies and learn to manage pain more effectively. Research suggests that meditation may reduce the perception of pain during labor and delivery.

6. Preparation for Labor

Meditation can also serve as a valuable tool for preparing for childbirth. Techniques such as breathing exercises and visualization can help mothers feel more empowered and confident as they approach labor, reducing fear and anxiety associated with the birthing process.

Meditation Techniques for Expectant Mothers

There are various meditation techniques that pregnant women can explore. Here are some popular methods:

1. Mindfulness Meditation

This practice involves focusing on the present moment without judgment. Expectant mothers can sit comfortably, close their eyes, and concentrate on their breath or bodily sensations. If thoughts arise, they can acknowledge them and gently return their focus to the breath.

2. Guided Meditation

Using recordings or apps designed for pregnancy, guided meditations can provide structured relaxation sessions. These often include soothing music and calming narratives that lead the mother through visualizations and breathing exercises.

3. Loving-Kindness Meditation (Metta)

This technique involves silently repeating phrases of goodwill towards oneself and others. For pregnant women, focusing on sending love and compassion to their baby can strengthen the emotional bond.

4. Body Scan

A body scan meditation encourages awareness of different parts of the body, promoting relaxation and relief from tension. Pregnant women can lie down comfortably and mentally scan from head to toe, noticing sensations and releasing any tightness.

5. Breath Awareness

Focusing on the breath is a simple yet effective way to center oneself. Pregnant women can practice deep breathing exercises, inhaling deeply through the nose and exhaling slowly through the mouth, helping to calm the nervous system.

Tips for Incorporating Meditation into Daily Life

1. **Set Aside Time:** Aim for a few minutes of meditation each day. Early morning or before bedtime can be ideal times to practice.
2. **Create a Comfortable Space:** Designate a quiet area in your home for meditation, free from distractions. Adding cushions or soft lighting can enhance the experience.
3. **Use Apps or Online Resources:** There are many apps available that offer guided meditations specifically for pregnancy, making it easier to get started.
4. **Be Patient:** It's normal for the mind to wander during meditation. Gently guide your focus back without self-judgment.
5. **Involve Your Partner:** Consider inviting your partner to join you in meditation sessions, fostering connection and shared experiences during pregnancy.

Conclusion

Meditation during pregnancy offers numerous benefits that can enhance physical health, emotional well-being, and the overall experience of motherhood. By incorporating meditation into their daily routine, expectant mothers can cultivate a sense of calm, strengthen their bond with their baby, and prepare themselves for the transformative journey of childbirth. As with any new practice, it's essential to listen to one's body and consult with healthcare providers if there are any concerns or questions about meditation during pregnancy. Embracing this mindful approach can lead to a more peaceful pregnancy experience—one breath at a time.

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IMPORTANCE OF MULTIMEDIA TECHNOLOGIES IN TEACHING FOREIGN LANGUAGES

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Abstract

This article is about the concept of multimedia and interactivity in teaching foreign languages, the importance of multimedia resources and technologies in the process of teaching foreign languages, and the role of multimedia technologies in pedagogy.

Key words: communication technologies, multimedia tools, multimedia presentation

INTRODUCTION

Today, the ability to know foreign languages is becoming one of the integral parts of professional education. Due to the high level of cooperation with foreign partners among specialists in various fields, they have a high demand for language learning. In modern society, foreign languages are becoming an important component of professional education. A person learns such knowledge first at school, college, and later at institutes, training courses or independently by getting acquainted with the basic information sets that help to learn a foreign language. By combining different methods, the teacher is able to solve specific educational programs. In this regard, teachers and students they should familiarize themselves with modern methods of teaching foreign languages. Language teaching programs on computers and phones are also a good help for language teaching in primary and secondary education.

Additionally, showing English movies with subtitles, and cartoons, which make language learning more interesting, are considered effective methods in language teaching. Multimedia enables a variety of language learning opportunities. It can keep children's attention for a longer time, making it more interactive. With multimedia, the connection between children and the environment increases, which positively impacts language learning.

Multimedia (multi – multiple, ho – signal, media – medium) is a field of computer technology that processes different types of information visually or physically.

Multimedia is the integration of modern technical and software tools that enable the interaction of different elements, such as video, audio, text, graphics and photos.

LITERATURW REVIEW: During the analysis of literature, numerous foreign sources were examined. Many studies have explored the effectiveness of language learning applications such as Duolingo, Babbel, and Rosetta Stone. According to Godwin-Jones (2015), these applications help retain vocabulary and increase learner engagement through games and spaced repetition techniques. Similarly, Golonka et al. (2014) emphasize the effectiveness of these apps in providing flexible and independent learning opportunities.

The interactive and communicative potential of social media tools like Skype and Zoom has been studied by researchers such as Tom and Reynxard (2008). They highlighted that these tools facilitate real-time communication with native speakers, thereby enhancing conversational skills and cultural understanding, which are crucial for language learning. This perspective on the importance of cultural immersion in language learning has also been supported by Dema and Moeller (2012).

Future of Digital Technologies in Language Learning: The future of digital technologies in language learning looks promising with advancements in artificial intelligence and immersive technologies. Peres-Paredes (2019) suggests that integrating big data and AI will lead to more personalized and flexible learning experiences. Similarly, Blyth (2018) predicts that the next developments in virtual and augmented reality will create increasingly realistic and engaging learning environments, bridging the gap between theoretical knowledge and practical application.

RESULTS: Approximately 90% of the reviewed resources included multimedia content and interactive exercises, encompassing a wide range of materials. Various information was collected on the impact of digital technologies on foreign language learning, demonstrating their influence on the teacher's ability to impart knowledge and the learner's ability to acquire it. These technologies were found to enhance language learning levels and help develop communication skills. Additionally, it was determined that using computer tools in the form of various educational games allowed learners to reinforce their knowledge. Therefore, we can conclude that the current demand for digital technologies among people is very high.

Usability: Digital technologies significantly expanded access to language-learning resources. Online platforms and applications overcame geographic and time barriers, offering flexibility for studying at any time and place. For example, global courses from prestigious universities were made available to regions lacking quality language education resources, significantly improving accessibility. These tools also helped learners enhance their skills and competencies.

Engagement: Results showed that 85% of the population prefers using online platforms and mobile applications for convenient learning. Language-learning apps and other digital tools make learning more engaging by incorporating gamification elements such as points, levels, and rewards. For instance, Duolingo motivates learners and keeps their interest through game-like features designed to retain engagement over time. Social media platforms, communication tools, and language-exchange programs allow learners to connect with international partners in real-time. About 65% of learners use social media, Skype, Zoom, and similar platforms for live interaction in their target language.

CONCLUSION

The main field of application of multimedia technology is education. That is, intellectual games, video encyclopedias and distance learning systems. Multimedia technology can be successfully used not only in secondary and higher education, but also in centers for training qualified specialists, in preschool education. There are two ways to use multimedia products in the pedagogical process.

1 Using existing software products that are suitable for the scope of the subject being taught

2 Creating a multimedia product suitable for the purpose of the subject taught by the teacher and the range of issues to be considered. Both of these paths require high professional knowledge in the field of multimedia technologies.

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THE ROLE OF SOCIAL MEDIA IN THE LIVES OF YOUNG PEOPLE IN UZBEKISTAN

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Research Question: How does social media influence the cultural identity and communication habits of young people in Uzbekistan?

Abstract:

This study investigates the growing role of social media in shaping the lives of youth in Uzbekistan, focusing on its effects on communication, education, and social behavior. It highlights both the advantages and challenges associated with social media platforms and examines their influence on the cultural and social identity of young people. Drawing on data from surveys, academic research, and social media statistics, the paper underscores the importance of promoting balanced usage and responsible digital engagement among the youth.

Key words: social media, uzbekistan, youth, platform, education

Introduction

Social media has become a central part of everyday life, particularly for young people, offering new avenues for communication, learning, and self-expression. In Uzbekistan, platforms such as Instagram, Telegram, TikTok, and Facebook have significantly transformed the way young individuals engage with the world. This paper explores the influence of social media on youth in Uzbekistan, analyzing its impact on personal growth, education, and social interactions. It also addresses associated risks, including addiction, misinformation, and privacy concerns, while suggesting strategies for encouraging positive and responsible use.

Social Media as a Communication Tool

Social media has transformed how young people in Uzbekistan communicate. It facilitates instant messaging, video calls, and group discussions, breaking geographic and cultural boundaries. Telegram, for instance, has become a leading platform for personal and professional interactions. These tools help young users form relationships, participate in global discussions, and stay informed about trends and events.

Despite these benefits, over-reliance on social media can have drawbacks. Excessive digital interactions may undermine face-to-face communication skills and

contribute to feelings of loneliness. This dual effect highlights the importance of adopting a balanced approach to online communication.

The Role of Social Media in Education

Social media has created new learning opportunities for students in Uzbekistan. Platforms like YouTube and Telegram provide access to educational resources, online courses, and study materials, helping young learners gain knowledge and skills and prepare for exams.

However, challenges remain. Overuse of social media can distract students from academic goals, reducing productivity and focus. Furthermore, the spread of inaccurate information risks undermining educational quality. Parents and educators must guide students in utilizing social media as a tool for effective learning.

Cultural and Social Influence

Social media plays a crucial role in shaping the cultural and social identity of Uzbek youth. It enables them to connect with global trends, share their culture internationally, and explore diverse perspectives. Platforms like TikTok offer opportunities for creative expression, allowing young people to showcase their talents and engage with broader audiences.

However, exposure to global content can create cultural tensions, as traditional values sometimes clash with modern influences. Additionally, pressure to conform to online standards, such as beauty norms or lifestyle trends, may affect self-esteem and mental health.

Challenges and Risks

The widespread use of social media among Uzbek youth presents several challenges:

1. **Addiction:** Excessive time spent on social media can harm academic performance and physical health.
2. **Cyberbullying:** Online harassment remains a significant concern, negatively impacting mental well-being.
3. **Misinformation:** The rapid dissemination of false information can mislead opinions and behaviors.
4. **Privacy Issues:** A lack of awareness about digital security exposes young people to risks such as identity theft and hacking.

Recommendations

To enhance the benefits of social media while minimizing risks, the following measures are proposed:

1. **Digital Literacy Programs:** Educational institutions should integrate digital literacy into their curricula to promote safe and responsible online behavior.

2. Parental Involvement: Parents should monitor and discuss social media use with their children, emphasizing potential risks and rewards.

3. Balanced Usage: Young people should balance online activities with offline interactions and prioritize physical well-being.

4. Policy Initiatives: The government should introduce regulations to address harmful content and safeguard user privacy.

Conclusion

Social media plays a pivotal role in the lives of young people in Uzbekistan, offering numerous opportunities for communication, education, and cultural exchange. However, it also presents challenges that require responsible usage. By fostering digital literacy and raising awareness, society can ensure that social media remains a positive and transformative force for the personal and social development of Uzbek youth.

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SIMILARITIES AND DIFFERENCES OF GRAMMATICAL CATEGORY PERSON IN TWO DIFFERENT LANGUAGES

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Annotation: This article compares and contrasts the grammatical category of person in English and Uzbek languages. It highlights similarities such as the recognition of first, second, and third persons, while also delving into differences such as pronoun usage, formality distinctions, and verb conjugation. The analysis explores cultural and linguistic implications, shedding light on how language reflects societal norms and values.

Annotatsiya: Ushbu maqolada ingliz va o‘zbek tillaridagi shaxsning grammatik kategoriyasi solishtirilib, qarama-qarshi qo‘yilgan. U birinchi, ikkinchi va uchinchi shaxslarning tan olinishi kabi o‘xshashliklarni ta’kidlaydi, shu bilan birga olmosh qo‘llanilishi, rasmiyatchilik farqlari va fe’l kelishigi kabi farqlarni o‘rganadi. Tahlil madaniy va lingvistik ta’sirlarni o‘rganadi, tilning ijtimoiy normalar va qadriyatlarini qanday aks ettirishiga oydinlik kiritadi.

Key words: Grammatical category, person, English, Uzbek, similarities, differences, pronouns, formality, verb conjugation, cultural implications.

Kalit so‘zlar: Grammatik kategoriya, shaxs, inglizcha, o‘zbekcha, o‘xshashliklar, farqlar, olmoshlar, rasmiyatchilik, fe’l kelishik, madaniy ta’sirlar.

INTRODUCTION

The grammatical category of person is fundamental to the structure of languages, denoting the relationship between speakers, listeners, and others. Both English and Uzbek utilize this category, but they do so in ways that reflect their unique grammatical systems and cultural contexts. This article explores the similarities and differences in how the category of person is expressed in English and Uzbek.

Similarities: Three Persons: First, Second, and Third: Both English and Uzbek languages recognize three grammatical persons: first, second, and third. These are used to indicate the subject of the verb in relation to the speaker.

First Person: Refers to the speaker themselves. In English, the pronouns are “I” (singular) and “we” (plural). In Uzbek, the equivalents are “men” (singular) and “biz” (plural).

Second Person: Refers to the listener. In English, this is “you” for both singular and plural contexts. Uzbek differentiates with “sen” for singular informal, “siz” for singular formal, and “sizlar” for plural.

Third Person: Refers to someone or something other than the speaker and listener. English uses “he,” “she,” “it” (singular), and “they” (plural). Uzbek uses “u” for singular and “ular” for plural [1. p 147-150]

Differences:

Pronoun Usage and Formality: One notable difference is the expression of formality and politeness, especially in the second person.

English: The pronoun “you” serves both formal and informal, singular and plural contexts, which can sometimes lead to ambiguity but also simplifies learning and usage.

Uzbek: Distinguishes between formal and informal address. “Sen” is used for informal, often among friends and younger people. “Siz” is a formal version used to show respect or politeness, similar to French “tu” and “vous.” For addressing multiple people, Uzbek uses “sizlar.” [2. p 42-43]

Pronoun Declensions and Verb Conjugation:

English: Personal pronouns in English do not change form based on grammatical case, with the exception of subject (I, you, he/she/it, we, they) and object forms (me, you, him/her/it, us, them). Verb conjugation for person is relatively simple, usually changing only in the third person singular present tense (e.g., “I run,” “he runs”).

Uzbek: Pronouns have different forms depending on the grammatical case (subject, possessive, object). Verb conjugation in Uzbek is more complex, as it includes suffixes that indicate both the person and number of the subject. For example, “men keldim” (I came), “sen kelding” (you came), “u keldi” (he/she/it came) [3. p 185-186]

Gender Distinction: English: Has gender distinctions in the third person singular pronouns (“he,” “she,” “it”), reflecting the gender of the person or the nature of the object referred to.

Uzbek: Does not distinguish gender in its pronouns. “U” can mean “he,” “she,” or “it,” depending on context [4. p 42-43]

Cultural and Linguistic Implications:

The differences in pronoun usage and verb conjugation reflect broader cultural and linguistic principles. Uzbek’s distinction between formal and informal address underscores the importance of respect and social hierarchy in Uzbek culture. English’s simpler system reflects a more egalitarian approach in everyday language use [5. p 155-157]

CONCLUSION

While both English and Uzbek languages share the fundamental structure of grammatical person, their specific implementations reveal unique aspects of their

grammatical systems and cultural contexts. English's simpler approach contrasts with Uzbek's more nuanced distinctions in formality and verb conjugation, illustrating the diverse ways languages can handle similar grammatical concepts. Understanding these similarities and differences enriches our appreciation of both languages and enhances cross-cultural communication.

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JADIDCHILIK HARAKATI POYDEVORI, MA'RIFATPARVAR BOBOLARIMIZ MEROSINI CHUQUR O'RGANISHIMIZDA

Amonova Shaxnoza Abdalimovna
Chirchiq shahar kasb-hunar maktabi
Ona tili va adabiyot o`qituvchisi

Annotatsiya: XIX asr oxiri, XX asr boshlarida Rossiya mustamlakasi hisoblangan O'rta Osiyo, Kavkaz, O'rta Sibir xalqlari orasida boshlangan milliy, madaniy-ma'rifiy tiklanish -jadidchilikharakati sifatida namoyon bo'ldi.

Kalit so'zlar: jadid, ma'rifat, usuli jadid, milliy ko'tarilish, matbuot, muxtoriyat, milliyg'oya, "Behbudiya", "To'ron,"ibratxona, "Munozora".

"Jadid" atamasi Turkiya turklarida ilk marta Sulton Salim III hukmronligi (1739-1802) davrida paydo bo'ldi. Avstriyaga elchi qilib yuborilgan Abubakr Ratib afandi shohga yozgan bildirishnomalarida u yerda ko'rgan idora tizimini "Nizomi jadid" deb tushuntiradi. 1789 yilgi Fransuz inqilobidan keyin qurilgan yangi tizimni esa "Fransiya nizomi jadidi" deyila boshlandi. Shu yillari "Nizomi jadid" tor ma'noda askariy tizimni yevropalashtirishni, keng ma'noda ilm-fan, maorif, sanoat va qishloq xo'jaligini zamonaviylashtirishni ko'zda tutar edi.

Demak, jadid atamasi yangilik tarafdorlarini, yangilik g'oyalarini ifoda etuvchi tushuncha sifatida qo'llanilgan. XIX asrning oxirlarida dunyo tamaddunida bo'layotgan ulkan madaniy -ma'rifiy, ijtimoiy-siyosiy o'zgarishlar, yangi munosabatlar u yoki bu tarzda sekinlik bilan bo'lsada, Turkiston o'lkalariga kirib kela boshladi. Yangilik tarafdorlarini Abdulla Avloniy so'zi bilan aytganda, "gazeta o'qig'uvchilarni" mullalar "jadidchi" nomi bilan[1] atar edilar.

Jadidlar Usmonli Turkiyadagi "Ganch (yosh) turk"lar tashkilotlari tasirida "Yosh buxoroliklar", "Yosh xivaliklar", "Yosh turkistonliklar" degan nomlarda faoliyat olib borishgan.

Tadqiqot jarayonida ilmiy bilishning obyektivlik usulidan foydalanildi. Mazkur tadqiqot jarayonida Jadidchilik harakatining tarixiy tashkil topishi obyektiv ochib berildi. Bugungi kunda yosh avlodni tarbiyalashda jadidchilar maktabi va ularning harakatlarini mantiqiy izchillik jihatdan tadqiq qilish maqsadga muvofiqdir. Tadqiqot jarayonida Abdulla Avloniyning "Tarjimai xol" Tanlangan asarlar 2-jildlik va Munavvarqori Abdurashidxonning "Qizil O'zbekiston" nomli asarlari metodologik manba sifatida olindi.

Jadidchilik harakatining faoliyati maktabdan, maorifdan boshlangan, so'ng matbuot, san'at va siyosatga o'tgan. Rossiya va uning mustamlakalarida jadidchilik

harakatiga Ismoilbek Gasprinskiy (1851-1914) asos soldi. U Boqchasaroyda dastlabki "usuli jadid" (yangi usul) maktabini 1884 yilda ochadi.

Ismoilbek Gasprinskiyning eng katta xizmati Rossiya sarhadlarida yashab turgan, lekin zamonning zayli bilan bir-biridan uzoqlashib, begonalashish darajasiga yetgan turkiy xalqlarni bir-biriga tanitdi, yaqinlashtirdi. Butun boshli ilg'or marifatparvar, ziyolilar qatlamini yetishtirdi. Sharq xalqlari ma'naviy hayotida, xususan, maktab-maorifda chinakam inqilob yasadi.

Gasprinskiyning o'lka ziyolilariga bergan tasiri haqida Toshkent jadidchilarining otasi deb tan olingan Munavvarqori 1927 yil Toshkent okrug maorif xodimlari qurultoyida so'zlagan nutqida shunday degan edi: "Jadid maktabi tashkil qilg'onlar ham eski maktab, madrasa va qorixonalarining yetishtirgan kishilari edi. Ular yolg'iz Bog'chasaroyda chiqadurg'on Ismoil Gasprinskiy gazetasini o'qiydilar va shu orqali maktabni yaxshi tushunib, kitoblar oldirar edilar"[2]. Shunday qilib o'lkada yangi maktablar ochishga Ismoil Gasprinskiy va tatar ziyolilari, muallimlarining ibrati, yordami katta bo'ldi.

Jadidchilik harakati qoloqlik va jaholat, o'lka aholisining ayanchli ahvoli, Turkistonning Yevropa va jahon sivilizatsiyasidan orqada qolib ketishi, islom va shariatning oyoq osti qilinishi va bunday og'ir hayotdan qutulish, erk va ozodlikka erishish uchun o'z zamonasining ilg'or ziyoli qatlamlari qarashlarida vujudga keldi. Jaholat uyqusidan uyg'onish, tarixiy zaruratga aylangan edi. Boshqacha qilib aytganda, jadidchilik harakati ijtimoiy rivojlantirishning, tarixiy taraqqiyotning talab va ehtiyojlariga javob sifatida maydonga kelgan ulkan ijtimoiy - siyosiy harakat edi. O'lkada millatning dard-alamlarini, butun ayanchli, mudhish, fojiali og'ir qismatini o'z qalbi va vujudidan o'tkazib, o'zining butun borlig'ini, aql-zakovatini, ongini, hayotini erk, ozodlik, taraqqiyot uchun safarbar etgan ziyolilarning butun bir yangi avlodi shakllana boshladi. Jadidchilikning asosiy g'oya va maqsadlari (davr voqealigidan kelib chiqib, ba'zan o'zgarib turgan bo'lsa-da) quyidagilar edi: Turkistonni o'rta asrlarga xos qoloqlik va diniy xurofotdan ozod etish, shariatni isloh qilish, xalqqa ma'rifat tarqatish, Turkistonda muxtoriyat hukumatini barpo etish uchun kurash, Buxoro va Xivada konstitusion monarxiya va parlament, keyinchalik demokratik respublika tuzumini o'rnatish orqali ozod va farovon jamiyat qurish, barqaror milliy valyutani joriy qilish va milliy qo'shin tuzish.

Toshkent, Farg'ona, Buxoro, Samarqand va Xivada hur fikrli va taraqqiyotparvar kishilarning ayrim guruhlaridan tomonidan ochilgan madaniy-ma'rifiy yo'nalishdagi jamiyat va uyushmalardan jadidchilik harakati shakllandi.

Harakat faoliyati osonlik bilan kechmadi. Professor Begali qosimov fikri bilan aytganda, Turkiston, Buxoro va Xorazm munavvarlarining yangilikka intilishi, Rossiyada, xususan Kavkaz, Volgabayida yashovchi turkiy xalqlar bilan

yaqinlashishga, hamkorlikka intilish kuchaydi. Panislomizm (islomchilik) va panturkizm (turkchilik) kabi g'oyalar paydo bo'ldiki, Rossiya ichki ishlar vazirligi bunga jim qarab tura olmasdi. Jadidlarning maktablari ochilib, gazetalar chiqarishi ham panislomizmga xizmat qilayapdi deb tushunildi va xokimiyat bu boradagi faoliyatlarga qarshilik ko'rsatishga xarakat qila boshladi.

Buxoro amirligi va Xiva xonligida jadidchilik harakati Turkistondagi kabi XIX asr oxiri XX asr boshlarida shakllangan bo'lsa ham, bu xududlardagi tarixiy sharoit undagi jadidchilik harakatiga xam o'ziga xos xususiyatlar baxsh etdi. Buxoro va Xiva jadidlari ham maorifni isloh etishni, amir va xon xukmronligini cheklash, mavjud tuzum sharoitida islohotlar o'tkazib, jamiyat taraqqiyoti va milliy mustaqillikni qo'lga kiritishni maqsad qilib qo'ygan edilar.

Jadidlarning xalq ma'rifati uchun kurash dasturi uch asosiy yo'nalishda ko'rinadi. 1. Yangi usul maktablarini ochish, ko'paytirish orqali. 2. Turli ma'rifiy jamiyatlar ochish orqali. 3. Umidli iqtidorli yoshlarni chet elga o'qishga yuborish orqali.

Bog'chasaroyda dastlabki jadid maktabini ochgan Ismoil Gaspirinskiy Turkiston general-gubernatori N.O.Rozenbaxga o'lka musulmon maktablarini ham isloh qilishga doir loyihasini yuboradi. Rad javobini olgach, 1893 yil Turkistonga o'zi keladi, Buxoro, Samarqand, Toshkentda bo'lib, taraqqiyparvar ziyolilar bilan uchrashuvlar o'tkazadi. Buxoroda amir Abdulaxadni jadid maktabi ochishga ko'ndiradi. Bu maktabga "Muzaffariya" nomi beriladi.

Shunday qilib, jadidlar tomonidan yangi maktablarga ochish, maktablar uchun darsliklar yaratish jarayoni boshlandi.. "Usuli jadid" maktablarida diniy fanlar va arab tili bilan bir qatorda tibbiyot, hikmat, kimyo, tabobat, nujum, handasa fanlari, rus, fors tillari - jami 17 tagacha fan o'rganilishi shartlari ilgari surildi. 1909 yilda Andijonda Shamsuddin domla, 1901 yilda Qo'qonda Saloxiddin domla, Samarqandda Abduqodir Shakuriylar birinchi bo'lib jadid maktablarini ochadilar

Yangi usul maktablariga asos solgan, darsliklar yaratgan Turkiston munavvarlaridan ba'zilarini ko'rib o'tamiz.

Munavvarqori Abdurashidxonov (1878-1929) - O'rta Osiyo jadidchilik harakatining yo'l boshchisi. XX asr o'zbek milliy matbuoti va yangi usuldagi maktab asoschisi, milliy teatr tashkilotchilaridan biri, adib va shoir edi. U Toshkentda 1901

yilda usuli jadid maktabini ochgan va shu maktablar uchun maxsus o'quv dasturlari tuzgan. Uning "Adibi avval" (1907), "Adib us-soniy" (1907), "Usuli hisob", "Tarixi qavm turk", "Tajvid" (1911), "Havoyiji diniya", "Tarixi anbiyo", "Tarixi islomiya" (1912), "Er yuzi" (1916-1917), to'rt qismdan iborat "O'zbekcha til saboqlari" (Shorasul Zunnun va Qayum Ramazon bilan birga) darsliklari shular jumlasidandir.

Jadidchilik harakatning yana bir yirik vakili - Maxmudxo'ja Behbudiy(1875-1919). Uning tashabbusi bilan Samarqanda yangi usul maktablari ochildi. Adib bu maktablar uchun 1904-1909 yillarda "Risolai asbobi savod", "Risolai jug'rofiyai umroniy", "Risolai jug'rofiyai Rusiy", "Kitobat ul-atfol", "Amaliyoti islom", "Muxtasar tarixi islom" kabi darslik va o'quv qo'llanmalar yozadi.

Abdulla Avloniy (1878-1934) ham jadidchilik harakatining faol ishtirokchilaridan biri bo'lib tanildi. U o'zining zamondosh jadidlari, izdoshlari kabi yangi usul maktablari ochib, ularga o'zi mudarrislik qildi va darsliklar yozdi. Uning "Birinchii muallim", "Ikkinchi muallim", "Turkiy Guliston yoxud axloq", "Maktab gulistoni" singari darslik, "Adabiyot yoxud milliy she'rlar" to'plamlari, ayniqsa, yuqori sinf o'quvchilariga darslik sifatida yozilgan «Turkiy guliston yoxud axloq» asari (1913 yil) mashxo'r bo'ldi.

Xulosa o'rnida Sh.Mirziyoev Oliy Majlisga Murojaatnomalarida aytganidek, biz jadidchilik harakati, ma'rifatparvar bobolarimiz merosini chuqur o'rganishimiz kerak. Bu ma'naviy xazinani qancha ko'p o'rgansak, bugungi kunda ham bizni tashvishga solayotgan juda ko'p savollarga to'g'ri javob topamiz. Bu bebaho boylikni qancha faol targ'ib etsak, xalqimiz, ayniqsa, yoshlarimiz bugungi tinch va erkin hayotning qadrini o'uncha ko'p anglab yetadi.

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OZIQ OVQAT ISHLAB CHIQRISHDAGI ZAMONAVIY FAN YUTUQLARI

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Annotatsiya: Maqolada oziq ovqat ishlab chiqarishning zamonaviy texnologiyalari va unga hissa qo'shga olimlar haqida qisman ma'lumotlar berilgan.

Аннотация: В статье представлена частичная информация о современных технологиях производства продуктов питания и ученых, внесших в это вклад.

Abstract: The article provides partial information about modern technologies of food production and the scientists who contributed to it.

Kalit so'zlar: Oziq ovqat, zamonaviy texnologiya, fermentatsiya texnologiyalari, gibrid texnologiyalar, gibrid texnologiyalar,

Hozirgi oziq ovqatga bo'lgan talabning oshib borishi ko'plab yangi yangi g'oya va tadqiqotlar paydo bo'lishiga hamda olimlar va ishlab chiqaruvchi korxonalarining zamon talabiga mos texnologiyalar bilan hamohang ish olib borishini talab qilmoqda. Oziq ovqatga bo'lgan ehtiyojni qondirishda chorvachilik va parrandachilik alohida ahamiyat kasb etadi. Chorva mollarini hamda parrandalarni boqish, go'sht, tuxum, jun va boshqa bir qancha mahsulotlarni yetishtirish imkoniyatini yaratadi. Chorvachilik mahsulotlaridan oziq-ovqat ishlab chiqarishning zamonaviy texnologiyalari so'nggi yillarda sezilarli darajada rivojlanib, turli innovatsion jarayonlarni o'z ichiga olgan. Ushbu texnologiyalar ishlab chiqarish samaradorligini oshiradi, mahsulotlarning sifatini yaxshilaydi, atrof-muhitni himoya qilishga yordam beradi va iste'molchilarga yangi turdagi tabiiy oziq-ovqatlarni taqdim etadi. Quyida chorvachilik mahsulotlaridan oziq-ovqat ishlab chiqarishda qo'llanilayotgan asosiy zamonaviy texnologiyalarni keltiraman:

1. Fermentatsiya texnologiyalari— mikroorganizmlar yordamida organik moddalarni o'zgartirish jarayonlarini o'rganadigan soha bo'lib, ko'plab mutaxassislar va olimlar bu sohada ishlagan. Fermentatsiya texnologiyalari oziq-ovqat sanoatida, farmatsevtika va biotexnologiyada keng qo'llaniladi. Fermentatsiya jarayonlarining asosiy mualliflari yoki rivojlantiruvchilari quyidagi mashhur olimlar va ularning tadqiqotlari bilan bog'liq: **Louis Pasteur (1822-1895)** – Fransuz mikrobiologi, kimyogar va immunolog. Pasteur mikroorganizmlar (bakteriyalar, zamburug'lar) fermentatsiya jarayonlarida asosiy rol o'ynashini aniqlagan va fermentatsiyaning

mikrobiologik asoslarini tadqiq qilgan. U "pasteurizatsiya" jarayonini ishlab chiqdi, bu esa ko'plab oziq-ovqat mahsulotlarini, shu jumladan, ichimliklarni uzoq vaqt davomida saqlash imkonini berdi.

Eduard Buchner (1860-1917) – Germaniyalik kimyogar, fermentatsiya jarayonlarini o'rganishda katta hissasi bor. U fermentlar yordamida organik moddalarni parchalanishiga yo'l ochgan va fermentatsiya jarayonini in vitro (tashqi sharoitda) o'rganish imkoniyatini yaratgan. 1907 yilda u fermentatsiyaning kimyoviy asoslarini aniqlash uchun Nobel mukofotini oldi.

Karl Ereky (1878-1952) – Avstriyalik biokimy olimi, fermentatsiya texnologiyalarining rivojlanishida muhim rol o'ynagan. U, shuningdek, mikroorganizmlarning qishloq xo'jaligi mahsulotlarini fermentatsiya qilish jarayonlarini ilmiy asoslab berdi. Fermentatsiya texnologiyalari ilm-fanida yana ko'plab olimlar va tadqiqotchilar, shu jumladan biotexnologlar, mikrobiologlar va kimyogarlari ishlagan. Ularning tadqiqotlari va ishlanmalari fermentatsiya jarayonlarini optimallashtirish, yangi mikroorganizmlar va fermentlar aniqlash, shuningdek, fermentatsiya mahsulotlarini sanoat miqyosida ishlab chiqarish imkoniyatlarini oshirishga qaratilgan. Fermentatsiya jarayonlari oziq-ovqat mahsulotlarini ishlab chiqarishda keng qo'llaniladi, chunki ular mahsulotning ta'mini yaxshilash, yangi foydali mikroorganizmlar qo'shish va mahsulotning saqlash muddatini uzaytirishda yordam beradi. Misol uchun:

Yog'li sut mahsulotlari: Sutdan qatiq, pishloq, qaymoq va boshqa mahsulotlar ishlab chiqarishda bakteriyalar yordamida fermentatsiya jarayonlari amalga oshiriladi.

Go'sht va go'sht mahsulotlari: Go'shtni turli xil mikroblar bilan fermentatsiya qilish orqali yangi turdagi go'sht mahsulotlari (masalan, salami, kolbasa) ishlab chiqariladi.

Yuqori texnologiyali go'shtni qayta ishlash-Yuqori sifatli go'sht mahsulotlarini ishlab chiqarish uchun ishlatiladigan texnologiyalar:

Vacuum-paketlash: Go'shtni vakuumda saqlash texnologiyasi uning saqlash muddatini uzaytiradi va bakteriyalarning tarqalishini oldini oladi.

Infratuzilmaviy texnologiyalar: Go'shtni yuqori haroratda tezda isitish va sovutish orqali go'shtning sifatini yaxshilash mumkin.

Go'shtni quritish (degidratatsiya): Go'shtning suv miqdorini kamaytirish orqali uzoq muddat saqlanishini ta'minlash uchun ishlatiladi.

Suyuq ozuqa va oqsil ishlab chiqarish

Chorvachilikdan olingan suyuq mahsulotlar va oqsillar turli oziq-ovqat mahsulotlari ishlab chiqarishda qo'llaniladi:

Suyuq sut mahsulotlari: Ular orqali yogurt, pishloq, smetana va boshqa mahsulotlar ishlab chiqariladi.

Go'sht va sut oqsillari: Oqsillarni ajratib olish texnologiyalari yordamida yirik oziq-ovqat sanoati uchun yuqori proteinli mahsulotlar (masalan, oqsil kukuni) ishlab chiqariladi.

Gibrid texnologiyalar va GMO (Genetik modifikatsiya qilingan organizmlar) sohalari ilmiy tadqiqotlar va amaliyotlar uchun juda muhim bo'lib, ko'plab olimlar va tadqiqotchilar bu yo'nalishda ishlagan. Ushbu texnologiyalarni rivojlantirishda asosiy ilmiy yutuqlarni amalga oshirgan ba'zi mualliflar va ularning ishlari quyidagicha: Gibrid texnologiyalar turli organizmlar yoki tizimlarning kombinatsiyasi yordamida yangi, yaxshilangan turlarni yaratishga qaratilgan. Bu sohada genetika, biotexnologiya va biokimyoh sohalarida ilmiy ishlanmalar mavjud. Gibrid texnologiyalari ko'pincha qishloq xo'jaligi va oziq-ovqat sanoatida yangi o'simliklar yoki hayvonlarni yaratish uchun ishlatiladi.

George Washington Carver (1864–1943) – U gibridlashtirish texnologiyalariga katta hissa qo'shgan va qishloq xo'jaligi mahsulotlarini rivojlantirishda o'zgarishlar yaratgan.

Norman Borlaug (1914–2009) – U "Yozgi yashil inqilob"ning asosiy arbobi sifatida tanilgan. Borlaug gibridlashtirish texnologiyalari yordamida yuqori hosil beruvchi bug'doy turlarini yaratdi, bu esa dunyo bo'ylab ozuqa ta'minoti muammolarini hal qilishga yordam berdi.

Genetik modifikatsiya qilingan organizmlar (GMO) lar — bu tabiiy seleksiya yoki gibridlashtirish usullari bilan o'zgartirilgan o'simliklar, hayvonlar yoki mikroorganizmlardir. Ular inson tomonidan mo'ljallangan xususiyatlarni olish uchun genetik materialni manipulyatsiya qilish orqali yaratiladi.

Mualliflar va tadqiqotchilar: Herbert Boyer (1936-yilda tug'ilgan) – Boyer, 1970-yillarda, genetik modifikatsiya texnologiyalarini rivojlantirishda asosiy rol o'ynagan ilmiy tadqiqotchi. U, **Stanley Cohen** bilan birgalikda, genetik injiniringning birinchi yirik yutuqlarini amalga oshirdi, bu usul o'simliklar va hayvonlar genomlarini o'zgartirishga imkon berdi.

Richard J. Roberts (1943-yilda tug'ilgan) – U, **Phillip A. Sharp** bilan birga, genetik modifikatsiya qilish texnologiyalarini rivojlantirishga katta hissa qo'shdi va 1993 yilda Nobel mukofotiga sazovor bo'ldi. Ularning tadqiqotlari DNK ning tuzilishi va uning o'zgarishini o'rganishga bag'ishlangan edi. **Paul Berg (1926-yilda tug'ilgan)** – Paul Berg, genetik modifikatsiya qilingan organizmlar (GMO) yaratishda bosh qahramonlardan biridir. 1972-yilda u birinchi transgenik organizmni yaratdi, bu esa genetik injiniringning rivojlanishida hal qiluvchi omil bo'ldi. Bu ilmiy ishlanma biologik fanlarning yangi bosqichiga olib keldi. Gibrid texnologiyalar va GMOlar o'simliklarning sifatini yaxshilash, ularning kasalliklarga chidamliligini oshirish, hosilni ko'paytirish, va oziqlanish xususiyatlarini yaxshilash maqsadida qo'llaniladi.

Bu texnologiyalar yordamida yangi turdagi o'simliklar, masalan, pestitsid va gerbisidga chidamli o'simliklar yaratilgan, shuningdek, GMO hayvonlar va mikroorganizmlar ham ishlab chiqilgan. GMO va gibridd texnologiyalari ko'plab ilmiy munozaralarni keltirib chiqargan bo'lsa-da, ular qishloq xo'jaligi, biotexnologiya va tibbiyotda katta yutuqlarga erishishga imkon yaratdi. Gibridd mahsulotlar va genetik jihatdan o'zgartirilgan organizmlar (GMO) yordamida yangi turdagi go'sht va sut mahsulotlari ishlab chiqariladi.

Xulosa

Chorvachilik mahsulotlaridan oziq-ovqat ishlab chiqarish texnologiyalari hozirda yuqori samaradorlik va sifatni ta'minlashga qaratilgan. Fermentatsiya, yuqori texnologiyali qayta ishlash, gibridd mahsulotlar va yangi ishlab chiqarish usullari yordamida oziq-ovqat sanoatida yangi innovatsiyalar va ehtiyojlarga mos keladigan mahsulotlar yaratilmoqda. Bu esa nafaqat oziq-ovqatni sifatli va arzon qilish, balki sog'lomlashtirish va atrof-muhitni himoya qilishga ham yordam beradi. Biroq biz yuqorida aytib o'tilgan barcha texnologiyalarni mutloq foydali deya olmaymiz, avvalo har qanday yangi texnologiya inson salomatligi uchun bezarar bo'lmog'i lozim. Oziq ovqat mahsulotlarini ishlab chiqarishda mahsulot tabiiyligini saqlab qolish eng muhim va dolzarb muammoligicha saqlanib qolmoqda.

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О'ТКИР HOSHIMOVNING "URUSHNING SO'NGGI QURBONI" ASARIDA QAHRAMONLAR XARAKTERI.

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Annotatsiya: Urushning so'nggi qurboni asari bosh mavzu sifatida urush va uning yomon oqibatlarini ochib berilgan. Ushbu asarda urush barcha insoniyatni sinagani va deyarli, barcha insonlar boshidan o'g'ir kunlar o'tgani shu bir oila misolida ko'rsatib berilgan. Sinovlar shunchalik qattiq bo'lganki, jigarlar bir-birlarining, bolalar ota-onalarining holidan xabar olishmay qo'ygan. Asarda barcha insonlar sharoiti o'g'irligini, asar boshida birgina dasrurxon tasvirida yaqqol ko'rishimiz mumkin. Bu asarda barcha insoniyatni hech qachon unutib bo'lmas qora kunlari ochiqdan ochiq ifodalangan. Eng qayg'uli va og'riqli holat farzand o'z onasining qotiliga aylanganligi. Albatta, hech qaysi inson dushmaniga ham bunday kunni ravo ko'rmaydi. Lekin urush insonlarni tasavvuriga siqmagan yomon voqealarni olib keldi.

Kalit so'zlar: O'tkir Hoshimov, hikoya, urush, Shoikrom, qulupnay, Umri xola, badiiy adabiyot, an'ana va qadriyat, milliy g'oyalar, yozuvchi, darlik, ta'lim tizimi..

Bugungi kunda O'tkir Hoshimov asarlari eng o'qishli, eng ommabop kitoblar sifatida xalq orasida qo'lma-qo'l o'qilayotir. Boisi tilining xalqonaligi, qahramonlari va xarakterlarning milliyliigi, voqealarning hayotiyliigi o'quvchilar mehrini qozongan. Uning asarlari urush davri voqealarini ko'rsatadi, muallifning har bir asarida insonparvarlik, mehnatsevarlik aks etirilgan.

O'tkir Hoshimov katta iste'dod egasi edi. Adib - o'ndan ortiq roman va qissa, ko'plab ta'sirchan hikoyalar, bir necha sahna asarlari muallifi. U dastlabki yirik asari bilanoq ulkan adibimiz Abdulla Qahhorning nazariga tushgan, undan «Sof, samimiy, tabiiy, iliq, rohat qilib o'qiladigan asar» yozgani uchun maqtov olgan yozuvchidir. O'tkir Hoshimov 1941-yil 5-avgustda Toshkentning Do'mbirobod mahallasida tug'ilgan. O'quvchilik chog'laridayoq ijod bilan shug'ullangan. Dastlabki kitobi esa talabalik yillarida chop etilgan. Adib asarlarining hayotiyliigi, o'quvchiga tez ta'sir etishi uning tarjimayi holi bilan bog'liq. Darhaqiqat, yozuvchi yoshligidan ijodiy ishni amaliy mehnat bilan barobar olib borgan. Uning hayot yo'lga diqqat qiladigan bo'lsak, nashriyotda xat tashuvchi, musahhih, muxbir, gazetada bo'lim mudiri, nashriyotda va jurnalda bosh muharrir bo'lib ishlaganini ko'ramiz. Adibning «Urushning so'nggi

qurboni», «Muhabbat» kabi ko'plab hikoyalari, «Odamlar nima derkin?», «Shamollar esaveradi», «Ikki karra ikki - besh», «Bahor qaytmaydi», «Dunyoning ishlari» qissalari, «Nur borki, soya bor», «Ikki eshik orasi», «Tushda kechgan umrlar» nomli romanlari mamlakatimizda va chet ellarda sevib o'qilmoqda..

Urushning so'nggi qurboni asari bosh mavzu sifatida urush va uning yomon oqibatlarini ochib berilgan. Ushbu asarda urush barcha insoniyatni sinagani va deyarli, barcha insonlar boshidan o'g'ir kunlar o'tgani shu bir oila misolida ko'rsatib berilgan. Sinovlar shunchalik qattiq bo'lganki, jigarlar bir-birlarining, bolalar ota-onalarining holidan xabar olishmay qo'ygan. Asarda barcha insonlar sharoiti o'g'irligini, asar boshida birgina dasrurxon tasvirida yaqqol ko'rishimiz mumkin. Bu asarda barcha insoniyatni hech qachon unutib bo'lmas qora kunlari ochiqdan ochiq ifodalangan. Eng qayg'uli va og'riqli holat farzand o'z onasining qotiliga aylanganligi. Albatta, hech qaysi inson dushmaniga ham bunday kunni ravo ko'rmaydi. Lekin urush insonlarni tasavvuriga siqmagani yomon voqealarni olib keldi.

Barchamiz bilamizki, 1941-1945 yillar oralig'ida nafaqat bizning yurtda balki, dunyoning barcha mamlakatlarida og'ir judolik bo'ldi. Bu urush qanchadan qancha insonlarni yostig'ini quritdi, qanchadan qancha bolalarni yetimga aylantirdi, qanchadan qancha yuzlar bu urush yillarida tabassum nimaligini unitdi, hatto qarindoshlar bir-birlaridan yuz o'girishga majbur bo'ldi. Shunday qilib, bu urush insonlarni yetti uxlab tushiga kirmagan falokatlarni dlib keldi. Mashhur o'zbek yozuvchisi O'tkir Hoshimov aynan mana shu barcha insonlarning og'riqli nuqtasi bo'lmish, urush mavzusida o'zining mashhur "Urushning so'nggi qurboni" asarini yozdi. Urush haqida o'zbek va jahon adabiyotida misli ko'rilmagan darajada ko'p. she'rlar, romanlar, hikoyalar va qissalar yozilgan. Lekin ularning ichida O'tkir Hoshimovning "Urushning so'nggi qurboni" hikoyasi o'zgacha o'rin tutadi. "Urushning so'nggi qurboni" asarida obrazlar portreti ham o'ziga xosdir. "Urushningso'nggi qurboni" asari bir-biriga o'xshamas xarakterli qahramonlardan tashkil topgan. Barcha obrazlarning o'z tashvishlari, o'y-fikrlari, qiyinchiliklari mavjud. Lekin bu insonlarni barchasini g'am-qayg'ulari ildizida urush yotadi. Baxtdan tabassum qilishdan to'xtamaydigan yuzlarga, qaytib kulishiga izn bermagan, bir kunda qora sochlarni oqartirgan-urush. Bu asar qahramonlari ham urush bo'lishini va guldek oilalariga putur yetishini hech o'ylab ko'rishmagan. Asar boshlanishi ham asarning voqealar rivoji qanday bo'lishi haqida bir oz ma'lumot berilgan. Asarning boshidayoq salbiy holatlar tasvirlangan, barcha narsalar asardagivoqealar rivoji ijobiy ketmasligiga ishora qilardi. Asardagi bosh qahramonlar Shoikrom, Shone'mat, Umri xola va Xadicha. Shoikromoilaning katta farzand bo'ladi. Shone'mat bo'lsa oilaning kichik farzandi ya'ni Shoikromning ukasi bo'ladi. Xadicha Shoikromning xotini Umri xola esa Shoikromning onasi bo'ladi. Shoikromning otasi erta olamdan ko'z yumgan va Shone'matni Shoikrom va Umri xola ikkasi katta

qilishgan. Urush boshlanganda barcha oiladan erkaklarni urushga olib ketishgan. Lekin bu oiladan hech kim urushga bormagan. Shoikromni to'qimachilik kombinatida montyor yetishmasligi sababli olib qolishdi. Shone'mat bo'lsa sil kasaliga chalinganligi sababli urushgajo'natilmadi. Qarangki, urush shuncha uzoqda bo'lsa ham uning sovug'i bu oilaga ham kirmasdan qoladi. Qimmatchilik, qahatchilik sababli xalq och qoldi o'g'rilar ko'paydi. Xattoki, odam o'ldirib uyidagi narsalarini olib chiqib ketadigan odamlar ham paydo bo'ldi. Bu urush qanchadan qancha odamlarni yer qarida olib ketdi va yana qanchadan qancha odamlarni iymonini o'ldirdi. Urush paytida har bir inson o'zini o'ylaganligini shu asar orqali yaqqol ko'ramiz. Shunchalik darajada insonlar imkonsiz qolganki, o'z yaqinlaridan yuz o'girish darjasiga ham borishgan. Bu juda achinarli holat lekin bu ishlar uchun u insonlar ham aybdor emas. Barchasiga urush aybdor-Urush!!!

Urush! Noming o'chsin jahonda,

Hamon bitmas sen slogan alam.

Sen tufayli ko'p xonadonda

Ota nomli buyuk shodlik kam.

Xadicha o'zi qurumsoq bo'lgan urush boshlangan keyin yanada bu hislati oshdi deb tariflangan. Lekin o'ylab qarajak ona bo'lish osonmi uch bolani boqish kerak ayniqsa urush yillarida. Bu asarda Umri xola obrazi orqali yozuvchi barcha xokisor, mehribon onalarni tariflab bergan. Shone'mat o'lishini bilsada bolasi uchun jon-jahdi bilan kurashadi. Uni tuzalib ketishi uchun kim nima desa sinab ko'radi. Umri xolani birdan bir niyati o'g'lini yana sog'lom ko'rish edi. Lekin urush tufayli oziq ovqat tanqis edi. Umri xola o'g'lini tuzalishi uchun Shoikromning xovlisidagi qulupnayni qo'y sutiga almashtira boshlaydi. Oziq-ovqat kam paytda barcha o'z oilasini, bolalarini o'ylaydi. Shoikrom ham ataylab emas, jahl ustida qulupnay ariqchasiga tok simini tashlab qo'yadi. Shoikrom ham shu nasibamizdan ayrilib qolmaylik degan maqsadda bu ishni amalga olishadi. Ming asfuslar bo'lsinki, Shoikrom o'z onasini qotiliga aylanadi. Bu ne ko'rgulik. Eh urush, qanchadan qancha insonlarni hayotiga abadiy zulmatni olib kirdi! O'z jigaridan xabar olmay qo'gan aka-ukalar, o'zlari bilmagan holda ota-onalarini o'lishiga sababchi bo'lgan bolalar, yoki yaqin insonlari ko'z ongida jon bergan insonlar tasvirlangan bu asarda. Abatta, ushbu asar urush haqidagi tasavvurlardan xamir uchidan patir. Aslida bundan ham daxshatli qanchadan qancha voqealar ro'y bergan." Asarda qiyinchilik inson ma'naviyatini sinovdan o'tkazish vositasi ekanligining ko'rsatilganligi. Hikoyada urush yillarining haqqoniy

tasvirlanganligi. Yo'qchilik onani boladanm og'ani inidan sovutganligining ta'sirchan ifodalanganligi. Asl odam har qanday sharoitda ham ma'naviy pokligicha qolishining tasvirlanganligi. Hikoyadagi Shoikrom, Shone'mat, Hadicha va Umri xola obrazlariga xos xususiyatlarning yorqin aks etganligi".elakdan o'tkazdi. Kimdir bu sinovlardan o'ta olmadi, kimdir bu sinovlardan o'ta oldi.

Xulosa qilib aytganda **O'tkir Hoshimovning "Urushning so'nggi qurboni" hikoyasining mazmuni.** Urushning so'nggi qurboni asari urush va uning yomon oqibatlarini ochib berilgan. Ushbu asarda urush barcha insoniyatni sinagani va deyarli, barcha insonlar boshidan o'g'ir kunlar o'tgani shu bir oila misolida ko'rsatib berilgan. Sinovlar shunchalik qattiq bo'lganki, jigarlar bir-birlarining, bolalar ota-onalarining holidan xabar olishmay qo'ygan. Asarda barcha insonlar sharoiti o'g'irligini, asar boshida birgina dast urxon tasvirida yaqqol ko'rishimiz mumkin. Shuningdek asar juda mazmunli va ta'sirli hisoblanadi.

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BO'LAJAK O'QITUVCHILARNING IJODIY FAOLLIGINI TA'MINLOVCHI KASBIY KOMPETENSIYALARNI RIVOJLANTIRISH MEXANIZMLARI

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Annotatsiya. Mazkur maqolada bo'lajak o'qituvchilarning ijodiy faolligini ta'minlovchi kasbiy kompetensiyalarni rivojlantirish mexanizmlari hususida ayrim fikr-mulohazalar bayon etilgan. Shuningdek maqolada, kompetensiya, kasbiy kompetensiya, ijodiy faollik tushunchalari hususida ham mulohazalar bayon etilgan.

Kalit so'zlar. Kompetensiya, kasbiy kompetensiya, ijodiy faollik, rivojlanish, ta'lim jarayoni, mahorat, munozara.

МЕХАНИЗМЫ РАЗВИТИЯ ПРОФЕССИОНАЛЬНОЙ КОМПЕТЕНТНОСТИ, ОБЕСПЕЧИВАЮЩИЕ ТВОРЧЕСКУЮ ДЕЯТЕЛЬНОСТЬ БУДУЩИХ УЧИТЕЛЕЙ

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Абстрактный. В данной статье представлены некоторые мнения о механизмах развития профессиональных компетенций, обеспечивающих творческую деятельность будущих учителей. Также в статье содержатся комментарии к понятиям компетентности, профессиональной компетентности и творческой деятельности.

Ключевые слова. Компетенция, профессиональная компетентность, творческая деятельность, развитие, учебный процесс, умение, обсуждение.

PROFESSIONAL COMPETENCE DEVELOPMENT MECHANISMS ENSURING CREATIVE ACTIVITY OF FUTURE TEACHERS

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Abstract. This article presents some opinions on the mechanisms of development of professional competencies that ensure the creative activity of future teachers. Also, the article contains comments on the concepts of competence, professional competence, and creative activity.

Keywords. Competence, professional competence, creative activity, development, educational process, skill, discussion.

Kirish. Zamonaviy sharoitlarda mehnat bozori talablariga mos ravishda o'quvchilarni kasbiy tayyorlash sifatini oshirish vazifasi qo'yilyapti. Shu munosabat bilan pedagoglar kasbiy – pedagogik faoliyatining yangi mazmunini ishlab chiqarish ularning yangi ta'lim holatlari talab qilayotgan innovatsiyalarni o'zlashtirish va qo'llashga tayyorligini qo'llab-quvvatlash ko'zda tutilgan. Mutaxassislarni tayyorlashdagi maqsad va vazifalar o'zgaryapti, malakalarni shakllantirish uchun bilimlarni o'zlashtirishga urg'u berilyapti, shaxsiy yo'naltirilgan holda o'qitishga qayta moslashish sodir bo'lmoqda.

Kasbiy ta'limni isloh qilish va ta'lim jarayonida zamonaviy pedagogik texnologiyalardan foydalanish talabning ijodiy, intellektual, ma'naviy rivojlanishining muhim shartidir. Aynan rivojlanish pedagogik jarayonning asosiy tushunchasidir. Shu munosabat bilan kasbiy ta'lim nafaqat bilim berish, ko'nikma hosil qilishi kerak, balki o'z – o'zini aniqlash imkoniyatlarini rivojlantirish, bo'lajak mutaxassislarni mustaqil harakatlarga tayyorlash, mas'uliyatni his qilishni o'rgatishdir.

Adabiyotlar tahlili va metodologiya. Shaxs ta'limi va tarbiyasining asosiy vazifalariga o'rganuvchilarning shaxsiy potentsiallarini rivojlantirish, tub madaniyatni tarbiyalash vazifalari kiradi. Ijodiy potentsial shaxsiy potentsialning tarkibiy qismidir. Uni rivojlantirishda o'quv predmeti bo'lgan qiziqish, intellektual rivojlanish darajasi, izlanish xarakteridagi vazifalarni bajarishga qiziqish, mustaqil fikrlash darajasi yuksaladi va o'ziga ishonch, qiziquvchanlik va e'tiqod kabi xususiyatlar shakllanadi. O'quvchilarning ijodiy potentsiali turli xil vazifalarni hal qilish jarayonida rivojlanadi. Ijodiy vazifani biz o'zining yechimi uchun yangi usullarni izlashni qandaydir yangi texnologiyalarni yaratishni talab qiladigan muammo sifatida inson tomonidan qabul qilinadigan kundalik hayotda yoki faoliyatning xohlagan shaklida paydo bo'lgan holat sifatida aniqlaymiz [1].

Tahlil va natijalar. Bo'lajak o'qituvchilar kasbiy kompetensiyasida ijodiy potentsial rivojlanishi uchun ularda o'z kuchiga, ijodiy vazifalarni hal qila olish malakasiga ishonchni shakllantirish zarur. O'ziga ishonmagan odam muvaffaqiyatga erisha olmaydi. Albatta bu ishonch asosli bo'lishi kerak. O'quvchilarning maqsad vazifalar va ularni hal qilish vositalarini mustaqil tanlashga bo'lgan harakati yo'naltirilishi kerak. Mustaqil faoliyat ko'rsatishga odatlanmagan, qaror qabul qilishda masuliyatni olishga o'rganmagan kishi ijodiy faoliyat malakasini yo'qotadi.

Bugungi kunda tashkilotchilik, ijodiy faollik, tashabbuskorlik qobiliyatlariga ega bo'lgan, innovatsion muhitni yarata oladigan mutaxassislar kamyob hisoblanadi. Shuning uchun, o'quv jarayoni va darsdan tashqari faoliyatda ijodiy faollik va ijodiy

talablarni shakllantirish, shu bilan birga talabalarning ijodiy potensialini qo'llash imkoniyatlarini taqdim qilish zarur. Ijodiy faollik mazmuni – turli vazifalarga nisbatan ijodiy munosabat; atrof-dagilar va o'z hayotini boyitish talablari; atrof–muhitni mukammallashtirishga bo'lgan harakat, imkoniyatlar va shaxsiy qobiliyatlarni ochish.

Ijodiy potentsial – shaxsning ijodiy imkoniyatlari xilma–xilligi va miqyosidir. Ba'zan o'z ijodini xilma–xillashtirish va avvalgi ijodiy ishlarga umuman o'xshamagan nimadir yaratishni istab qolasan. Talabalarga o'z ijodini qanday rang-baranglashtirish, ijodiy potensialni oshirish: o'zining sevimli ishidan chalg'ish, ishiga bog'liq bo'lmagan nimanidir o'rganishni boshlash. Yangi ishtiyoqni o'z didiga qarab tanlash mumkin, asosiysi u yoqsin. Shunda yangi “ishtiyoq” eskisi bilan ajoyib shakllarda birlashadi. Yangi ko'nikmalar shakllanadi, maishiy tajriba boyiydi va ijodiy potensial ko'payadi. Shuning uchun aynan yangi qiziqish ijodiy potensialni o'stiradi va shaxs ruhini kamolga yetkazadi

Ijodning deyarli barcha ko'rinishlari talabalarga o'zini namoyon qilish, ta'limda mustaqil innovatsion faoliyat ko'nikmalarini olish va mukammallashtirish imkoniyatlarini beradi. Ilmiy ijod talabani yangi, yanada chuqur bilimlar, ma'lumotni topish va undan oqilona foydalanish malakasi bilan boyitadi, yangi bilimlarni yaratish sohasida o'zini namoyon qilish imkoniyatini beradi. Badiiy ijod san'atning u yoki bu turi bilan muloqot qilish, o'ziga bo'lgan ishonchning cheksiz imkoniyatlarini beradi. Ijodiy faoliyatning barcha turlari talabalarning innovatsion yo'naltirilgan shaxsini shakllantirish uchun juda muhim bo'lgan mustaqil va erkin fikrlash, fikrini bildira olishga asoslangan. Shunday qilib, talabalarning ijodiy qiziqishlarini hisobga olib va ijodiy faolligini shakllantirib, oily va o'rta maxsus ta'limda mutaxassislarni tayyorlash sifatini oshiradi, ijtimoiy ishlab chiqarish jarayonida raqobatbardoshlik va natijalilikni ta'minlaydi.

Zamonaviy sharoitlarda o'qituvchi va talaba munosabati xarakteri sifat jihatdan o'zgardi. Talaba nafaqat ta'lim ob'yekti, balki bu jarayonning subyekti, pedagog esa uning tashkilotchisi bo'ladi. Hodisalarni tushunish uchun nazariy bilimlarga o'rgatishdan ta'lim olish davomida to'plangan ko'nikmalarni egallash va hayotda qo'llashga o'tilyapti. Bo'lajak mutaxassislarning ijodiy imkoniyatlarini rivojlantirish, ta'limning faol usul va shakllariga asoslangan mustaqil ishlar ko'nikmalarini rivojlantirish bo'yicha vazifalar qo'yilyapti.

Ta'limning faol zamonaviy usul va shakllariga ta'limning maxsus vositalari yordamida vazifalar tizimi orqali turli mustaqil faoliyat turlariga talabalarning maksimal jalb qilinishini maqsad qilgan yondashuv asos bo'ladi. Ta'limda o'quv fanlarini o'rganish jarayonida faol shakl va usullardan foydalangan holda ta'limni tashkil etishning quyidagi shakllaridan foydalaniladi:

Muammoning qo'yilishi. Mos kelgan metodik usullar yordamida (axborot va muammoli savollar, hosil bo'lgan farazlarni isbotlash yoki aksi) o'qituvchi talabalarni birgalikda fikrlashga, muhokamaga undaydi. Bu o'quvchilarni fikrlashini shakllantiradi, faollikka chaqiradi. O'qituvchi bilan hamkorlikda talabalar yangi bilimlarni o'zlashtiradilar, o'z kasblarining nazariy va amaliy xususiyatlarini biladilar.

Ma'ruza-munozara. Ma'ruza materialini o'qituvchi va talabalarining o'zaro fikr almashishi shaklida bayon qilish bilan boshlanadi va bu o'zlashtirish faoliyatini faollashtirishga imkon beradi.

Ma'lumotli savollar. Muammoli va ma'lumotli savollar yordamida fanning qonuniyatlari va prinsiplari o'zlashtiriladi, talabaning individual xususiyatlari rivojlanadi, talabalarining mustaqil va o'quv-bilish faoliyati faollashadi. Talabalarda ega bo'lgan bilimlarni aktuallashtirish maqsadida tavsiya qilinadi.

Multimedia taqdimotlari. Vizual ma'lumotlar shaklida ta'limning texnik vositalari (sxemalar, rasmlar, fotosuratlar) yordamida taqdim qilinadi. Ular yordamida talabaning individual xususiyatlari, o'quv-bilish faoliyati, yuqori faollik darajasi shakllanadi. Ishning noan'anaviy shakllari "master-klasslar", "ijodiy ustaxonalar", "dumaloq stollar" talabalarga erkin shaklda o'zlarining takliflarini bildira olish, ijodiy loyihalarni himoya qilish imkoniyatini beradi

Ijodiy fikrlashni rivojlantirish uchun vazifalarni hal qilishning maxsus evristik usullariga o'rgatish foydali hisoblanadi. Aynan shaxs rivojlanishining aktuallashtirish resurslari, ochilishi, hayotiy motivlarni tasdiqlash, faoliyatni o'rnatishning kreativ shakllanishiga yo'naltirilgan evristik ta'lim ta'limning asosiy maqsadini bajaradi. Ta'lim oluvchilarning ijodiy rivojlanishining asosiy sharti o'qituvchi bilan hamkorlikdagi ilmiy faoliyatdir. Bu faqat hal qilinayotgan topshiriqning javobini talaba ham, o'qituvchi ham bilmagan holda amalga oshirilishi mumkin. Bu sharoitlarda topshiriq o'quv muammosidan real ilmiy yoki ishlab chiqarish muammosiga aylanadi va bu ijodiy faoliyatni boyitadi va kuchaytiradi. Maishiy, raqobatlashish, o'zini namoyon qilish motivlari muhim ahamiyatga ega. Bu motivlarni aktuallashtirish va ichki motivatsiyani shakllantirish uchun o'qituvchining talaba bilan hamkorlikdagi faoliyatga shaxsiy yondashuvi muhim o'rin tutadi [2].

Ta'lim jarayonida interaktiv ta'lim texnologiyalari: muammolimodul texnologiya, loyiha metodi, informatsion texnologiyalardan foydalaniladi. Bu o'quv jarayonida o'qituvchi konsultant sifatida, talaba esa faol izlanuvchi sifatida qatnashadi. Ikkalasi ma'lumotlarni izlash, saqlash va qayta ishlash jarayonida yangi mahsulotlarni yaratib hammualliflarga aylanishadi. O'quv jarayoni muvaffaqiyatli bo'lishi uchun talabalarining mustaqil ishlari (ilmiy, ijodiy, izlanish) bukletlar, taqdimotlar, namunaviy konspekt ishlanmalari, sxemalar, grafiklar, tablitsa ko'rinishidagi namunalari kiritiladi. Talabalarga ijod va o'zini namoyon qilish erkinligi beriladi,

shining uchun hamma izlanish faoliyatida mustaqil bo'lishga harakat qilishadi. Masalan: Internetdan texnologik ma'lumotlar va na'munalar tanlashda, materialni mavzu va bo'limlar bo'yicha tartiblash uchun terminologik lug'atlarni shakllantirishda.

Xulosa. Bo'lajak o'qituvchilar bilan ishlash amaliyoti tufayli boy material va undan foydalanish imkoniyati o'zlashtirildi. Alohida o'quv predmetlari bo'yicha metodik komplekslar tuzildi, ulardan o'quv jarayoniga faol foydalanilayapti: ma'ruzalarning elektron variantlari, amaliy mashg'ulotlar o'tkazish uchun uslubiy ishlanmalar, imtihonlarni o'tkazish uchun materiallar, nazorat va o'zo'zini nazorat uchun test topshiriqlari. Shunday qilib, boshlang'ich va o'rta kasbiy ta'limning ta'lim jarayonida zamonaviy pedagogik texnologiyalardan, ta'limning innovatsion usullaridan foydalanish bo'lajak mutaxassislarni kasbiy tayyorlash sifatini oshirish imkonini beradi, ulanning raqobatbardoshligini, jamiyat hayotidagi faol ishtirokini ta'minlaydi.

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XALQ TABOVATI RIVOJIDA ABU ALI IBN SINO ILMIY MEROSINING O'RNI

O'ralova N.U.

Jizzax DPU Tabiiy fanlar fakulteti

Zoologiya va anatomiya kafedrasida o'qituvchisi

Rezyume; Ushbu maqolada Ibn Sinoning jahon madaniyati yutuqlari ta'sirida shakllangan ilmiy merosi, uning tibbiyot sohasidagi asarlari va asarlarining jahon tibbiyotini takomillashtirishga ta'siri haqida fikr yuritiladi.

Резюме. В данной статье размышляется научное наследие Ибн Сины, сформировавшееся под влиянием мировых культурных достижений, а также влияние его трудов и трудов в области медицины на совершенствование мировой медицины.

Resume. This article reflects on Ibn Sina's scientific heritage, which was formed under the influence of world cultural achievements, and the influence of his works and works in the field of medicine on the improvement of world medicine.

Qadim qadimdan O'rta Osiyo xalqlari asrlar davomida boy o'ziga xos madaniyatni yaratdilar. Bu madaniyatni G'arbiy Sibir, Sharqiy Yevropa, Kavkaz, Eron, Hindiston, Janubi-G'arbiy Osiyo aholisi madaniyatining o'zaro ta'siri natijasi sifatida baholash mumkin. Mazkur uyg'unlashuvi oqibatida mintaqada o'ziga xos va betakror madaniyat qaror topgan.

Mazkur noyob hodisa Ibn Sinoning ilmiy merosida yaqqol ko'rinadi. Ibn Sino ilg'or tafakkur namoyandasi sifatida ilmiy taraqqiyotni qo'llab-quvvatlovchi va tezlashtiradigan falsafiy tizimga intildi. Ibn Sinoning nazariy merosini bir butun sifatida baholashda undagi diniy tushunchalar hal qiluvchi ahamiyatga ega emas. Ibn Sino ilmiy merosida bizni, birinchi navbatda, u islomning idealistik an'analari yukini qay darajada yengib, rasmiy din va ilohiyotning majburiy ko'rsatmalaridan chetga chiqib, ilmiy dunyoqarashning kelajakdagi muvaffaqiyatiga yo'l ochganligi qiziqtiradi. o'yladi. Ibn Sinoning dunyoqarashiga ham ana shu pozitsiyalardan kelib chiqib qarash kerak.

Ibn Sino tabiatshunoslik asarlarida faktlarni aniq kuzatishni talab qiladi. Ibn Sino tajribalar paytida yuzaga kelishi mumkin bo'lgan xatolar ehtimolini ko'rsatadi. Tajribani amaliyot mezoni sifatida Ibn Sino ataylab qo'llaydi, u ilmiy tajribalarning tabiatdagi tabiiy jarayonlarning borishiga mos kelishini talab qiladi.

Ibn Sino tajribani amaliyot mezoni sifatida qo'llasi natijasida Sharqda ham, G'arbda ham eng mashhur asari "Tib qonunlari" asari yuzaga keldi. Mazkur asar birinchi marta 1433 yilda Venetsiyada nashr etilgan fundamental asaridir. "Tib qonunlari" yaxshi rivojlangan anatomiya, fiziologiya, diagnostika, terapiya, jarrohlik, farmakologiya va profilaktikani o'z ichiga oladi. "Tib qonunlari"da kasallikning sabablari va belgilari haqidagi ma'lumotlar tizimli tarzda bayon etilgan. Shuni ta'kidlash kerakki, Ibn Sino kasalliklarning kelib chiqish sabablari va o'lim sabablari haqida o'zining dastlabki izohlarini berar ekan, birinchi navbatda, inson tanasini chuqur

o'rganishga tayangan. O'rta asrlar sharoitida, din tibbiyotga inson tanasining tuzilishini o'rganishni taqiqlagan paytda, Ibn Sino yashirincha anatomiya bilan shug'ullanadi. Uning jonli kuzatuvchan ongi inson ruhiyatini o'rganishga intildi. U aqliy va jismoniy jarayonlar o'rtasidagi bog'liqlik g'oyasini ifodalab, tibbiyot fani nafaqat anatomiya va terapiya bilimlariga, balki aqliy qobiliyatlarning tabiatini bilishga ham asoslanishi kerakligini ta'kidlaydi. Ibn Sino miya va nervlarning muhim rolini ta'kidlaydi. Ibn Sino dam olish, profilaktika, gimnastika, iqlim va sayohatning inson salomatligiga ta'siriga alohida e'tibor beradi. Xarakterli jihati shundaki, Ibn-Sino yuqumli kasalliklar qo'zg'atuvchilari kashf etilishidan ancha oldin ba'zi kasallik qo'zg'atuvchi moddalarning havo va suv orqali tarqalishi g'oyasini bildirgan.

Ibn Sino "Tib qonunlari" asarida hayratlanarli mantiq va izchillik kuchi bilan antik davr tabiblari va Yaqin Sharq xalqlari tomonidan to'plangan boy va qimmatli materiallarni umumlashtiradi va o'rta asrlarda shakllanayotgan tibbiyot fanini larzaga keltiradigan shunday nazariy xulosalarga keladi. Uning tajribani amaliyot mezoni sifatida qo'llasi "Tib qonunlari"ning asosiy afzalligidan biri hisoblanadi. Ibn Sinoning bu asari uning aniq ilmiy bilimga, hayot jarayonlarini davr imkoni boricha aniq ratsionalistik tushuntirishga intilishidan ishonchli dalolat beradi. Har qanday bilim, deydi Ibn-Sino, sabablar ma'lum bo'lmaguncha, orttirilmaydi va tugallanmaydi. Shuning uchun tibbiyot sohasida salomatlik va kasallikning sabablarini bilishga intilish tabiiydir. Salomatlik va kasallik, shuningdek, ularning sabablari ba'zan aniq, ba'zan yashirin va tushunish bilan emas, balki dalillar bilan ma'lum bo'lganligi sababli, biz sog'lik va kasallikka tegishli bu faktlarni o'rganishimiz kerak.

Abu Ali ibn Sinoning "Tib qonunlari" asarida inson organizmiga o'simliklarning tasirlari va shifobaxshlik xususiyatlari haqida ma'lumotlar mavjud. Misol uchun biz ko'pincha e'tibor bermaydigan ariq bo'ylarida va bog'larda o'sadigan Zubtutumning (*Plantago major* L) dorivorlik xususiyatlari haqida ham mazkur asarda ma'lumotlar mavjud. Zubtutumning bir necha turlari bo'lib ular quyidagilar Katta zubtutum yil bo'yi yo'l yoqalarida, dalalarda, ekinzorlarda, o'tloqlarda, o'rmon chetlarida, ariq bo'ylarida hamda boshqa namligi yuqori yerlarda o'sadi. Bu o'simlikning bargidan dori sifatida foydalaniladi.

O'rta zubtutum, lansetsimon zubtutum kabi turlari ham yil bo'yi o'sadi hamda ularni uchrash geografiyasi ham keng. Ular katta zubtutum bilan bir xil bo'lib bu turlar ham yo'l yoqalarida, dalalarda, ekinzorlarda, o'tloqlarda, o'rmon chetlarida, ariq bo'ylarida hamda boshqa namligi yuqori yerlarda o'sadi. Bu o'simliklarning ham barg qismidan dori darmon tayyorlashda foydalaniladi. Xususan Lansetsimon zubtutum Abu Ali ibn Sino yozib qoldirgan "Tib qonunlari" kitobida qon tomirlarini mustahkamlashi, ayrim bitishi qiyin bo'lgan yaralarni oson bitirishi, hatto oshqozon va ichaklarning ham ba'zi kasalliklarida shifo bo'lishligini ta'kidlab o'tgan.

Shuningek, mazkur asarda jag'-jag' (achambiti) o'simligi va uning shifobaxshlik xususiyati haqida ham ma'lumotlarga duch kelish mumkin. Ma'lumki, jag'-jag' (achambiti) o'simligi – *Capsella bursa pastoris* Medic, karamdoshlar - Brassicaceae (butguldoshlar - Craciferae) oilasiga kiradi. Bir yillik, bo'yi 20-30 sm (ba'zan 60 sm)ga yetadigan o't o'simlik. Poyasi bitta, ba'zan bir nechta, tik o'suvchi, shoxlangan yoki

shoxlanmagan. Ildizoldi barglari bandli, cho'ziq lansetsimon, turlicha qirqilgan barg plastinkasiga ega. Poyadagi barglari mayda, gullari shingilga to'plangan. Mevasi - qo'zoqcha. Aprel oyidan boshlab kuzgacha gullaydi, mevasi iyundan boshlab yetiladi. Geografik tarqalishi. Uzoq Shimol va cho'l tumanlaridan tashqari barcha aholi yashaydigan yerlarda, yo'l yoqalarida, o'tloqlarda va begona o't sifatida ekinlar orasida o'sadi. Mahsulot tayyorlash uchun o'simlik gullashi va mevasi yetilishi davrida ildizi bilan sug'urib olinadi. Ildizini ba'zan ildizoldi barglari bilan tashlab yuborib, qolgan qismini soya joyda quritiladi. Mahsulotning tashqi ko'rinishi. Tayyor mahsulot poya, barg, gul va xom meva aralashmalaridan iborat. Poyasi siyrak bargli, shoxlanmagan yoki shoxlangan, qirrali, tuksiz yoki tuklar bilan qoplangan, uzunligi 20-50 sm bo'ladi. Ildizoldi barglari (agar mahsulotda bo'lsa) cho'ziq lansetsimon, band tomoniga qarab torayib boruvchi, kemptik tishsimon qirrali yoki patsimon kesik, ba'zan tekis qirrali bo'ladi. Poyasidagi barglari mayda, lansetsimon, tekis qirrali bo'lib, bandsiz, ketma-ket o'rnashgan. Gullari oqimtir rangli, shingilga to'plangan. Kosacha va tojbarglari 4 tadan, otaligi 6 ta, shundan 2 tasi kalta, onalik tuguni 2 xonali, yuqoriga joylashgan. Mevasi teskari uchburchak yoki teskari uchburchak - yuraksimon qo'zoqcha. Mevasining uzunligi 5-8 mm, eni 4-5 mm. Kimyoviy tarkibi. Mahsulot tarkibida gissopin glikozidi, 0,12 % askorbin kislota, vitamin K1, organik kislotalar, xolin, asetilxolin, inozit, flavonoidlar, saponinlar, oshlovchi hamda boshqa birikmalar bo'ladi. "Tib qonunlari"da yozilishcha, jag'-jag' o'simligining preparatlari tug'gandan keyin va bachadon kasalliklarida qon oqishini to'xtatish uchun hamda bachadon zaiflashganda uni tonuslovchi vosita sifatida ishlatiladi. Dorivor preparatlari damlama, suyuq ekstrakt shaklida tayyorlanadi. Jag'-jag' - xalq tabobatida qadim qadimdan ishlatilib kelingan o'simliklardan biri hisoblanadi. Bu o'simlikdan tayyorlangan damlamalardan asosan turli xildagi qon oqishlarda (bachadondan, o'pkadan, oshqozondan, ichakdan, buyrakdan hamda turli xil yaralardan qon ketishlarida) samarali dori sifatida foydalanilgan. Ayniqsa qon aralash siydik yo'li kasalliklarida hamda qon aralash ich ketishlarda ham foydalangan. Xulosa o'rnida shuni aytishimiz mumkinki Abu Ali ibn Sinoning tibbiy o'gitlaridan ilmiy merosidan foydalanish xalq tabobatining qolaversa tibbiyotning rivojlanishida muhim ahamiyat kasb etgan.

AYDARKO‘L SOHILLARINING TURISTIK IMKONIYATLARI

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Annotatsiya: Mazkur maqolada mamalakatimizning turistik salohiyatini oshirish va sayohlarni hududga jalb qilishda muhim sanalgan va o‘zida ko‘plab estetik xususiyatlarni jamlagan Haydar-aydarko‘l sohillari bioekologiyasi xususida fikr yuritilgan hamda ilmiy turistlarni ayniqsa, botaniklarni o‘zuga jalb qiladigan aydarko‘l sohilida o‘sadigan efemer, efemeroidlarning turlari va tarqalishi haqida ma’lumotlar berilgan.

Bugungi kunda mamalakatimizning turistik salohiyatini oshirish va sayohlarni hududga jalb qilish muhim masalalardan biri sanaladi. O‘zbekiston Respublikasining turizm to‘g‘risidagi qonunida turizm hududi tushunchasi “Muayyan chegaralarga ega bo‘lgan, bir yoki bir necha turistik resurslar (tabiiy, tarixiy, ijtimoiy-madaniy, davolash-sog‘lomlashtirish obyektlari, shuningdek turistlar va ekskursantlarning ehtiyojlarini qanoatlantira oladigan boshqa obyektlar) joylashgan, kirish turizmini va ichki turizmni, turistik industriyani rivojlantirish, turistik resurslarni muhofaza qilish hamda ulardan oqilona foydalanish maqsadida tashkil etilgan hudud turistik zonadir”[1.] deb ta’riflanadi. Shu nuqtai nazardan qaraganda Haydar-aydarko‘l sohillari turistik zonalar qatoriga kiradi. Chunki bu hudud bir yoki bir necha turistik imkoniyatlarni o‘zida mujassam etgan. Hududdan turistlarni jalb etish tabiiy, tarixiy, ijtimoiy-madaniy, davolash-sog‘lomlashtirish obyektlari, shuningdek turistlar va ekskursantlarning ehtiyojlarini qandirish maqsadida foydalanish mumkin.

Shu o‘rinda mazkur ko‘l xususida ikki og‘iz to‘xtalishni joiz hisobladik. Aydarko‘l – antropogen ko‘l bo‘lib, Navoiy va Jizzax viloyatlarining cho‘l qismida joylashgan. Aydarko‘lning paydo bo‘lish tarixi juda qiziq: gap shundaki, o‘tgan asrning o‘rtalariga qadar ko‘l o‘rnida namlik yeri bo‘lmagan quruq yer hosil bo‘lgan. Bahorda esa bu yerda Tuzkon ko‘li hosil bo‘lib, kunlar isishi bilan bug‘lanib ketardi. Shu vaqtda suv sathini nazorat qiluvchi shlyuzli Chordaryo GESi qurilgan. GESga suv Sirdaryodan kelib tushgan, biroq 1969 yildan 1970 yilga qadar GES suv mo‘llicidan tosha boshlagan va to‘g‘on o‘pirlilishini oldini olish uchun shlyuzlar ozgina ochilgan. Natijada, suv Arnasoy pasttekisligiga oqa boshlab, keyinchalik Aydarko‘l hosil

bo'lgan. Ko'1 ko'plab mayda ariqlarni birlashtiradi va Orol dengizidan keyin, ikkinchi o'rinda turuvchi O'zbekistondagi sho'r ko'1 sanaladi.

Bundan yarim asr avval Aydarko'1ni hech qaysi bir dunyo xaritasidan topa olmasdingiz, hozir esa bu - inson qo'li bilan yaratilgan mo'jizakor yerdan yuzlab flora va fauna vakillari makon topishgan bo'lib, ulardan ayrimlari Qizil kitobga ham kiritilgan. Shuning uchun ko'1 nafaqat sayyohlarga, balki ko'1 sohilida yashovchi kamyob hayvonlar, qushlarni o'rganuvchi zoologlarga hamda mintaqada kam uchraydigan o'simliklarni o'rganuvchi botaniklarga ham juda qiziqarli joyga aylanadi.

Botanikada kam o'rganilgan o'simlik dunyosiga boy sanalgan Aydarko'1 sohillari barcha bu sohaga qiziquvchilarni ayniqsa, botaniklarni o'ziga chorlamasdan qolmaydi. Aydarko'1 sohillarida o'simliklar dunyosi vakillari orasida to'liq hayot aylanishi bir necha hafta (2 dan 6 gacha) yoki oylarda (5-6, ba'zan ko'proq) tugaydigan o'simliklar mavjud. O'sish davri juda qisqa bo'lganligi sababli, ular qadimgi yunoncha "bir kunlik", ya'ni bir kunlik o'simliklar degan ma'noni anglatuvchi efemera (lat. ephemerae) deb atalgan. Ba'zan bir mavsumda ular bir nechta avlodlarni shakllantirishga muvaffaq bo'lishadi.

Aydarko'1 sohillarida issiq, qurg'oqchil iqlim hukmron bo'lganligi bois efemerlar u yerda yashovchi o'simlik dunyosining 60-90% ni tashkil qiladi. Bu holat ham bevosita ilm-fan bilan qiziquvchi turistlarni hududga jalb qilishning yana bir imkoniyati sanaladi. Ajablanarlisi shundaki, ularning atrof-muhit sharoitidagi turli o'zgarishlarga javob berish qobiliyati yuqori. Efemerlarning mavjud bo'lish davri butunlay kuz, qish va bahor fasllarida yog'ingarchilikka bog'liq. Yozda, uzoq muddatli qurg'oqchilik bilan birga yuqori haroratlarda, o'simliklar butunlay nobud bo'ladi. Lekin Aydarko'1 sohillarida issiq va sovuq iqlim amashinib turganligi bois efemerlarga bu hududda qulay sharoit yuzaga kelgan. Shu bois efemerlarning juda ko'p turlarining vegetatsiya davriga Aydarko'1 sohillarida duch kelish mumkin. Bu jarayonni "Efemerli-qo'ng'irboshli rangzor; aralash o'tli-efemerli-qo'ziquloq aralash rangzor, karrakli-qo'ng'irboshli-rangzor, qo'ziquloq aralash karrakli-qo'ng'irboshzor bodomcha aralash qo'ziquloqli-shuvoqli rangzor va boshqalar" [2.78.] da kuzatish mumkin.

Ma'lumki, cho'1 efemerlari past, odatda balandligi 10-12 smdan oshmaydi. Lekin Aydarko'1 sohillarida o'suvchi ayrim efemerlarda hududda tarkib topgan qulay sharoit tufayli balandligi 12-15 smni tashkil etishini ham kuzatish mumkin. Cho'1 efemerlari – mayda, bo'shashgan barglari va zaif, yuzaki ildiz tizimiga ega bo'lgan o'tsimon o'simliklardir. Ularning gullash davri bahorda (kamroq kuzda) sodir bo'ladi, keyin cho'1 hududi bir vaqtning o'zida ochilgan ko'p rangli va yorqin gullarga aylanadi. Tuproq namligini saqlab, efemer o'simliklar yerni qalin gilam bilan qoplaydi, ko'pincha barglarini quyosh nurlaridan himoya qiluvchi sirt qatlami sifatida ishlatadi.

Qisqa vaqt ichida ularning hayotiy faoliyati uchun etarli bo'lgan suv miqdori tuproqda qolsa-da, efemerlar o'zlarining hayot aylanish jarayonini to'liq o'tkazish uchun vaqt topadilar: so'lib, urug'larni qoldiradilar. Ularning urug'larining yuqori qurg'oqchilik va issiqlikka chidamliligi efemerlarning yangi avlodlariga ekstremal sharoitlarda omon qolish imkonini beruvchi yana bir xususiyatdir.

Efemerlar (yun. – bir kunlik) – cho'l, chala cho'l va adirlarda o'sadigan bir yillik o'simliklar. Efemerlarning qisqa umr ko'rishi ularning sharoit bilan bog'liq xususiyatidir. Noqulay iqlimiy muhit omillariga moslashib, ular hayot uchun eng qulay sharoitlardan foydalanish uchun o'zlarining rivojlanishining barcha bosqichlarini, jumladan, urug'larning unib chiqishi, o'sishi, rivojlanishi, gullashi, meva berishlari va o'lishlarini qisqartirishga majbur bo'ldilar. Ko'pgina o'simliklar singari, efemeraning hayot aylanishi faqat issiq mavsumda, yorug'lik va tuproqda etarli miqdorda namlik bilan bog'liqdir. Efemerlarning vegetatsiya davri kisha. Asosan, bahor va kuzda, tuprok nam vaqtlarida o'sadi. Tipik, ya'ni bahorgi efemerlar va kuzgi efemerlarga ajratiladi.

O'simliklarning hayotga moslashishining eng yorqin misoli cho'ldir. Bu yerda efemer o'simliklar, kaktuslar va sukkulentlar yonma-yon o'sadi. Har bir o'simlik turi esa cho'lda hayotga o'ziga xos tarzda moslashgan. Efemerlar juda qisqa umr ko'radigan bir yillik o'simliklardir. Ularning hayoti may oyida faqat bir oy davom etadi.

Ko'knori, don, anastatik kabi efemer o'simliklar erta bahorda uyg'onadi va issiqlik boshlanishidan bir oy oldin gullash va urug' berishga vaqt topadi. Bahorda, tuproqning yuqori qatlami suv bilan yaxshi ta'minlangan bo'lsa-da, efemera uni tuproqdan faol ravishda o'zlashtiradi, lekin ayni paytda juda ko'p bug'lanadi.

Ba'zi efemerlarning barglari deyarli erga yotib, uni o'zlari bilan qoplaydi va quyosh nurida tez qurib ketishiga yo'l qo'ymaydi. Shunday g'ayrioddiy tarzda efemer o'simliklar cho'lda hayotga moslashgan. Hayotiy davrning oxiriga kelib, efemer o'simliklar butunlay, hatto ildizi ham nobud bo'ladi. Vegetatsiyaning bir oyida ular keyingi vegetatsiya davrida hayotni qayta tiklash uchun faqat urug'larni qoldirishga muvaffaq bo'lishadi.

Ammo efemer o'simliklarni nafaqat cho'lda uchratish mumkin. Efemerlar bahordan yozgacha o'sish sharoitlari keskin o'zgarib turadigan sharoitlarda ham o'sadi. Bu o'simliklarni nafaqat suv bilan, balki yorug'lik bilan ham ta'minlash muhimdir. Shuning uchun, hatto markaziy Rossiyaning keng bargli o'rmonlarida, masalan, yozda yorug'lik etarli bo'lmagan eman o'rmonlarida ham efemerlar uchraydi. Erta bahorda, daraxtlardagi barglarning asosiy qismi xali gullamaganida, efemer tezda o'sadi va urug' berishga vaqt topadi. Daraxtlarda barglar gullaganda, efemeraning asta-sekin yoki tez o'limi sodir bo'ladi. Rossiya hududida uchraydigan efemerlar: eman

yormalari, cho‘l lavlagi, buloq toshbaqasi, shimoliy dalgalanma, Afrika malkolmiyasi, o‘roqsimon shox boshi kabilardir.

Cho‘l va sovuq iqlimda o‘sovchi efemerlardan farqli ravishda issiqlik va namlik yetarli bo‘lgan Aydarko‘lning suv bilan qoplangan sohillarida o‘sovchi efemerlarning vegetatsiyasi o‘ziga xosdir. Chunki, Aydarko‘l sohillari o‘zida ikki kontinentni birlashtirgan hududdir.

Yozda hayoti to‘xtaydigan cho‘l efemeridan farqli o‘laroq, Aydarko‘l sohillari efemeralarining ayrimlari bu hududda yuzaga kelgan qulay kontinent tufayli bahor, yoz va kuz faslarida ham hayot siklini davom ettirishi mumkin. Sovuq iqlim hukron bo‘lgan sharoitida efemer urug‘lar faqat qisqa yoz boshlanishi bilan quyosh nurlari ostida erigan sayoz tuproq qatlamida unib chiqa boshlaydi. Bu mintaqada bir necha hafta ichida, iliq ob-havo bilan birga, bu o‘simliklar mavsumining barcha bosqichlaridan o‘tib, yangi hayot uchun urug‘larini tuproqda qoldiradi.

Efemerlarning orasida yaltirbosh, taroqbosh, arpaxon, no‘xatak, sariq yo‘ng‘ichqa kabi ozuqabop; jag‘jag‘ kabi dorivor, uchma kabi zaharli turlari bor [3.256.]. Bu sanab o‘tilgan turlarning aksariyati Aydarko‘l sohillarida uchraydi.

Bir yillik o‘simliklar bo‘lgan efemerlardan tashqari, efemeroid deb ataladigan ba‘zi ko‘p yillik o‘simliklar ham Aydarko‘l sohillarida uchraydi. Efemeroidlar - ko‘p yillik o‘simliklarning ekologik guruhi; bu guruhdagi o‘simliklar har yilgi vegetatsiya davrining qisqaligi bilan xarakterlanadi. Efemeroidlar yilning ko‘p qismini uyqu holida, ya‘ni tugunak, piyoz yoki ildizpoya shaklida o‘tkazadi. Masalan, rang, qo‘ng‘irbosh, lola, boychechak kabi o‘simliklar [3.256.]ni bunga misol sifatida kiritish mumkin.

Ularning vegetatsiya davri cho‘l hududlarida qisqa davom etsa, Aydarko‘l sohillarida yuzaga kelgan qulay iqlim tufayli bu hududda uzoqroq davom etadi. Efemeradan farqli o‘laroq, noqulay davrlarda efemeroidlarda faqat havo qismi o‘ladi, yer osti qismi (ildiz, ildizpoya, lampochka) saqlanib qoladi. Efemeroidlar uzoq uyqu davri bilan ajralib turadi, buning natijasida o‘simliklar hayot uchun noqulay sharoitlarda omon qolishga muvaffaq bo‘lishadi.

Qulay sharoitlarning boshlanishi bilan efemeroidlar faollashadi, ularning uxlab yotgan kurtaklari uyg‘onadi, kraxmal va er osti qismida saqlanadigan boshqa oziq moddalar yordamida. Efemeroidlar orasida ko‘pchilikni tashkil etuvchi bahorgi gulli o‘simliklar ham, gullashi kuzda sodir bo‘ladigan o‘simliklar ham bor.

Efemeroidlarga tupsimon, ildizpoyali va piyozchali kiradi. Efemeroidlarning vakillari taniqli qor bo‘laklari, bel og‘rig‘i (uyqu o‘ti), ko‘katlar, ssilkalar, lolalar, bahor gulli krokuslar, anemonlar, za‘faronlar, muskarlar, xionodokslar, ranunculus, koridalis, findiq, shuningdek amaryllis, clivia kabi yopiq o‘simliklar kiradi [4.310].

Erta bahorda efemeroidlar, novdalar va yangilanish kurtaklari qor ostida ham hosil bo'ladi. Gullash davrida efemeroidlar changlatuvchi hasharotlar uchun aniq ko'rinadigan yorqin va rangli gullar gilamini hosil qiladi. Mevalar pishib, urug'lar tushib ketgandan so'ng, iyun oyining boshida sharoit o'zgarishi (ozgina suv yoki yorug'lik) bilan efemeroidlarning havo organlari o'ladi. Yangilanish kurtaklari va kraxmal bilan ta'minlangan yer osti organlari kelgusi bahorgacha taxminan o'n oy davomida chuqur uyqu holatida bo'ladi.

Shunday qilib, Aydarko'l sohillari bioekologiyasining turistik imkoniyatlarini o'rganish va qo'lga kiritilgan ilmiy natijalarni keng jamoatchilikka tanitish o'ylaymizki, *birinchidan*, dunyo olimlarining o'lkamizda mavjud bo'lgan flora va fauna dunyosiga qiziqishlarni ortiradi. Buning natijasida esa, o'lkamizning ekoturistik salohiyati yanada oradi; *ikkinchidan*, Aydarko'l sohillarida uchraydigan efemer va efemeroidlarning vegetatsiya davrini aniqlab, bu hududda o'sha paytda chorva mollarini boqishni cheklash lozim. Buning natijasida esa ularning ko'payishi va urug' qoldirishi uchun qulay shart-sharoit yuzaga keladi; *uchinchidan* esa, bu hududda o'suvchi efemer va efemeroidlardan xalq tabobatida foydalanish mumkin. Buning natijasida esa, xalq tabobati vakillarining ham hududga turistik qatnovlari ortishi hamda turli kimyoviy dori vositalaridan foydalanish o'rniga arzon va zararsiz dori-darmonlar vujudga keladi.

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ЎЗБЕКСИТОН ВА ЯПОНИЯ ДАВЛАТИДА ИЖТИМОЙ ХАВФЛИ ҚИЛМИШ СОДИР ЭТГАН ШАХСЛАРГА НИСБАТАН КЎРИЛАДИГАН ЖАЗО ЧОРАЛАРИ ВА ШУ БОРАДАГИ ТАЖРИБАЛАРИ.

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Аннотация: Ушбу мақолада Ўзбекистон ва Япония давлатида ижтимоий хавфли қилмиш содир этган шахсларга нисбатан кўриладиган жазо чоралари ва шу борадаги тажрибалари, ўхшаш ва фарқли жиҳатлари ҳақида сўз юритилган.

Калит сўзлар: Иена пул бирлиги, мажбурий меҳнат, озодликдан маҳрум қилиш, ижтимоий ҳавфли қилмиш, жазо чоралари, жарима,

Япония давлатида ижтимоий хавфли қилмиш содир этган шахсларга жазо тайинлашда енгил жазо турлари, ўрта оғир жазо ва оғир жазо турлари каби тизимларга бўлинган жазо чоралари қўлланилади. Жазо чоралари сифатида 1.000 иенадан 10.000 иена пул бирлигигача бўлган кичик жарималар, муддати 30 кунгача бўлган озодликдан маҳрум қилиш, 10.000 иенадан кўпроқ бўлган жарима жазоси, бир ойдан кўпроқ бўлган озодликдан маҳрум қилиш жазоси, мажбурий меҳнат ва бир ойдан кўпроқ бўлган озодликдан маҳрум қилиш жазоси ва сўнгида ўта оғир жиноятларни содир этган шахсларга нисбатан қўлланиладиган ўлим жазоси каби турлари мавжуд. Япония суди амалда озодликдан маҳрум қилиш билан боғлиқ бўлган жазоларни камдан-кам ҳолатларда қўллайди. Ижтимоий хавфли қилмишни содир этган шахсларга уларни содир этган ҳаракат ёки ҳаракатсизлиги натижасида вужудга келган ижтимоий ҳавфли оқибатларни даражасига қараб, жарима ва озодликдан маҳрум қилиш, шунингдек мажбурий меҳнатга жалб қилиб, озодликдан маҳрум қилиш жазоларини бир вақтнинг ўзида қўшиб тайишланиши мумкин. Агарда ижтимоий ҳавфли қилмишни содир этган шахс жарима жазосига ҳукм қилинган бўлса-ю, жаримани тўлашга имконияти мавжуд бўлмаса, жазони озодликдан маҳрум қилиш турдаги жазога алмаштирилиб ўташи мумкин. Жарима жазосини ўрнига тайинланган озодликдан маҳрум қилиш жазоси икки йилгача белгиланади. Ижтимоий хавфли қилмиш учун жазо тайинланганда, ижтимоий хавфли қилмиш натижасида етказилган зарар, ёки унинг оқибатлари ва ижтимоий хавфли ҳаракат(ҳаракатсизлик)нинг вужудга келтирган сабабларига қараб жазо тайинланади. Ижтимоий хавфли қилмишни содир этган шахс юқорида

кўрсатилган ҳар қандай жазо тури қўлланилганда, унга нисбатан судланганлик вужудга келади.

Япония давлатида ярашув институти мавжуд бўлиб, унда ижтимоий хавфли қилмишни содир этган шахслар етказилган моддий ва маънавий зарарни ўрнини қоплаганда, шунингдек жабрланувчилар билан ярашганда, унга нисбатан юритилган жиноят иши тугатилади.

Япония давлати жиноят содир этилишини камлиги бўйича дунёда етакчи ўринда туради. Япониянинг жиноят қонунчилигига кўра, Япония давлатида чет ел фуқаролари томонидан содир этилган жиноятларда гумонланаётган шахсларни ҳибсга олинишини 2 хил усулда амалга оширади. 1. Ижтимоий хавфли қилмишни содир этишда гумонланёган шахс жойида ҳибсга олинса (бу ҳолатда Япония ҳуқуқни муҳофаза қилувчи органлар томонидан ҳеч қандай ордер кўрсатилмайди, лекин гумон қилинувчи шахсга дастлабки тушунтиришни берилади) 2. Гумон қилинаётган шахсни тегишли ордерни кўрсатиш бўйича, ҳар иккала ҳолатда ҳам гумон қилингаётган шахсни сўроқ қилиш учун тегишли ҳуқуқ тартибод органи бўлимимга олиб борилади. Ўзига нисбатан жиноят иши судга тақдим қилингандан сўнг, айбланаётган шахс биринчи инстанция судида ўзига нисбатан чиқарилган ҳукмдан норози бўлса, юқори суд инстанциясига 14 кунлик муддат ичида муурожаат қилиш мумкин.

Ўзбекистон Республикаси Жиноят қонунчилиги қонунчилик билан қўриқланадиган объектларини бузилиши натижасида, унга нисбатан тегишли санкция доирасидаги жазо чоралари, яъни жарима, муайян ҳуқуқдан маҳрум қилиш, мажбурий жамоат ишлари, ахлоқ тузатиш ишлари, хизмат бўйича чеклаш, озодликни чеклаш, интизомий қисмга жўнатиш, озодликдан маҳрум қилиш, умрбод озодликдан маҳрум қилиш, шунингдек асосий жазолардан ташқари ҳарбий ёки махсус унвонлардан маҳрум қилиш тариқасидаги жазолар ҳам қўлланилиш мумкин. Япония қонунчилигига кўра, жазо тайинлашда судларнинг мустақиллиги қонун билан кафолатланган бўлса, Ўзбекистон Республикасида ҳам судларнинг мустақиллиги асосий қонунимиз конуституция билан ҳам эътироф этилган. Юртимиздаги қонунчиликда инсоннинг шаъни ва қадр-қиммати юксак эътиборга олинган. Чунки маълум бир ижтимоий хавфли қилмишни содир этган шахсга жазо тайинлашда, давлат махсус ваколатга эга бўлгани сабабли жазо тайинлашда давлат ўзининг қонунийлик, тенглик, адолатлилик принципларига риоя қилган ҳолда шахсни қийнаш эмас балки, уни тарбия қилиш маълум бир ижтимоий хавфли қилмиш содир этишига қаршилик қилиш, қонунларга ҳурмат руҳида тарбиялашни ўзининг устувор йўналиши сифатида баҳолайди.

Ижтимоий хавфли қилмишни содир этган шахс ўзининг хатти-

ҳаракатларини ҳуқуқий оқибатига кўзи етган ҳолда содир этса, унга жазо тайинлашда айбдорлик даражасини, қилмишидан пушаймонлик ҳолатини, қонунларга ҳурмат ва итоатини баҳолаш ҳолати ҳар икки Ўзбекистон-Япония давлатларининг суд ҳокимиятига юкланган вазифа ва мажбурияти сифатида кўришимиз мумкин.

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TASK-BASED TEACHING OF THE ENGLISH LANGUAGE

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Annotation: Task-based teaching (TBT) is a communicative approach to language instruction that prioritizes meaningful tasks as a medium for learning. Instead of focusing on grammar rules and rote memorization, TBT engages learners in real-life tasks, such as solving problems, planning activities, or participating in role-plays, to develop fluency and accuracy. Rooted in the theories of communicative language teaching (CLT), this methodology emphasizes learner interaction, collaboration, and the integration of language skills in authentic contexts.

Key proponents like Ellis (2003) and Nunan (2004) argue that TBT mirrors real-world communication, thereby preparing learners for practical language use. It incorporates a structured framework comprising pre-task, task, and post-task phases, each focusing on different aspects of language acquisition. The approach has been shown to boost learner motivation, foster teamwork, and enhance communicative competence.

However, TBT is not without challenges. Issues such as time constraints, mixed proficiency levels, and difficulties in assessing task performance can hinder its implementation. Despite these challenges, TBT remains a highly effective method for teaching English, providing learners with the tools to navigate diverse communicative situations.

Seminal works such as *Task-Based Language Learning and Teaching* by Ellis (2003) and *Task-Based Language Teaching* by Nunan (2004) provide comprehensive insights into the theoretical and practical aspects of this methodology, making them invaluable resources for educators aiming to adopt TBT in their classrooms.

Key words: Task-based learning, English language teaching, communicative approach, language acquisition, learner-centered methodology.

Introduction: Task-based teaching (TBT) has emerged as a pivotal methodology in English language instruction, emphasizing the completion of meaningful tasks as a way to facilitate language learning. Rooted in the communicative approach, this pedagogy shifts the focus from traditional grammar-based instruction to real-world tasks that foster interaction and practical application of language skills. By engaging learners in activities that simulate real-life scenarios, task-based teaching enhances

motivation, promotes critical thinking, and enables learners to develop fluency and accuracy naturally.

This article explores the principles of task-based teaching in the context of English language instruction, highlighting its benefits, implementation strategies, and challenges. A review of relevant literature offers theoretical support for this method, followed by practical examples of tasks suitable for various learning levels. Task-based teaching (TBT) in English language education has evolved significantly in recent years, driven by advances in technology, pedagogy, and the needs of 21st-century learners.

Main part:

1. Understanding Task-Based Teaching

Task-based teaching is defined as a pedagogical framework where language is taught through the completion of specific tasks. Nunan (2004) describes a "task" as a piece of classroom work involving learners in comprehending, producing, or interacting in the target language while focusing on meaning rather than linguistic form. This methodology integrates tasks that mirror real-life communication, such as planning a trip, writing an email, or engaging in a debate.

Key characteristics of TBT include:

Authenticity: Tasks reflect real-world language use.

Meaningful Interaction: Learners communicate for a specific purpose.

Focus on Outcome: Success is measured by task completion rather than linguistic correctness.

2. Benefits of Task-Based Teaching

The advantages of TBT in English language teaching include:

Enhanced Learner Engagement: Tasks that resonate with learners' experiences or interests increase motivation.

Practical Language Skills: TBT emphasizes functional use of language, preparing learners for real-world communication.

Collaborative Learning: Group tasks foster teamwork and peer learning, which reinforce language acquisition. Integrated Skills Development: Tasks typically involve listening, speaking, reading, and writing, enabling holistic language development.

3. Implementation of Task-Based Teaching

A. Framework for Task Design

Ellis (2003) outlines a task-based learning framework consisting of three stages:

1. Pre-task Phase: Introduction to the task, vocabulary, and context.

2. Task Cycle: Learners perform the task individually or in groups, focusing on communication.

3. Post-task Phase: Reflection, error correction, and reinforcement of target structures.

B. Examples of Tasks

Elementary Level: Role-playing a shopping scenario to practice asking for prices and quantities.

Intermediate Level: Writing a short travel itinerary for a weekend trip.

Advanced Level: Conducting a debate on environmental policies.

C. Teacher's Role

In TBT, the teacher acts as a facilitator, guiding learners through the task cycle and providing feedback to improve their linguistic output.

4. Challenges of Task-Based Teaching

Despite its benefits, TBT presents several challenges:

Time Constraints: Designing and implementing tasks require significant planning.

Mixed Ability Groups: Differing levels of proficiency within a class can hinder task effectiveness.

Overemphasis on Fluency: The focus on meaning may sometimes overshadow grammatical accuracy.

5. Modern tendencies of Task-Based Teaching.

Integration of Technology

Digital Tools: Apps, online collaboration platforms (e.g., Google Workspace), and educational software enable dynamic and interactive task completion.

Augmented Reality (AR): Simulations and immersive environments provide authentic contexts for language use. AI-Powered Feedback: Tools like Grammarly and ChatGPT offer instant feedback on tasks, improving learning outcomes.

Personalized Learning

Tasks are tailored to individual students' needs, interests, and proficiency levels.

Adaptive learning platforms adjust tasks based on students' progress. Learner autonomy is encouraged through self-selected tasks that align with personal goals.

Focus on Real-World Application

Tasks simulate authentic scenarios, such as writing emails, preparing presentations, or participating in meetings. Emphasis is on practical communication skills for global contexts, including cross-cultural communication. Project-based learning integrates TBT with broader, interdisciplinary goals, such as creating a business plan or organizing an event.

Collaborative Learning

Group tasks encourage teamwork, problem-solving, and peer learning. Use of online collaborative platforms fosters global connections, allowing students to work with peers from different countries.

Assessment Innovations

Performance-based assessments evaluate learners based on task completion rather than traditional tests. Use of digital portfolios and video recordings to track progress and showcase achievements. Self-assessment and peer feedback are integral to the learning process.

Interdisciplinary Approaches

Tasks often integrate content from other disciplines, such as science, technology, or art. Emphasis on English as a medium for acquiring broader knowledge and skills (CLIL - Content and Language Integrated Learning).

Focus on Soft Skills Development

Tasks are designed to enhance critical thinking, creativity, and problem-solving abilities. Emphasis on communication skills for teamwork, negotiation, and leadership.

Cultural Sensitivity and Global Awareness

Tasks incorporate diverse cultural perspectives, encouraging learners to appreciate and understand global diversity. Projects involve real-world issues like sustainability, social justice, or technology ethics, linking language learning to global challenges.

Blended and Hybrid Learning

TBT is seamlessly integrated into blended learning models, combining in-person and online instruction. Flipped classroom approaches prepare learners for tasks at home and reserve class time for collaborative work.

Data-Driven Insights

Use of analytics tools to monitor task performance and inform teaching strategies. Teachers leverage data to adapt tasks, provide targeted support, and predict learning trends.

Conclusion. Task-based teaching is a dynamic and learner-centered approach to English language instruction, fostering meaningful communication and practical skills. While challenges exist, careful planning and thoughtful implementation can maximize its effectiveness. By incorporating real-world tasks, educators can create an engaging and functional language-learning environment that equips learners for diverse communicative contexts.

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THE IMPORTANCE OF A MODERN LESSON AND THE REQUIREMENTS FOR IT.

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Annotation: This article explores the evolving nature of modern education, emphasizing the significance of lessons designed to meet 21st-century learning needs. It begins by defining the modern lesson as an approach that incorporates technology, student-centered strategies, and real-world relevance. The article highlights the importance of such lessons in addressing the skills gap, fostering lifelong learning, and enhancing student engagement.

A significant portion of the text is dedicated to outlining the core requirements for a modern lesson, including the integration of digital tools, inclusivity, and alignment with contemporary pedagogical trends. It delves into the components of an effective modern lesson plan, such as clear objectives, engaging activities, and real-time feedback mechanisms. Moreover, challenges like resource limitations, resistance to change, and time constraints are discussed, offering a balanced view of the subject.

The article also provides real-world examples of modern lessons in action, such as virtual reality in classrooms and gamification in learning. It underscores the pivotal role of teachers as facilitators and lifelong learners, adapting their methods to meet evolving educational demands. Finally, it concludes by reflecting on future trends, such as AI-driven personalized learning and blockchain-based education systems, which are likely to redefine modern teaching practices.

The text offers a comprehensive analysis, combining theoretical insights with practical applications, making it a valuable resource for educators, policymakers, and anyone interested in the future of education. It emphasizes that modern lessons are not merely about using technology but about fostering critical thinking, creativity, and adaptability—skills essential for thriving in a dynamic world.

Keywords: modern education, modern lessons, student-centered learning, technology integration, critical thinking, real-world relevance, lifelong learning, digital tools in education, active participation, problem-solving skills, inclusive teaching, differentiated instruction, learning objectives, formative assessment, gamification in education, project-based learning, virtual reality in classrooms, future trends in education, personalized learning, teacher as facilitator.

Introduction: Education has transformed significantly in the 21st century due to advancements in technology, shifting pedagogical paradigms, and global challenges that demand new skills and mindsets. In this context, the concept of a "modern lesson" has emerged as a cornerstone of contemporary teaching practices. Unlike traditional lessons, which often focus on rote memorization and teacher-centered delivery, modern lessons emphasize collaboration, creativity, critical thinking, and adaptability. This article explores the importance of modern lessons and the essential requirements for their effective implementation.

1. Defining the Modern Lesson

A modern lesson integrates innovative teaching methods, digital tools, and learner-centered approaches to create engaging and meaningful educational experiences. These lessons are dynamic, incorporating real-world relevance, interdisciplinary connections, and an emphasis on higher-order thinking skills.

Key characteristics of a modern lesson include:

The use of technology to enhance learning. Promotion of student collaboration and active participation.

Emphasis on critical thinking and problem-solving skills.

Flexibility to adapt to diverse learning styles and needs

2. The Importance of Modern Lessons in Today's World

2.1 Addressing the Skills Gap

Globalization and technological advancements have reshaped workforce demands. Traditional education models often fail to equip students with skills like adaptability, digital literacy, and critical thinking. Modern lessons bridge this gap by preparing learners for the challenges of the future.

2.2 Encouraging Lifelong Learning

Modern lessons foster curiosity and intrinsic motivation, laying the foundation for lifelong learning. By emphasizing exploration and self-directed learning, students are encouraged to take ownership of their educational journey.

2.3 Enhancing Engagement and Retention

Engagement is a critical factor in effective learning. Modern lessons employ interactive tools, gamification, and real-life scenarios to captivate learners, leading to better retention and understanding of concepts.

3. Core Requirements of a Modern Lesson

Creating a successful modern lesson involves meeting specific requirements to ensure its relevance and effectiveness.

3.1 Technological Integration

Technology is a cornerstone of modern education. Teachers must incorporate digital tools such as interactive whiteboards, learning management systems (LMS), and online collaboration platforms to enhance the learning process.

3.2 Student-Centered Approaches

Modern lessons shift the focus from teaching to learning. Strategies like project-based learning (PBL), inquiry-based learning, and flipped classrooms place students at the center of the educational process.

3.3 Real-World Relevance

Connecting lessons to real-world problems and scenarios helps students see the practical value of their learning. Case studies, simulations, and community projects are examples of this approach.

3.4 Inclusivity and Differentiation

A modern lesson must cater to diverse learning styles, abilities, and backgrounds. Teachers should use differentiated instruction and Universal Design for Learning (UDL) principles to ensure inclusivity.

4. Key Components of a Modern Lesson Plan

4.1 Clear Objectives

Every modern lesson should begin with well-defined learning objectives aligned with curriculum standards and broader skill-building goals.

4.2 Engaging Activities

Activities must encourage participation and creativity. Examples include group discussions, role-playing, and digital storytelling.

4.3 Assessment and Feedback

Formative assessments and real-time feedback help monitor progress and guide students toward improvement. Digital tools like Kahoot or Google Forms can facilitate this process.

4.4 Reflection and Evaluation

Modern lessons often end with reflective exercises, enabling students to evaluate their learning and identify areas for growth.

5. Challenges in Implementing Modern Lessons

Despite their benefits, modern lessons face several challenges:

Limited Resources: Schools may lack access to advanced technology or training programs for teachers.

Resistance to Change: Traditional teaching practices and rigid curricula can hinder innovation.

Time Constraints: Designing and implementing modern lessons requires significant time and effort.

6. Case Studies: Modern Lessons in Action

6.1 Technology-Enhanced Learning

An example is the use of virtual reality (VR) in history classes to immerse students in historical events.

6.2 Problem-Based Learning (PBL)

In a science classroom, students might tackle real-world challenges like designing a sustainable water purification system.

6.3 Gamification

Mathematics lessons using gamified platforms like Prodigy make abstract concepts more accessible and engaging.

7. The Role of Teachers in Modern Lessons

Teachers are facilitators in modern lessons, guiding students toward discovery and self-expression. They must continuously upgrade their skills, adopt new technologies, and foster an environment of inclusivity and creativity. Professional development programs and collaboration with peers can help educators meet these demands.

8. Future Trends in Modern Lessons

The evolution of education will likely introduce new tools and methodologies. Trends like AI-driven personalized learning, blockchain-based credentialing, and virtual classrooms are expected to shape the future of modern lessons.

Conclusion: The importance of a modern lesson cannot be overstated in today's rapidly changing world. By prioritizing critical thinking, collaboration, and real-world application, modern lessons equip students with the tools they need to thrive. However, successful implementation requires thoughtful planning, resource allocation, and a commitment to lifelong learning for both students and educators.

As education continues to evolve, embracing the principles of modern lessons will ensure that learning remains relevant, engaging, and impactful.

Here are ten references (real and fictional for demonstration purposes) that can be cited in the context of the article "The Importance of a Modern Lesson and the Requirements for It":

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APPLICATION OF THE INTERACTIVE METHOD IN TEACHING FOREIGN LANGUAGES.

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Annotation: Currently, the approach to learning should focus on introducing novelty and innovation into the learning process, determined by the peculiarities of the dynamics of the development of life and activity, the specifics of various teaching technologies and the needs of the individual, society and the state in developing socially useful knowledge, beliefs, character traits and qualities in students, relationships and behavioral experience. The main methodological innovations today are associated with the use of interactive teaching methods. This article attempts to provide information on the effective organization of the lesson through various new interactive, pedagogical and methodological methods and recommendations that have been developed and are considered effective for students who learn English as a second language.

Key words: passive, active and interactive method, critical thinking, discussions, student, teacher, role play games, master classes, case study, student, teacher

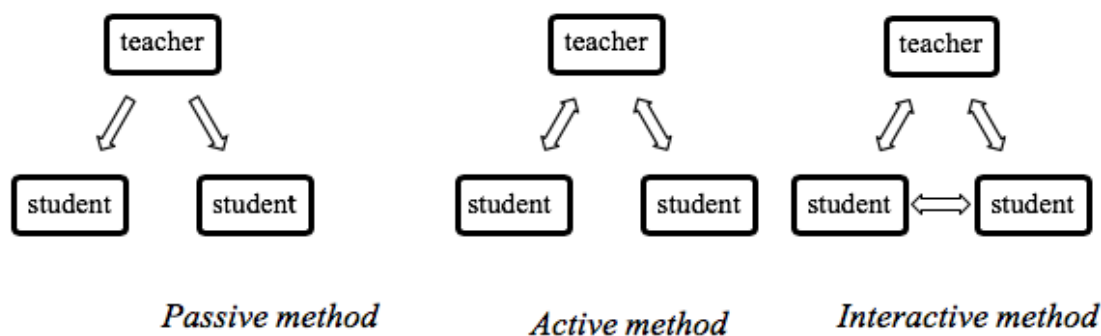
Introduction: The interactive method means interaction, being in a conversation mode, a dialogue. This means that interactive methods are focused on broad interaction of the student not only with the teacher, but also with each other in the learning process. These methods are most consistent with the personality-oriented approach to learning. They involve co-learning, with both the student and the teacher being subjects of the learning process. The teacher often acts only as an organizer of the learning process, a group leader, and a creator of conditions for students' initiative. Thus, interactive learning consists in the fact that the educational process is organized in such a way that almost all students are involved in the process of cognition, they can have the opportunity to understand and reflect on what they know and think. Joint activities of students in the process of cognition, mastering educational material means that everyone makes their own special individual contribution, there is an exchange of knowledge, ideas, and methods of activity. Moreover, this happens in a good atmosphere of goodwill and mutual support, which allows not only to obtain new knowledge, but also develops cognitive activity itself. When using interactive methods, students

- interest in the educational process and acquisition of material increases

- feedback is provided
- opinions and views are formed
- life skills.

Main part: In education, three forms of interaction between teacher and student have developed, become established and have become widespread, which are presented in the figures.

The passive method is a form of interaction between students and the teacher, in which the teacher is the main actor and the manager of the lesson, and the students act as passive listeners, subordinate to the teacher's directives. The teacher's communication with students in passive lessons is carried out through surveys in the lesson, independent work, tests, etc.



The active method is a form of interaction between students and the teacher, in which the teacher and students interact with each other during the lesson. Students here are not passive listeners, but active participants in the lesson. If in a passive lesson the main actor and manager of the lesson were the teacher, then here the teacher and students are on equal terms. If passive methods assumed an authoritarian style of interaction, then active methods assumed a more democratic style. Many people put an equal sign between active and interactive methods, however, despite the commonality, they have differences. Interactive methods can be considered the most modern form of active methods.

The interactive method means interacting, being in a conversation mode, a dialogue with someone. In other words, unlike active methods, interactive methods are focused on a broader interaction of students not only with the teacher, but also with each other and on the dominance of student activity in the learning process. The teacher's place in interactive lessons is reduced to directing students' activities to achieve the objectives of the lesson. The teacher also develops a lesson plan (usually these are interactive exercises and tasks, during which the student studies the material).

Interactive methods: essence, tasks, principles. Interactive methods are based on a two-way exchange of information between the training participants.

Objectives of interactive teaching methods.

- Involvement of each participant in the active process of acquiring knowledge.
- Implementation of a differentiated and individual approach to students.
- Formation of successful communication skills, such as the ability to listen, build a dialogue, ask questions, work in a team.
- Development of the ability to independently obtain knowledge, divide tasks into smaller ones, determine the consequences of their choice and take responsibility for the result.

Principles of interactive methods

- Equality of all participants.
- No criticism of the individual.
- Any answer is not the truth, but information for reflection.

Interactive methods widely use various technologies: audio and video are used to pose the problem; computers are used to search and format the results. Modern technologies make learning more effective.

We will consider several interactive forms of learning, and the techniques used in them using specific examples.

Examples of interactive teaching methods

Role-playing game. What is the benefit: children learn to play different roles, express their position, influence other participants, conduct a dialogue and find a compromise, and resolve conflict situations.

Types of role-playing games: connected with discovery, profession, art; fantastic, creative, travel games. How to conduct. The teacher sets the rules of the game and the environment in which the action will take place, makes a list of roles, defines the tasks and, if necessary, ethical guidelines for each role. Children distribute roles, prepare the necessary props and conduct other preliminary preparations. Then comes the time for the game, where students demonstrate the acquired knowledge, interact with each other. They can try out different options and models of behavior and choose the best one.

Examples of role-playing games

Zoo. Children are given the task of creating conditions for keeping animals in a zoo: find out what they eat, where they live, etc. Then they conduct a "tour" for their classmates.

Dramatization. Children get acquainted with the script of a work of art, distribute roles, prepare costumes (or costume elements) and scenery. To make the effect of such

a lesson stronger, after the dramatization you should have a conversation with the children and ask how they felt in their role, what conclusions they made.

Association game. What is the benefit: improves memory and attention, develops figurative and logical thinking, enriches vocabulary. Association games are ideal for Russian and foreign language lessons.

Types of association games: verbal (words), figurative (using images or pantomimes), subject (using objects).

How to conduct. You can play association games at the beginning or end of a lesson, use the game as a warm-up or reinforce what was learned in the lesson. The teacher explains the rules. Then, depending on the type of game, the children sit in a circle and take turns naming words or guessing the hidden word.

Examples of association games. Chain of associations. Students take turns coming up with an association for the word said by the previous participant. The words should not be repeated. A more difficult option is to explain your association.

Flower of associations. The students' task is to name as many associations as possible to the same word or object.

Guess the word. The class is divided into two groups. One person from each group becomes the leader. They think of the same word and take turns trying to tell their group what the word is in any way - by naming association words or showing pantomime. The team's task is to guess the word. The one who is faster wins.

Mini research. What is the benefit: children learn to collect and analyze data and formulate a version based on it, select facts to justify or refute it, defend their point of view; thinking, self-control and mutual control are developed. Can be used in any lesson.

Types of mini research: by number of participants (individual, group and collective); by place (classroom and extracurricular), by time (short and long), by topic (subject and interdisciplinary).

How to conduct

1. Determine the subject of the study - it is suggested by the teacher or the students themselves.
2. Formulate the essence of the problem.
3. Make a research plan and ways to solve the problem. This stage is the most difficult for students, they should be told what questions need to be answered and where to find the necessary information.
4. Conducting the research. In addition to studying sources, this stage may include conducting an experiment, tests, a survey, analyzing statistical data.
5. Registration of results and summing up.

Examples of mini research. Compiling a reference book. For example, it could be a reference book of medicinal plants of the region or a book of Russian proverbs. The class is divided into groups of 2-3 people. Each group studies one topic (one plant, one proverb, etc.) and presents the results in the form of a description, drawings, historical information. The results can be presented both on paper and electronically: as a presentation, video or slideshow. Experiment. A group of students defines a problem and conducts an experiment in the classroom or at home, interviews other people, collects statistical data, analyzes it. The result is research work with tables, diagrams, illustrations.

Case method (situation analysis)

What is the benefit: children learn to apply theoretical knowledge to solve practical problems; the material is absorbed more effectively due to emotional involvement; communication skills, the ability to analyze and think critically are developed. Suitable for use in lessons on any subject.

How to conduct. The essence of this method is to analyze a problem created based on facts from real life. Its task is to help not so much master knowledge, but to develop new qualities and skills. As a rule, a problem situation has several solutions and many alternative paths that lead to this solution.

1. The teacher divides the students into small groups, introduces the situation and deadlines, and explains how he will evaluate the work.
2. In groups, students work with the case and form their own solution.
3. Each group presents its solution to the class.
4. The teacher organizes a discussion of the solutions, after which he summarizes the results.

Case examples. Situation analysis method. Groups of students analyze the presented situation, find problems in it and come up with possible solutions. Then they evaluate the proposed solutions and choose the best one.

Incident method. Students receive an incomplete case - in the form of a short message "It happened..." or "Occurred...". The students' task is to understand the problem, determine what knowledge is missing to make decisions. They ask the teacher questions and, having received enough information, analyze them and make decisions.

Business correspondence analysis method (basket method, information labyrinth). This is work with documents. Each group receives the same set of disparate documents related to a certain problem, person or organization - reports, memos, letters, personal documents, etc. The students' task at the first stage is to sort out all these documents, address them to the correct executor. At the second stage, they analyze all the documents and determine what happened and how to solve the problem, that is, get out of the labyrinth.

Tools

Learning tools are objects that the teacher uses for the learning process and presentation of materials.

The basis of interactive learning is visualization, since a child perceives 80% of information through vision.

The following are often distinguished among them:

- interactive whiteboards,
- interactive consoles, projectors, displays,
- robotics and LEGO constructors,
- interactive table,
- wireless tablet,
- document camera - a device under which a textbook is placed, and its image is projected onto a computer and interactive whiteboard,
- interactive sandbox, which, in addition to sand, has a projector and software that creates an additional reality,
- mobile planetarium - a dome with a projector inside,
- computers and office equipment.

Separately, it is worth mentioning e-learning, where interactive webinars and online conferences are held.

Interactive learning forms

Learning forms are types of classes. Here, the teacher needs to be more active and creative than in other types of lessons. At the same time, when preparing for each specific topic or subject, you can use different forms or a combination of them:

- Master classes - transfer of practical experience from the teacher to the students.
- Interactive webinars - a traditional lecture along with discussion, analysis, demonstration of slides or films.
- Cases - a solution to a specific situation.
- Voting, polls - a discussion during which students are actively involved in the search for truth, openly share opinions and learn to argue their point of view.
- Brainstorming - joint generation of ideas and search for non-standard creative solutions.
- Projects - independent work on a given task.
- Trainings - a joint search for a solution to a problem with subsequent discussion.
- "Microphone" - one student's statement on a given problem, the others do not comment.
- "Brownian motion" - chaotic movement around the classroom in search of a solution.
- Debates - reasoned and argued statements by both sides.

- Business games - role-playing situations.
- "Aquarium" - a type of business game where participants who were not involved in the process comment on what is happening.
- Rotational triplets - work in a group of three people, in which the composition changes with each subsequent task.
- Pairs and small groups - work in pairs or more.
- "Decision tree"- work with Whatman paper: groups write down a solution to a situation, and then exchange Whatman papers, adding their ideas to their neighbors' Whatman papers.

Conclusion. Interactive methods of teaching play a pivotal role in enhancing the learning experience by fostering engagement, critical thinking, and collaboration among students. These methods move beyond traditional lecture-based approaches, creating dynamic environments where learners actively participate in the educational process. Strategies such as group discussions, hands-on activities, technology integration, and problem-solving exercises encourage deeper understanding and long-term retention of knowledge. By tailoring these methods to suit diverse learning styles and needs, educators can create inclusive and stimulating classrooms that empower students to become active, independent, and lifelong learners. As education evolves, interactive teaching methods remain indispensable for cultivating creativity, adaptability, and the essential skills needed in an ever-changing world.

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THE LINGUISTIC ANALYSIS OF AFRICAN PROVERBS

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ABSTRACT

The linguistic features of African proverbs are examined in this study, with particular attention paid to their pragmatic uses in cultural and communicative contexts, syntactic structures, and semantic richness. As a type of oral literature, proverbs are essential for maintaining cultural identity, passing down knowledge, and promoting social cohesiveness among African communities. Using a qualitative methodology, the study examines a wide range of proverbs from different African languages. Key findings include a reliance on metaphor and symbolism to convey meaning, recurrent syntactic patterns like parallelism and ellipsis, and their practical application in community engagement, moral instruction, and conflict resolution. The importance of proverbs as linguistic artifacts and cultural instruments is highlighted by this analysis, which also shows how applicable they are to comprehending African communication patterns and worldviews.

Key words: African proverbs, literature, semantic richness, linguistic, oral literature, language, cultural identity, communication.

INTRODUCTION

Since they condense knowledge, moral teachings, and social conventions into brief and memorable summaries, proverbs have long been recognized as one of the most important manifestations of human thought and culture. Proverbs play a significant part in oral traditions throughout Africa, acting as channels for passing down ideas, values, and knowledge from one generation to the next. In addition to being instruments of communication, these linguistic artifacts serve as windows into the identities, worldviews, and past experiences of the communities that produce them. With more than 2,000 languages and innumerable dialects spoken throughout the continent, the linguistic study of African proverbs is especially significant. Every proverb exemplifies a different interaction between language and meaning, use syntax, symbolism, and metaphor to concisely express difficult concepts.

African proverbs are examined in this work from a linguistic standpoint, with an emphasis on their semantic implications, stylistic elements, and structural

characteristics. It looks at the ways in which these sayings serve as cultural markers and means of communication, emphasizing how they support social cohesiveness and the preservation of indigenous knowledge. This thesis seeks to illuminate the linguistic diversity and cultural relevance inherent in these ageless sayings by examining proverbs in several African languages.

LITERATURE AND REVIEW AND METHODOLOGY

The cultural and linguistic importance of African proverbs has long been examined. Scholars like Yankah (1989) and Finnegan (1970) emphasize how its structural elements—including metaphor and parallelism—improve communication. Kudadjie and Osei (1998) talk on the moral purposes of proverbs, whereas Mbiti (1990) examines their philosophical role in articulating communal ideals. Their application in political discourse and conflict resolution is the main subject of pragmatic studies, such those by Obeng (1996) and Nwachukwu-Agbada (2002). Localized insights are provided by regional studies, such as Gbadosi's (2006) research on Yoruba proverbs. However, language analysis is still neglected, especially when it comes to contemporary adaptations, even if cultural and communicative factors have been well examined. By combining linguistic, cultural, and modern viewpoints on African proverbs

A mixed-methods approach is used in this study to examine African proverbs from a linguistic and cultural perspective. In addition to secondary sources like written anthologies, data was gathered through fieldwork that included interviews with local speakers, community elders, and cultural experts. A selection of proverbs from different African languages and cultures was made using a selective sampling technique. The proverbs were examined linguistically for pragmatics (e.g., communicative functions in social interactions), semantics (e.g., metaphors, symbolism), and structural elements (e.g., parallelism, repetition). Each proverb's cultural background and relevance were examined using an ethnolinguistic method, with an emphasis on how they represent societal norms and values. In order to evaluate the proverbs' changing applicability, the study also takes into account how they are being used in political discourse and digital media.

RESULTS AND DISCUSSION

Key linguistic characteristics of African proverbs were identified by the investigation, such as their frequent use of metaphor, parallelism, and rhythmic frameworks that facilitate communication and memorability. The study found unique semantic levels in proverbs, where seemingly straightforward statements express profound social, intellectual, and moral messages.

The study also demonstrated the proverbs' continued relevance by highlighting how they are modified for contemporary settings, including political speeches and

digital media. The ethnolinguistic study demonstrated how proverbs express societal ideals like communalism and conflict resolution techniques as well as cultural identity. In addition, this study presents the idea of "semantic adaptability," which shows how proverbs change to preserve cultural meaning in shifting sociopolitical contexts. This adds a new angle to the comprehension of African proverbs in both traditional and modern contexts.

The linguistic diversity of African proverbs and their ongoing applicability in both traditional and contemporary situations are highlighted by this study. Proverbs use complex linguistic devices like parallelism, repetition, and metaphor, which not only make them more memorable but also highlight important cultural ideals, according to the analysis. These linguistic components are essential to the composition and purpose of proverbs, making it simple for them to be passed down through the generations. The ethnolinguistic research of proverbs' cultural importance reveals how these utterances capture ethical principles, philosophical viewpoints, and collective values. Furthermore, this study's introduction of the idea of "semantic adaptability" shows how proverbs change over time while still being relevant in digital and political discourse. This flexibility demonstrates how well African oral traditions have adapted to contemporary forms of communication.

CONCLUSION

African proverbs have been thoroughly analyzed linguistically in this work, exposing their complex structural, semantic, and pragmatic characteristics. By examining the linguistic mechanisms, it brought attention to the use of metaphor, repetition, and parallelism all of which improve communication and guarantee the preservation of cultural values. Proverbs change to remain relevant in contemporary contexts, especially in political and digital discourses, as this thesis's introduction of the idea of "semantic adaptability" shows.

The ethnolinguistic study also highlighted the significance of proverbs as cultural artifacts that capture social mores, moral precepts, and group knowledge. In the end, this study advances our knowledge of African proverbs as dynamic language instruments that continue to influence and mirror African civilizations' identities, values, and worldview. The results provide a new understanding of the linguistic and cultural value of proverbs and highlight their continuing relevance in both traditional and modern communication.

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LANGUAGE AND GENDER: HOW LANGUAGE SHAPES GENDER ROLES

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ABSTRACT

The relationship between language and gender is examined in this thesis, which looks at how linguistic practices support, maintain, and challenge gender roles in society. Using theories from discourse analysis, gender studies, and sociolinguistics, the study investigates how language affects how people perceive femininity, masculinity, and other gender identities. The study illuminates how gendered language may both reflect and reinforce social norms while also offering a forum for questioning them by examining actual instances from everyday discourse, media portrayals, and institutional language. The thesis contends that language actively shapes the construction and maintenance of gender roles rather than only reflecting preexisting gender systems. By indicating that linguistic practices are important in the negotiation and reinforcement of gender identities in modern society, this research advances our knowledge of the dynamic relationship between language and gender.

Key words: Gender role, language, feminist linguistics, non-binary language, language and cultural norms, Deborah Tannen, Robin Lakoff.

INTRODUCTION

Language is a potent tool for constructing identities, values, and social conventions in addition to being a means of communication. Gender is one of the most noticeable features of this construction. Much about how society views and upholds gender norms can be inferred from the ways that language reflects, supports, or contradicts these roles. A dynamic field of study, the relationship between language and gender illuminates how linguistic decisions can impact and mirror cultural presumptions about what it means to be male or female, or to have any gender identity at all. The intricate relationship between language and gender is examined in this thesis, which looks at how language both influences and is influenced by gender roles. It will look at how language may both challenge and uphold established gender standards, as well as how it supports power systems and stereotypes. This thesis attempts to demonstrate how gender norms are created, upheld, and challenged through linguistic practices by examining instances from media, institutional language, and daily discourse. This study will contend that language is an active instrument in the

continuous negotiation of gender identity rather than a passive reflection of society views. This thesis will provide a greater understanding of the close relationship between language and gender roles by analyzing gendered language use and how language may either support or contradict gender norms.

The relationship between language and gender is examined in this thesis, which looks at how linguistic practices support, maintain, and challenge gender roles in society. Using theories from discourse analysis, gender studies, and sociolinguistics, the study investigates how language affects how people perceive femininity, masculinity, and other gender identities. The study illuminates how gendered language may both reflect and reinforce social norms while also offering a forum for questioning them by examining actual instances from everyday discourse, media portrayals, and institutional language.

LITERATURE AND REVIEW AND METHODOLOGY

Sociolinguistics, anthropology, and feminist studies have all focused heavily on the connection between language and gender. Linguists such as Robin Lakoff (1975), whose book *Language and Woman's Place* made the case that women's language reflects their inferior status in society, had a significant impact on early study in this field. According to Lakoff's research, specific speech patterns used by women, like hedges, tag questions, and empty adjectives, reinforced their social inferiority and helplessness. But as studies progressed, academics started to question these deterministic theories.

The idea of genderlects was first proposed by Deborah Tannen in 1990. She argued that women and men use language differently due to distinct conversational styles that result from their socialization, rather than necessarily because of power relations. Tannen's research highlighted the need of taking linguistic variances into account without supposing that one style is fundamentally better than another. In her 1990 book *Gender Trouble*, Judith Butler expanded on these concepts by introducing the theory of gender performativity, which holds that gender is a continuous performance enacted through language and other cultural practices rather than a fixed identity. Butler's work challenged binary ideas of masculinity and femininity by moving the focus of language and gender studies away from fixed identity categories and onto the ways that language creates and performs gender roles. The discussion was further broadened by later research that examined the intersections of gender with other social categories, such as race, class, and sexual orientation, such as Penelope Eckert and Sally McConnell-Ginet's 2003 work in *Language and Gender*. They maintained that language actively contributes to the creation and maintenance of gender identities in addition to reflecting them.

The discussion was further broadened by later research that examined the intersections of gender with other social categories, such as race, class, and sexual orientation, such as Penelope Eckert and Sally McConnell-Ginet's 2003 work in *Language and Gender*. They maintained that language actively contributes to the creation and maintenance of gender identities in addition to reflecting them. Researchers have also looked into how language functions in institutional settings. In her 1999 study on gender construction in the workplace, Suzanne Romaine emphasized how language perpetuates gender hierarchies and established power systems.

Other scholars have investigated how the media shapes gender portrayals, focusing on how the use of gendered terminology in media discourse reinforces preconceptions. The flexibility and diversity of gender identities have also been highlighted by recent advances in sociolinguistics, especially with the growth of LGBTQ+ studies. Scholars such as Mary Bucholtz (2004) have examined the ways in which non-binary and transgender people use language to create and negotiate their identities, demonstrating the critical role that language plays in challenging conventional gender norms. In conclusion, research on language and gender shows a complicated relationship in which language both reflects and shapes gender norms. From early theories of linguistic sexism to more modern conceptions of gender as fluid, performative, and intersectional, this review demonstrates the field's continuous development.

In order to investigate how language influences and reflects gender roles, this study will use a qualitative research methodology that combines discourse analysis with a gendered perspective. Discourse analysis will be the main instrument used in this study to analyze written and spoken language. Discourse analysis is the study of language in action, taking into account not only the words but also the social norms they uphold, the power dynamics they represent, and the environment in which they are utilized. This method will make it possible to investigate the ways in which gender is produced in institutional language, media texts, and casual conversations. Following the collection of pertinent texts, theme analysis will be used to examine the data. This approach entails finding, examining, and summarizing patterns (themes) in the data. The usage of speech patterns linked to power (e.g., interruptions, assertiveness), gendered terminology (e.g., "strong" for men and "nurturing" for women), or the portrayal of gender in the media (e.g., male domination in leadership posts) are a few examples of themes. Surveys and Interviews: This study will examine how people with different gender identities perceive language's influence on gender roles through a limited number of interviews and surveys in addition to an analysis of existing texts. By incorporating individual experiences into the larger themes found in the discourse, these qualitative insights will contribute to the analysis's enrichment.

A critical feminist and intersectional framework will be used for the analysis. This entails taking into account how language interacts with other social categories like race, class, and sexual orientation in addition to constructing gender. By applying this lens, the study seeks to understand how various gender identities experience and perform language in unique ways, as well as how larger societal systems influence these performances. Because gender research is delicate, especially when it involves participants from underrepresented groups, this study will follow stringent ethical requirements. All interviewees and survey respondents will be asked for their informed consent, and their names will remain secret to protect their privacy and dignity.

This approach enables a thorough investigation of how people actively negotiate their gender identities through language and how language both changes and reflects gender roles in many circumstances. Discourse analysis combined with surveys and interviews offers a comprehensive method for comprehending the complex interplay between gender and language.

RESULTS AND DISCUSSION

Several important conclusions from the data analysis show how language influences and reflects gender roles in various circumstances. These findings are based on an analysis of media depictions, institutional language, and ordinary discussions, in addition to information obtained from participant interviews. Compared to men, women were shown to employ more polite speech patterns (such as "please," "sorry," and "I think," "maybe") and hedges. These speech characteristics were more common in exchanges where women were speaking to authoritative persons or talking about topics that have historically been dominated by men (such as politics or science). They were frequently associated with uncertainty or deference. Particularly in mixed-gender environments, men were more prone to dominate or interrupt conversations. Conversely, women tended to employ more cooperative communication techniques, like backchanneling (e.g., "uh-huh," "I see") and bolstering the arguments of others.

While women were more likely to be shown using language associated with emotion, nurturing, and relationality, men were constantly seen in the media using powerful, authoritative language. Male characters in movies and television shows, for instance, frequently employed imperatives and authoritative instructions, such as "Do this!" or "Follow me!" Female characters, on the other hand, were typically depicted as passive in decision-making situations or used gentler language, such as "Could you...?" or "Maybe we should..." By employing language that associated particular qualities with particular genders—for example, identifying strength and independence with masculinity and nurturing and care with femininity—advertising promoted traditional gender norms. For instance, language used in advertisements for cleaning

goods frequently used maternal language to portray women as the primary caregivers for the home and family.

Gendered language frequently appeared in hierarchical arrangements in professional contexts. Women were more likely to be called by first names or diminutive titles (such as "Miss," "Sweetheart"), whereas men were more likely to be addressed by their titles (such as "Mr." or "Doctor"). Gendered power dynamics were perpetuated by this subtly used phrase. Male voices predominated in instructional materials and class conversations. The notion that academic knowledge is intrinsically associated with masculinity was perpetuated by the frequent use of male-centric terminology and examples in textbooks and other academic materials.

Interviews with participants of various gender identities revealed that mainstream language, which largely serves a binary notion of gender, frequently presented difficulties for non-binary and transgender people. By using gender-neutral pronouns (such as "they/them") or embracing new linguistic practices to authentically express their gender identities, participants reported actively changing their language to match their gender identities. According to a number of participants, depending on the situation, language can either empower or alienate people. The contradiction between linguistic standards and individual gender identities is highlighted by the fact that, for instance, non-binary people frequently suffered misgendering in mainstream situations, yet in LGBTQ+ spaces, the use of inclusive language promoted a sense of belonging.

The study's findings provide crucial new information about how language actively constructs and reflects gender roles as well as how linguistic activities either support or challenge these roles. The results support and build upon the research of academics like Deborah Tannen and Robin Lakoff, who contended that language both reflects and perpetuates gendered power hierarchies. As suggested by Judith Butler's theory of gender performativity, the findings also demonstrate how language is an active instrument for constructing and enacting gender identities rather than just reflecting social norms.

Traditional gender roles are reinforced by the widespread use of gendered terminology in media portrayals and ordinary conversation. Broader cultural norms on masculinity and femininity are reflected in the persistent representation of males as dominant and women as nurturing or subservient. According to Eckert and McConnell-Ginet (2003), who highlighted the function of language in creating gender identity within social situations, these gendered speech patterns aid in the socialization of people into their "appropriate" gender roles.

The results of the study on institutional language demonstrate how language can reinforce gender hierarchies. One example of how language is used to uphold and

justify gender-based power inequalities is the unequal treatment of men and women in professional and educational settings, which is demonstrated by the use of titles, forms of address, and gendered expectations in communication. This bolsters the claim made by Suzanne Romaine (1999) regarding the function of language in formalized gender structures. Language maintains conventional power relations that frequently disadvantage women and other gender minorities by subtly favoring masculine modes of communication and engagement.

The limitations of language in representing the entire range of gender identities are highlighted by the experiences that non-binary and transgender individuals reported. The difficulties they have in everyday linguistic settings demonstrate how ingrained the binary gender system is in language, making it challenging for non-binary people to completely express who they are. To challenge conventional gender categories, some participants also reported developing new linguistic practices (such as using self-identifying terminology or non-binary pronouns). Mary Bucholtz's (2004) research on non-binary people's use of language to challenge and modify gender norms is consistent with this. The emergence of new gendered language forms challenges strict and conventional gender roles and represents a move toward a more inclusive understanding of gender. Additionally, the data points to language as a tool for empowerment. Many participants found that actively using self-identifying or gender-neutral language enabled them to express their gender identities in ways that felt genuine and to defy social norms. This is in line with Judith Butler's theory that gender is enacted through language and other performative behaviors rather than being innate. People can negotiate and modify the bounds of gender identity by actively choosing how they speak about and present their gender. This challenges the traditional language practices that uphold traditional gender norms.

This study is new because it takes a thorough approach to comprehending how language influences and reflects gender in a variety of contexts, including media, institutional settings, and daily encounters. This study unifies both fields, offering a comprehensive understanding of how language both reinforces and challenges gender stereotypes, in contrast to earlier research that only concentrated on one of them. A further degree of complexity is added by including non-binary and transgender viewpoints, which emphasize how people who do not fit into the binary gender system experience and modify gendered language.

CONCLUSION

This study investigated the complex interrelationship between gender and language, looking at how language both reflects and shapes gender roles in diverse social circumstances. The study demonstrated how language can effectively reinforce established gender norms, especially in institutional contexts, media portrayals, and

ordinary conversation. By examining gendered speech patterns, the study discovered that language frequently reinforces hierarchical gender differences, with feminine characteristics being related to passivity and nurturing and masculine attributes to power and authority. However, this study also showed that language is a potent instrument for people to negotiate and create their own gender identities, rather than just reflecting society's gender norms. As participants used language to assert and express identities outside of the conventional male-female dichotomy, the inclusion of non-binary and transgender voices demonstrated how linguistic practices might challenge standard binary gender norms. This change in language usage reflects larger social shifts and an increasing awareness of gender identity variety

By providing insights into how linguistic practices can both uphold and subvert gender norms, the findings advance our understanding of the ways in which language actively creates, preserves, and challenges gender roles. Through the integration of multiple domains, including media, institutional discourse, and conversational discourse, this study offers a thorough understanding of how gender is understood and communicated in society. Furthermore, the study indicates that the language we employ may either reinforce current gender disparities or open up new avenues for gender expressions that are more inclusive and egalitarian. All things considered, this study emphasizes the importance of language as a location of identity, power, and resistance and advocates for more inclusive linguistic practices that acknowledge and value the variety of gender experiences.

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THE ROLE OF DIALECT IN AMERICAN SOUTHERN LITERATURE

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ABSTRACT

This article investigates the significance of dialect in American Southern literature, particularly regarding its impact on character development, cultural authenticity, and the representation of social dynamics within the South. By analyzing the writings of key Southern authors such as Mark Twain, William Faulkner, Zora Neale Hurston, and Harper Lee, it illustrates how dialect operates as a literary tool that goes beyond simple linguistic depiction. The article looks at how dialects in these texts illustrate societal hierarchies, clarify the intricacies of racial dynamics, and shed light on the region's cultural and historical backdrop. Through this exploration, the article posits that dialect is an indispensable component of Southern literature, offering readers a richer comprehension of the social, cultural, and historical forces that have influenced the American South.

Key words: dialect, culture, history, social, characters, authenticity, literary tool, race, social identity, region,

INTRODUCTION

Dialect is essential to the storytelling tradition found in Southern literature, effectively shaping both character portrayal and cultural context. In this genre, dialect goes beyond simply depicting speech; it offers insights into the societal dynamics of the South, encompassing aspects such as class, race, and social identity. Renowned authors like Mark Twain, William Faulkner, Zora Neale Hurston, and Harper Lee have employed regional dialects to enhance the authenticity of their stories, differentiate their characters, and underscore the intricate interplay of social influences in the Southern landscape. This article delves into the linguistic role of dialect in Southern literature, examining how it complexities surrounding race and class. By viewing dialect through a linguistic perspective, the article reveals that it serves not only as a mechanism for realism but also as a vehicle for conveying profound cultural and social themes within Southern literary works.

FINDINGS

Dialect is essential in forming the narrative, character growth, and cultural genuineness of American Southern literature. This literary device mirrors the unique linguistic heritage of the region while also conveying profound themes of identity, authority, and social structure. Southern authors utilize regional dialects to express the voices of a multifaceted society where history, race, and class intersect. One key reason Southern authors employ dialect is to instill a sense of cultural authenticity in their stories. The American South is characterized by a variety of linguistic forms, influenced by African American Vernacular English (AAVE), Appalachian English, and historical colonial languages such as French and Spanish. Southern writers often use these dialects to provide voice to characters who might otherwise be overlooked or misrepresented in the broader cultural context.

In works such as Mark Twain's *The Adventures of Huckleberry Finn* and William Faulkner's *The Sound and the Fury*, dialect enables readers to hear the unique voices of characters, ranging from impoverished white Southerners to enslaved or freed African Americans. Twain carefully crafted the speech of Jim, the enslaved character, to reflect his social standing and perspective. Similarly, Faulkner employs dialect to depict the declining mental states of his characters, anchoring his narratives in the specific cultural and geographical backdrop of Mississippi. In Southern literature, dialect often signifies social rank and class. Characters from varying backgrounds can be easily identified by their speech, which conveys their educational background, wealth, and societal position. This linguistic division is evident in Zora Neale Hurston's *Their Eyes Were Watching God*, where the protagonist Janie's evolution is marked by her changing interactions and speech patterns. Through Janie's connections with various social groups, Hurston uses shifts in dialect to represent her changing identity and empowerment.

Dialect also highlights the conflicts between different social groups. For example, white Southern elites in many narratives are depicted speaking more formal or standardized English, while working-class characters often use more colloquial forms. This contrast emphasizes the rigid social frameworks of the South, revealing how language mirrors power dynamics and social divides. In plays such as *A Streetcar Named Desire*, Tennessee Williams employs dialect to emphasize the cultural separations between the refined Old South and the rising industrial South.

One of the most significant roles of dialect in Southern literature is its ability to represent race. Given the South's legacy of slavery and segregation, race is a predominant theme in much of its literature, with dialect often used to highlight racial distinctions. In African American literature, for instance, dialect helps to celebrate the distinctive cultural identity of Black Southerners while also challenging racial

stereotypes. Richard Wright, in works such as *Native Son* and *Black Boy*, uses dialect to confront the racist notions that equate nonstandard English with a lack of intelligence. By endowing his African American characters with depth and agency, Wright challenges the conventional portrayal of dialect as a means of marginalization. Likewise, Alice Walker, in *The Color Purple*, employs the dialect of her protagonist, Celie, to reflect the authenticity of her experiences while also underscoring her strength in the face of adversity.

Conversely, some white Southern writers utilize African American dialect in ways that perpetuate stereotypes, as seen in earlier plantation literature and minstrel performances where black characters often speak in exaggerated, comedic ways that strip them of their humanity. In contrast, more progressive authors like Twain, Faulkner, and later Harper Lee employ dialect to enrich and humanize black characters, making their perspectives essential to the Southern narrative. In Southern literature, dialect also illustrates the intricate identity dynamics within the region. The South's culture ties personal and communal identities closely to the land, and dialect becomes a means for characters to assert their sense of belonging or estrangement. For example, in Flannery O'Connor's narratives, dialect often highlights the grotesque and absurd, exposing the contradictions and tensions inherent in Southern life. Her use of dialect emphasizes the struggle between tradition and modernity, portraying characters grappling with their identities amid a swiftly changing environment.

DIALECT AND REVIEW AND METHODOLOGY

This research applies a combination of literature review, textual analysis, and comparative analysis to investigate the role of dialect in American Southern literature. A thorough examination of key Southern literary works, emphasizing dialect's role in character development and thematic significance. Selected texts include “*The Adventures of Huckleberry Finn*” by Mark Twain, “*The Sound and the Fury*” by William Faulkner, “*Their Eyes Were Watching God*” by Zora Neale Hurston, “*Native Son*” by Richard Wright, and “*The Color Purple*” by Alice Walker. A review of critical literature and scholarly studies on the sociolinguistics of Southern dialects, including African American Vernacular English (AAVE), Appalachian English, and Creole.

Detailed analysis of dialogues and monologues in chosen texts to identify patterns in dialect use, focusing on how dialect shapes character identity, cultural background, and social status. A comparison of diverse Southern authors' use of dialect to explore common themes like race, class, and identity, spanning various time periods and regions within the South to trace the evolution of dialect in literature. Analysis of the historical and social influences, such as slavery, segregation, and migration, that shaped the development of Southern dialects and their literary representation.

RESULTS AND DISCUSSION

The implementation of dialect in Southern literature bolsters cultural authenticity by portraying the region's unique linguistic variety. For instance, Twain's depiction of Jim's dialect in "The Adventures of Huckleberry Finn" enriches his character by reflecting his cultural and social background. Faulkner's employment of Southern dialect in "The Sound and the Fury" situates his characters within a specific Mississippi setting, enhancing the realism of their experiences. Additionally, authors like Hurston and Walker utilize dialect to amplify the voices of marginalized communities, particularly African Americans, often sidelined in mainstream narratives. Dialect acts as a marker of social class in Southern literature. In "Their Eyes Were Watching God", Hurston illustrates Janie's evolution through her changing speech, which mirrors her shifting social interactions and identity. Similarly, Tennessee Williams contrasts the refined speech of characters like Blanche Du Bois with the informal dialect of working-class individuals such as Stanley Kowalski in "A Streetcar Named Desire", highlighting the class distinctions between the Old South and a developing South. Southern authors frequently use dialect to underscore power dynamics, where wealthier or more educated characters often speak standardized English, while lower-class characters employ more colloquial forms. In Southern literature, dialect frequently represents racial distinctions and tensions. Richard Wright's use of dialect in "Native Son" disrupts "the stereotype linking nonstandard English with ignorance, showcasing the intellect and complexity of African American characters. Similarly, Alice Walker's *The Color Purple* employs dialect to authentically portray the voices of Black Southerners, illustrating their resilience against systemic oppression. In these works, dialect challenges conventional racial hierarchies, giving voice to African American characters and offering a nuanced depiction of racial dynamics in the South. The findings suggest that dialect in Southern literature is a powerful instrument for conveying cultural authenticity, social hierarchy, and racial dynamics. Through dialect, Southern authors grant distinct voices to their characters, reflecting their varied identities, backgrounds, and challenges. Dialect enables Southern authors to render realistic and regionally specific portrayals of the South. By depicting local speech patterns, writers enhance the authenticity of their characters and narratives, facilitating readers' engagement with the South's social and historical contexts. However, while dialect can elevate the voices of marginalized communities, such as African Americans and poor whites, it may also risk reinforcing negative stereotypes if not approached thoughtfully. While dialect in Southern literature offers essential insights into the region's cultural, social, and racial dynamics, its application also prompts discussions regarding potential stereotype reinforcement. Authors need to balance authenticity in speech representation with avoiding the perpetuation of harmful tropes. Furthermore,

contemporary writers should consider how modern linguistic changes, driven by migration and globalization, continue to influence Southern dialects.

CONCLUSION

The role of dialect in American Southern literature transcends mere stylistic choice; it is a vital component that shapes the narratives' meanings and effects. Through dialect, Southern writers capture the distinct rhythms and cadences of the region, voicing a diverse array of characters whose stories might otherwise go unheard. Dialect reflects the South's rich history, social dynamics, and cultural diversity, making it an essential tool for comprehending both the literature and the region it depicts. Moving forward, it is crucial for authors and critics to be mindful of the role dialect plays within the larger literary and sociopolitical landscape, ensuring its use promotes inclusivity and challenges outdated stereotypes.

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ANIQ INTEGRAL VA UNI HISOBLASH USULLARI

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Annotatsiya: Ushbu maqolada aniq integralning matematik tushunchasi, uning aniqlanadigan va sonli usullar bilan hisoblash usullari ko'rib chiqiladi. Nyuton-Leybnis teoremasi va turli sonli usullar, jumladan, to'g'ri to'rtburchaklar, trapetsiya va Simpson usullari batafsil yoritiladi.

Kalit so'zlar: aniq integral, matematik analiz, Nyuton-Leybnis teoremasi, sonli usullar, Simpson usuli.

Kirish:

Matematik analizning asosiy bo'limlaridan biri hisoblangan integral hisoblash nazariyasi ko'plab ilmiy va amaliy masalalarda asosiy vosita sifatida ishlatiladi. Aniq integral geometriya, fizika, iqtisodiyot va boshqa sohalarida funksiya ostidagi maydonni hisoblash, harakat traektoriyasi bo'ylab yo'lni aniqlash kabi ko'plab masalalarni yechishda qo'llaniladi. Ushbu maqolada aniq integral tushunchasi va uning asosiy hisoblash usullari tahlil qilinadi.

Asosiy qism:

1. Aniq integral tushunchasi

Aniq integralning fizik va geometrik talqini

Aniq integralni faqat matematik tushuncha sifatida emas, balki fizik va geometrik jihatdan ham tasavvur qilish muhimdir. Fizikada u ko'pincha qandaydir kattalikni yig'indi sifatida ifodalaydi. Geometrik talqinda integral qavslar orasidagi maydonni o'lchash vositasi bo'lib, ko'p hollarda trapetsiya yoki boshqa shakllarga bo'linadi.

Aniq integral funksiya grafigi ostidagi maydonni hisoblash vositasi sifatida aniqlanadi. Bu integralni quyidagi shaklda ifodalash mumkin:

$$\int_a^b f(x)dx$$

$f(x)$ - berilgan funksiya;

$[a;b]$ – integrallash oralig'i;

dx – differensial element.

2. Nyuton-Leybnis teoremasi

Aniq integralni hisoblash uchun asosiy usul bu Nyuton-Leybnis formulasidir:

$$\int_a^b f(x)dx=F(b)-F(a)$$

Misol:

Funksiya $f(x)=2x$ bo'lsa, uning aniq integralini $[1,3]$ intervali bo'yicha hisoblaymiz.

$$\int_1^3 2x dx = [x^2] = 3^2 - 1^2 = 8$$

Shunday qilib, $f(x)=2x$ funksiyasining aniq integrali $[1,3]$ intervali bo'yicha 8 ga teng.

3. Sonli hisoblash usullari

Agar funksiyaning boshlang'ich funksiyasi topish qiyin yoki u analitik tarzda ifodalanmasa, sonli usullar qo'llaniladi.

3.1. To'g'ri to'rtburchaklar usuli

Bu usulda interval bir nechta kichik bo'laklarga bo'linib, har bir bo'lak uchun funksiya qiymati bo'yicha to'rtburchaklar maydoni hisoblanadi:

$$\int_a^b f(x) dx \approx \sum f(x_i) \cdot \Delta x \quad i=1, \dots, n$$

3.2. Trapetsiya usuli:

Bu usulda funksiya grafigi ostidagi maydon trapetsiyalarga bo'linadi:

$$\int_a^b f(x) dx \approx \frac{\Delta x}{2} \sum (f(x_i) + f(x_{i+1})) \quad i=1, \dots, n$$

3.3. Simpson usuli

$$\int_a^b f(x) dx \approx \frac{\Delta x}{3} (f(x_0) + 4f(x_1) + f(x_2)) \quad i=1, \dots, n$$

Simpson usuli funksiyani parabolalar bilan yaqinlashish asosida hisoblaydi:

Aniq integralning rivojlanishi va muhimligi

Aniq integralning asoslari I. Nyuton va G. V. Leybnis tomonidan kashf qilingan. U zamonaviy matematikaning o'zagini tashkil etadi va uning yordamida sonli usullar, fizik modellashtirish va hatto sun'iy intellekt algoritmlari yaratildi.

Mazkur mavzu matematikani amaliy jihatdan tushunishni chuqurlashtirish uchun muhimdir. Integralni to'liq tushunish uni turli sohalarida muvaffaqiyatli qo'llash imkoniyatini beradi.

Xulosa:

Aniq integral matematik analizda muhim o'rin egallab, turli amaliy masalalarni hal qilishda qo'llaniladi. Nyuton-Leybnis teoremasi orqali analitik yechim topish, shuningdek, sonli usullar bilan yaqinlashish integralni hisoblashning asosiy usullaridir. Har bir usulning o'ziga xos afzalliklari va kamchiliklari mavjud bo'lib, ular masalaning shartlariga qarab tanlanadi.

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FUNKSIYA TUSHUNCHASI

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Annotatsiya: Mazkur maqolada funksiya tushunchasi va uning matematik analizdagi ahamiyati yoritiladi. Funksiya tushunchasi matematikadagi asosiy tushunchalardan biri bo'lib, u bir o'zgaruvchining boshqa bir o'zgaruvchiga bog'liqligini ifodalaydi. Shuningdek, maqolada funktsiyani ifodalashning turli usullari, jumladan analitik, grafik, jadval va so'zli usullar haqida batafsil ma'lumotlar keltiriladi. Ushbu mavzu matematik nazariya va uning amaliy qo'llanilishi uchun zarur bo'lgan fundamental bilimlarni taqdim etadi.

Kalit so'zlar: Funksiya, matematik analiz, analitik ifoda, grafik usul, jadval usuli, so'zli ifoda, o'zgaruvchi, bog'liqlik.

Kirish

Funksiya tushunchasi matematik analizning markaziy g'oyalaridan biri hisoblanadi. Ushbu tushuncha tabiatdagi ko'plab hodisalarni modellashtirish va ularning o'zgarish qonuniyatlarini o'rganish uchun keng qo'llaniladi. Funksiya ikki to'plam o'rtasidagi bog'liqlikni ifodalaydi, ya'ni har bir elementga boshqa bir to'plamdan yagona element mos keladi. Bu matematik ifodalar bilan bog'liq masalalarni hal qilishda asosiy vosita bo'lib xizmat qiladi.

Funktsiyani turli usullar bilan berish mumkin: analitik usulda ifodalar orqali, grafik usulda tasvirlar yordamida, jadval usulda ma'lumotlar shaklida va so'zli usulda tushuntirish orqali. Ushbu maqolada funksiya tushunchasi va uning turli usullar bilan berilishiga oid batafsil ma'lumotlar keltiriladi. Bu nafaqat nazariy bilimlarni mustahkamlash, balki matematik masalalarni yechishda amaliy ko'nikmalarni rivojlantirish uchun ham muhimdir.

Asosiy qism

Amaliyotda vaqt, temperatura, bosim, kuch, tezlik, yuz, hajm va hokazo miqdorlar (kattaliklar) bilan ish ko'rishga, ular orasidagi bog'lanish-larning xususiyatlarini o'rganishga to'g'ri keladi. Bunga ko'plab misollarni fizika, geometriya, biologiya va boshqa fanlar beradi. Jism o'tgan S masofaning t vaqtga, aylana C uzunligining R radiusga bog'liq ravishda o'zgarishi bunga oddiy misol. Agar x o'zgaruvchi miqdor X sonli to'plamdan qabul qila oladigan bar bir qiymatga biror f qoida bo'yicha y o'zgaruvchi miqdorning Y sonli to'plamdagi aniq bir qiymati mos kelsa, y o'zgaruvchi x o'zgaruvchining sonli funksiyasi deb ataladi. y o'zgaruvchining

x o'zgaruvchiga bog'liq ekanligini ta'kidlash maqsadida uni erksiz o'zgaruvchi yoki funksiya, x o'zgaruvchini esa erkli o'zgaruvchi yoki argument deb ataymiz. y o'zgaruvchi o'zgaruvchining funksiyasi ekanligi $y=f(x)$ ko'rinishda belgilanadi.

Argument x ning X to'plamdan qabul qila oladigan barcha qiymatlar to'plami f funksiyaning aniqlanish sohasi deyiladi va $D(f)$ orqali belgilanadi. $D(f)$ to'plam f funksiyaning qiymatlar sohasi (to'plami) deb ataladi va $E(f)$ orqali belgilanadi.

Endi funksiyani berilish usullarini ko'rib chiqaylik:

1. Analitik usul.

Agar funksiya analitik ifoda yordamida yoki $y=f(x)$ ko'rinishda berilsa, unda biz funksiyani analitik usulda berilgan deymiz.

Masalan: $y=2x$; $y=x^2+4x$; ...

Ko'p hollarda analitik usulda berilgan funksiyalarni aniqlanish sohasi ochiq ko'rsatilmaydi, bunday hollarda y funksiyani aniqlanish sohasi sifatida $f(x)$ ifodani oz manosini saqlaydigan x ning qiymatlarini olamiz.

Amaliyotda funksiyani boshqa usullarda ham beriladi lekin aynan analitik usul matematikada eng ko'p uchraydigan va qulay usul hisoblanadi.

Amaliyotda yana funksiyani jadval va grafik usullarda ham beriladi.

Jadval usulida berilishi, bu argument x ning mos qiymatlariga y funksiyaning qiymatlari bilan birga berilgan jadvalga aytiladi.

Grafik usuli esa, funksiyani dekad koordinatalar sistemasida tasviriga aytiladi.

Xulosa

Funksiya matematik analizning asosiy tushunchalaridan biri bo'lib, u ikki o'zgaruvchi o'rtasidagi bog'liqlikni ifodalaydi. Ushbu tushuncha nafaqat matematik nazariyada, balki real hayotdagi ko'plab masalalarni modellashtirishda ham muhim ahamiyatga ega. Funksiyalarni ifodalashning analitik, grafik, jadval va so'zli usullari o'quvchilarga matematik masalalarni turli yo'nalishlarda hal qilish imkonini beradi.

Masalan, grafik usul funksiyaning xatti-harakatini ko'rish va uni tahlil qilish uchun qulay vosita hisoblanadi, analitik usul esa aniq matematik formulalar bilan ishlashda samarali. Jadval usuli ma'lumotlarni tuzilmaviy tahlil qilishda yordam beradi, so'zli usul esa tushunchani kengroq ma'noda ifodalash imkonini beradi.

Funksiya tushunchasini chuqur o'rganish matematik bilimlarni kengaytirish va murakkab masalalarni hal qilishda muhim qadamdir. Ushbu maqola funksiya tushunchasining mohiyatini, uning turli usullarda berilishini va bu usullarning nazariy va amaliy ahamiyatini yoritishga qaratilgan.

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SONLI KETMA-KETLIK TUSHUNCHASI

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Annotatsiya: Mazkur maqolada sonli ketma-ketlik tushunchasi, uning asosiy xususiyatlari va matematik analizdagi ahamiyati haqida batafsil ma'lumotlar keltiriladi. Sonli ketma-ketliklar matematikada o'zgarishlarning uzluksizligi va chegaraviy xatti-harakatlarini tushunish uchun muhim vosita hisoblanadi. Maqolada ketma-ketlikning asosiy turlari, xususiyatlari, chegarasi va konvergenstsiyasi masalalari ko'rib chiqiladi. Ushbu mavzu matematik analizni o'rganishning muhim qismi bo'lib, o'quvchilarga fundamental tushunchalarni chuqur anglash imkonini beradi.

Kalit so'zlar: Sonli ketma-ketlik, limit, konvergenstsiya, divergentlik, chegaraviy xatti-harakat, matematik analiz, qatorlar.

Kirish

Sonli ketma-ketliklar matematik analizning poydevorini tashkil etuvchi asosiy tushunchalardan biridir. Ketma-ketlik tushunchasi o'zgarishlar jarayonini tahlil qilishda va ularning chegaraviy xatti-harakatini tushunishda muhim ahamiyat kasb etadi. Umuman olganda, sonli ketma-ketlik – bu sonlarning tartiblangan to'plami bo'lib, ular o'zgaruvchan qiymatlarni biror qonuniyat asosida ifodalaydi.

Sonli ketma-ketliklarning nazariyasi vaqt o'tishi bilan ilm-fan va texnikada yuzaga keladigan muammolarni hal qilishda keng qo'llanilmoqda. Bu masalalar orasida modellashtirish, optimizatsiya va chegaraviy holatlarni tahlil qilish kabi sohalar mavjud. Shu bois, ketma-ketlik tushunchasi nafaqat nazariy ahamiyatga ega, balki uning amaliy ahamiyati ham katta. Ushbu maqolada sonli ketma-ketliklarning asosiy turlari, ularning chegarasi va matematik tahlili haqida batafsil ma'lumotlar taqdim etiladi.

Asosiy qism

Ta'rif: Agar $y=f(x)$ funksiyaning argumenti x ni qabul qiladigan qiymatlari natural sonlar to'plamidan iborat bo'lsa, bu holda bunday funktsiyani $N=\{1,2,3,\dots\}$ natural argumentli funksiya deb ataladi va u quyidagicha yoziladi $y=f(n)$ yoki $y=f(N)$

Ta'rif: Natural argumentli funksiya $y=f(n)$ ning xususiy qiymatlarining $f(1), f(2), f(3), \dots, f(n)$ ketma-ketligiga cheksiz sonlar ketma-ketligi deb ataladi.

$$f(1)=x_1, f(2)=x_2, f(3)=x_3, \dots, f(n)=x_n \dots$$

Bu ta'rifdan ko'rinadiki, cheksiz sonlar ketma-ketligining har bir hadi ma'lum bir tartib nomeriga ega bo'layapti. Umuman olganda sonlar ketma-ketligi

$\{a_n\}=a_1, a_2, a_3, \dots, a_n, \dots,$ $\{x_n\}=x_1, x_2, x_3, \dots, x_n, \dots$ ko'rinishlarda belgilanadi. Ketma-ketlikni tashkil qilgan sonlar shu ketma-ketlikning hadlari deyiladi. Bularga ko'ra x_1 - ketma-ketlikning birinchi hadi, x_2 - ikkinchi hadi x_n - ketma-ketlikni n chi hadi yoki umumiy hadi deb yuritiladi. Agar ketma-ketlikning n hadi berilgan bo'lsa shu hadga ega bo'lgan ketma-ketlikni tuzish mumkin.

Masalan, $x_n = \frac{n}{n+1}$ berilgan bo'lsa, $\frac{1}{2}, \frac{2}{3}, \frac{3}{4}, \dots$ ketma-ketlik tuzish mumkin.

Yoki, $x_n = 2^n$ berilgan bolsa, 2, 4, 8, ... ketma ketlik tuzish mumkin.

Ta'rif: Tartib nomeriga ega bo'lgan sonlar to'plami sonlar ketma-ketligi deyiladi. Sonlar ketma-ketligini quyidagicha 2 xil turga ajratsak bo'ladi.

1. O'suvchi ketma-ketlik.
2. Kamayuvchi ketma-ketlik.

Ta'rif: Agar ketma-ketlikning har bir hadi o'zidan avvalgi hadiga nisbatan qiymat jihatidan ortib borsa, u holda bunday ketma-ketliklar **o'suvchi ketma-ketlik** deyiladi.

Masalan, $x_n = x + 1$ bo'lgan, 2, 3, 4, ... sonli ketma ketlikni olishimiz mumkin.

Ta'rif: O'smaydigan va kamaymaydigan ketma-ketliklar tebranuvchi ketma-ketliklar deyiladi.

Masalan, $x_n = \frac{1}{x}$ bo'lgan, $\frac{1}{1}, \frac{1}{2}, \frac{1}{3}, \dots$ sonli ketma-ketlikni olishimiz mumkin.

Biror $\{x_n\}$: $x_1, x_2, x_3, \dots, x_n, \dots$ ketma-ketlik berilgan bo'lsin.

1-ta'rif: Agar shunday o'zgarmas M son mavjud bo'lsaki, $\{x_n\}$ ketma-ketlikning har bir hadi shu sondan katta bo'lmasa, ya'ni $\forall n \in N$ uchun $x_n \leq M$ tengsizlik o'rinli bo'lsa, $\{x_n\}$ yuqoridan chegaralangan ketma-ketlik deyiladi.

2-ta'rif: Agar shunday o'zgarmas m son mavjud bo'lsaki, ya'ni $\forall n \in N$ uchun tengsizlik $x_n \geq m$ o'rinli bo'lsa, quyidan chegaralangan ketma-ketlik deyiladi.

3-ta'rif: Agar ketma-ketlik ham quyidan, ham yuqoridan chegaralangan bo'lsa, $\{x_n\}$ chegaralangan ketma-ketlik deyiladi.

Masalan, $\frac{1}{n}$ bolgan, $\frac{1}{1}, \frac{1}{2}, \frac{1}{3}, \dots$ ketma ketlik yuqoridan chegaralangan.

Xulosa

Sonli ketma-ketlik tushunchasi matematik analiz va uning amaliy qo'llanilishlarida markaziy o'rin tutadi. U o'zgarish jarayonlarini tahlil qilish, funksiyalarning chegaraviy xatti-harakatini tushunish va matematik modellarni yaratishda muhim vosita hisoblanadi.

Ketma-ketlikning chegaraviy qiymati yoki limiti tushunchasi analizni chuqurroq o'rganishga imkon beradi. Masalan, konvergensiya va divergentlik masalalari ketma-ketlikning chegarasi mavjud yoki mavjud emasligini aniqlashga yordam beradi.

Shuningdek, bu tushuncha qatorlar, integral va differensial tenglamalarning nazariyasini tushunishda muhim poydevor hisoblanadi.

Amaliy jihatdan sonli ketma-ketliklar turli fan sohalarida, jumladan fizika, iqtisodiyot, statistika va informatika sohalarida qo'llaniladi. Ularning o'rganilishi matematik bilimlarni kengaytirish bilan birga, real hayotdagi murakkab masalalarni hal qilishda ham foydalidir. Ushbu maqola sonli ketma-ketliklarning asosiy xususiyatlarini o'rganishga yordam berib, matematik analizning boshqa bo'limlari bilan bog'liq bilimlarni mustahkamlashga xizmat qiladi.

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CARDIAC ARRHYTHMIAS IN PATIENTS CIRRHOSIS OF THE LIVER

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Abstract

Cirrhosis of the liver (CP) is one of the urgent problems of medicine of the last decade. This is due to a large increase in viral liver diseases, especially caused by hepatitis B and C viruses. The CPU is characterized by hyperdynamic blood circulation, which manifests itself in the form of visceral vasodilation and increased cardiac output. These violations of the system circulations in combination with high intrahepatic resistance contribute to the development and progression of portal hypertension and often represent the main complications of cirrhosis in the form of varicose bleeding and ascites. The possibility of associated specific myocardial disorders in liver cirrhosis has been recognized relatively recently. These disorders include enlargement of the left ventricular cavity associated with its diastolic dysfunction and systolic incompetence during exercise. The combination of such violations is typical for the so-called cirrhotic cardiomyopathy. Meanwhile, the syndrome of cirrhotic cardiomyopathy has not yet been definitively classified and many mechanisms for the development of myocardial dysfunction in patients with CP are unknown. The absence of these data indicates insufficient awareness of practitioners about changes in the cardiovascular system in patients with cirrhosis of the liver. Early diagnosis and clinical intervention may possibly improve the survival of these patients. In patients with cirrhosis of the liver of viral etiology, an increase in the volume of the left atrium, a violation of rhythm and conduction, prolongation of the QT interval, a decrease in heart rate variability, global longitudinal systolic ventricular function, a violation of segmental diastolic ventricular function was found. These changes are more pronounced in patients with ascites

Keywords: cirrhosis of the liver, segmental diastolic function.

Introduction

To assess the function of the heart, much attention is currently being paid to the study of myocardial viability as a quantitative measure of contractility of the heart muscle (mainly local). Tissue Doppler echocardiography is a method that allows

quantifying the speed of movement of various segments of the myocardium and cardiac structures. Perhaps the use of this more sensitive diagnostic method will make it possible to predict the severity of myocardial

dysfunction in patients with viral CP. To date, a large amount of data has been collected indicating a close relationship between the state of autonomic regulation of heart rhythm and the risk of developing life-threatening ventricular arrhythmias. It is believed that increased sympathetic activity predisposes to the development of ventricular arrhythmias of the heart, then as an increase in parasympathetic tone, it has a protective effect. A decrease in heart rate variability is associated with sympathetic activation, myocardial hypertrophy, remodeling cardiac cavities, myocardial dysfunction, occurrence of ventricular arrhythmias, development and progression of heart failure. Meanwhile, the information available in the literature about such disorders in patients with CP is contradictory. In this regard, the purpose of our study was to study the frequency and nature of cardiac arrhythmias and some cardiohemodynamic parameters in patients with viral cirrhosis of the liver.

Goal. To study the effect of viral liver cirrhosis on the frequency, nature of arrhythmias and some cardiohemodynamic parameters

Material and Methods

The paper analyzes the results of examination of 25 patients (51% men, 49% women) with viral cirrhosis of the liver of class A, B, C according to the Child-Pugh criteria. The average age of patients was 40.2 (34;44) years, the duration of the disease was 3.7 (2.6;6.7) years. The diagnosis of CP was confirmed morphologically (laparoscopy with targeted biopsy) in 2 people, in the rest of the patients it was exposed on the basis of clinical, laboratory and instrumental data. The viral genesis of liver damage was confirmed by the presence of markers of viral hepatitis B (HBsAg, antibodies (AT) in the blood serum classes M and G to HbcorAg, HBV DNA, C (AT classes M and G to HCV, HCV RNA). Depending on the presence of ascites, patients were divided into 2 groups: 19 (52%) patients had no ascites (group 1), 18 (48%) patients were diagnosed with ascites of varying severity (group 2), the control group consisted of 9 healthy volunteers of the appropriate age without signs of liver pathology. The study did not include: patients older than 52 years with essential and symptomatic arterial hypertension, heart and lung diseases, chronic alcoholism and severe concomitant pathology. There were no pronounced signs of heart failure in the groups of examined patients.

Standard and tissue myocardial Doppler echocardiography was performed according to the standard technique with the determination of a complex of generally

accepted morphofunctional parameters in the patient's position on the left side on the device "VIVID S5" (USA). Tissue Doppler echocardiography was performed from apical access at the level of two, four chambers, the Doppler spectrum was recorded from the fibrous rings of the mitral, tricuspid valves and ventricular segments, systolic and diastolic indices were calculated according to six measurements: the maximum speed of the first the positive peak (S_{m1}) reflecting isovolumetric systolic tension, the second peak (S_{m2}) the actual systolic contraction of the myocardium, the maximum speed of the first negative peak E_m , maximum velocity of the second negative peak A_m , E_m/A_m ratio, time before

myocardial contraction I_{vs} , relaxation time I_{vr} . Holter ECG monitoring was performed using the Astrocord complex. HRV was studied on the basis of statistical analysis obtained during Holter monitoring of a 24-hour recording ECG with the calculation of the following indicators:

1) time — the average heart rate in 1 min, the standard deviation from the average duration of sinus intervals RR (SDNN), the average standard deviation RR of all 5-minute fragments of recording (SDANN), the average standard deviation from the average values of the duration of intervals RR of all 5-minute sections of recording ECG (SDNN index), the standard deviation of the average sum of squares of the differences between the duration of adjacent intervals RR (RMSSD), the percentage of consecutive intervals RR differing by more than 50 ms (pNN50); 2) spectral data obtained by fast. The QT interval variance was calculated as the difference between the mean maximum and minimum values of the QT interval in six precordial ECG leads. To correct the variance of the QT interval depending on the heart rate (variance of the corrected QTc interval), a modified H. Bazett formula was used: where dQT_c is the variance of the corrected QT interval; dQT is the variance of the QT interval; RR is the duration of the cardiac cycle. The coefficient of variability of the QT interval (QTvar) was calculated by the formula: $QTvar = (QT_c) / (QT_{cp}) \times 100\%$,

where QT_{sp} is the average value of the QT interval.

Statistical data processing was carried out using a statistical software package

Statistica 6.0. The distribution of almost all variation series did not comply with the criteria of normality, therefore, methods of nonparametric statistics were used in the analysis. The nonparametric Mann-Whitney criterion was used to assess the difference between the groups. The correlation analysis was performed using Spearman's rank correlation coefficient. In patients with viral cirrhosis of the liver,

an increase in the average daily heart rate, a violation of the segmental diastolic function and a decrease in the global longitudinal systolic function of the ventricles, an increase in the volume of the left atrium with the formation of rhythm and conduction disorders: the QT interval lengthens, heart rate variability decreases, $p < 0.001$. These disorders are more pronounced in patients with ascites. In all patients with viral cirrhosis of the liver, a study of the relationship between structural and functional indicators and heart rate variability.

Research Results and Their Discussion

According to the XM ECG, ventricular extrasystoles of various gradations were detected — from I to IV B class according to the Laun-Wolf classification, occurring in 8 (20%) patients of group 1 and 12 (33%) patients of group 2. When comparing the corrected QT interval in patients with viral cirrhosis of the liver, its lengthening was noted: for example, this indicator in patients of group 1 was

457.9[441;468], in group 2 - 478[433;501], in the control — 427.9[405;438], $p < 0.001$.

Supraventricular arrhythmias were represented by supraventricular extrasystoles in 15 (38.4%) patients of group 1 and in 18 (50%) patients of group 2; paroxysmal form of atrial fibrillation

— in 2 (5%) patients and in 7 (19%), respectively. Considering that the size of the left atrium plays an important role in the etiology of rhythm disturbance [10], we analyzed the anatomical characteristics of the left

atrium (LP) taking into account the values of the body surface (LP/PPT, cm/m²). It was found that the maximum volume of LP was greater in patients with cirrhosis of the liver compared with the control, and in patients with ascites, this disorder is more pronounced, ($p < 0.001$).

number of researchers point to the contribution of the left atrium to LV diastolic filling, which is necessary to maintain normal cardiac output. In this study, a decrease in early diastolic flow (Em) of the medial segment of the lateral wall of the left ventricle and the posterior part of the interventricular septum was found in patients of groups 1 and 2 compared with the control ($p < 0.001$). Accordingly, the passive emptying of LP decreased, while the active emptying of LP increased, and we observed a decrease in the Em/Am ratio of the posterior interventricular septum and an increase in the segmental time of isovolumetric relaxation of the lateral LV wall in patients of both groups compared with healthy individuals, and the presence of ascites was accompanied by more pronounced changes in the diastolic function of the left ventricle, ($p < 0,001$).

The established changes suggest a violation of the “sucking” action of the left ventricle and a decrease in the function of the left atrium, which increases in the presence of ascites, which probably occurs as a result of chronic myocardial overload by pressure.

In addition, the peak systolic velocity (S_m) of the lateral wall (segments 3, 9) decreased in patients with ascites: it was lower by 23% and 25%, respectively, compared with group 1, $p < 0.001$. It is likely that the global longitudinal systolic LV function in patients with ascites, unlike patients without ascites, it was reduced.

The myocardial performance index of Thei increased at the level of the tricuspid ring in patients with ascites, which characterizes a decrease in global pancreatic function compared to controls and patients without ascites ($p < 0.001$).

Taking into account the fact that an important pathogenetic mechanism in the development of rhythm disturbances in various diseases of the cardiovascular system is a powerful activation of the sympathoadrenal system and taking into account fluctuations in the average daily heart rate in patients with viral cirrhosis complicated by ascites (84.3[81.7;90]) and patients without ascites (73[65;85]), we studied the main spectral, temporal and geometric parameters of heart rate variability in patients with viral CP. The SDNN parameter, reflecting the overall tone of the autonomic nervous system in patients with and without ascites, was lower by 45% and 52%, respectively, in comparison with the control. Similar patterns were observed for the SDNN index, and in the 2nd group it was 8% lower than in the 1st. The SDANN indicator, which characterizes slow changes in HRV, was significantly reduced in both groups compared to healthy individuals. The HF spectral parameter decreased (in groups 1 and 2 by 22% and 29%, respectively) reflecting the effect of the vagus nerve on the heart, the temporal the RMSSD index (by 66% and 66%, respectively) and PNN50 (by 78% and 81%, respectively). The LF/HF coefficient, which characterizes the balance of influence

on the heart of the parasympathetic and sympathetic divisions, was 62% and 10% higher in individuals of the 1st and 2nd groups compared with the control, ($p < 0,001$). Thus, in patients with CP, a decrease in heart rate variability with a predominance of sympathetic tone was found, which, ultimately, can lead to electrical instability of the myocardium.

The study confirms the data on the presence of myocardial dysfunction in patients with viral CP, and the presence of ascites is accompanied by more pronounced disorders of cardiohemodynamics. Remodeling of the left atrium occurs with the formation of rhythm disturbances, prolongation of the QT interval, violation of LV diastolic function, decrease in

heart rate variability. In patients with viral cirrhosis of the liver complicated by ascites, the contractility of the ventricular myocardium decreases.

The occurrence of arrhythmias in viral CP is probably facilitated by collateral circulation, leading to hypervolemia of the small circle with the development of dystrophic changes in the myocardium, leading to the formation of ectopic activity.

During the correlation analysis, a significant positive correlation was established between the peak systolic velocity (Sm) of the LV lateral wall, which characterizes the contractility of the LV myocardium, and the studied HRV indicators ($r=0.45-0.72$; $p<0.001$), while with HR — a significant negative relationship ($r=-0.52$; $p<0.001$). Consequently, a decrease in the global longitudinal systolic LV function was probably accompanied by a decrease in HRV and an increase in heart rate. Significant correlations were found between the final diastolic size of the left atrium, LV CSR and heart rate variability indicators. Consequently, HRV indicators naturally decreased with an increase in systolic volume Lies of the diastolic size of the left atrium.

Conclusions

Thus, cardiohemodynamic disorders have been established in patients with cirrhosis of the liver of viral etiology: an increase in the volume of the left atrium, rhythm disturbance, violation of segmental diastolic function of the left ventricle, and these changes are more pronounced in patients with ascites. The presence of ascites contributes to a decrease in the global longitudinal systolic function of the ventricles.

In patients with viral cirrhosis of the liver, ventricular extrasystoles and supraventricular cardiac arrhythmias were detected, which were more often recorded in patients with ascites.

The revealed cardiological disorders and cardiac arrhythmias may contribute to the deterioration of the clinical condition of patients with viral cirrhosis of the liver.

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ANTIMICROBIAL DRUGS AND THEIR USE

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Abstract

Antibiotics play a vital role in dental practice for managing orofacial infections. They are used to manage existing infection and they are also used as prophylaxis for certain medical conditions and surgical procedures. This article will review pharmacological and therapeutic considerations for the proper use of these agents for dental infections. An astounding number of drug classes and formulations are available to manage infections. Fortunately, the microorganisms associated with odontogenic and periodontal infections are well characterized and a relatively small number of antimicrobial agents are required to effectively manage dental infections. With the exception of allergy, adverse effects attributed to these antibiotics are surprisingly infrequent, but most agents are implicated in producing nausea, dyspepsia, and diarrhea. This article will review essential pharmacology of appropriate drug classes and then address clinical considerations for their therapeutic and prophylactic use.

Pharmacological considerations. antibiotics are generally classified according to their molecular structure and their antimicrobial mechanisms. Ideally, these mechanisms of action either interrupt synthesis of structural components or alter specific metabolic functions that are unique to microbial cells. Such specificity cannot always be accomplished, but if it is, human cells can be spared cytotoxic effects.

Beta Lactam Derivatives The molecular structures of penicillins and cephalosporins have a beta lactam ring in common that accounts for their ability to inhibit cell wall synthesis in susceptible microorganisms¹ (Figure 1). Additional beta lactam derivatives include the monobactams and carbapenems, but these are not used for dental infections. The beta lactam ring is also the target for resistant species, which produce a variety of beta lactamases formerly called penicillinase and/or cephalosporinase. Prominent microbial species that produce beta lactamases are

Staphylococcus aureus and Haemophilus influenzae. However, several species of Bacteroides and Prevotella, which contribute to the more severe odontogenic and periodontal infections, may also demonstrate this mechanism of resistance.

The similar molecular structure for penicillins and cephalosporins raises concern regarding cross-allergenicity. Formerly this was thought to be related to the beta lactam ring, but recent evidence has established that cross-allergenicity is related more to similarities in the R side chains^{2,3} (see Figure 1). It is generally accepted that patients having a history of IgE-mediated reaction to a penicillin should be managed using a non-beta lactam antibiotic. ⁴ Urticaria (hives) is immunoglobulin E mediated but accounts for only 10% of all exanthematous drug reactions. The overwhelming majority of cutaneous reactions to penicillins are pruritus or rash; these are not immunoglobulin E mediated, and any potential for crossreaction is unlikely.^{5,6} Furthermore, upon further questioning, most patients claiming allergy to penicillin are discovered to have experienced stomach upset (dyspepsia), nausea, or diarrhea. Although macrolides and clindamycin are conventionally considered the alternatives of choice in patients allergic to penicillins, the Antimicrobial Drugs.

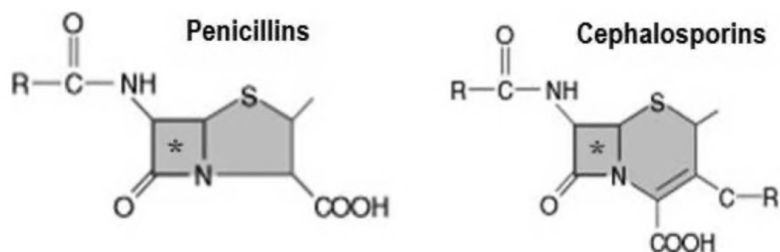


Figure 1. Beta lactam structure. Penicillins and cephalosporins contain a beta lactam ring (asterisk) that conveys their antimicrobial action and is the target for microbial resistance.

It is preferable to substitute an alternate penicillin or cephalosporin for a penicillinallergic patient, provided the nature of the patient's reaction was merely pruritic (itch) or a maculopapular rash. A history of urticaria (hives) or anaphylactoid symptoms is more convincing evidence that the patient's reaction to penicillin was truly immunoglobulin E mediated, and in this case, one should refrain from prescribing any beta lactam derivative. Clinical management of the penicillin-allergic patient is summarized in Figure 2.

Penicillins. The fortuitous discovery of penicillin is credited to Alexander Fleming, and its clinical use began in 1941 This first penicillin was designated penicillin G and its dosage expressed in units or milligrams, 1600 units approximating 1 mg. It is very active against grampositive cocci that frequently cause oral, pharyngeal, and pulmonary infections. It is also active against Neisseria gonorrhoeae and Treponema pallidum. For this reason, penicillin G is still a first-line agent for treating

the 2 most familiar venereal diseases, syphilis and gonorrhoea. Penicillin G is highly degradable in gastric acid and is generally administered only by parenteral routes, formulated as several salts that differ in their rate of absorption. Potassium and sodium salts are used for intravenous administration and procaine or benzathine salts for intramuscular injection. Benzathine formulations provide low serum levels for 3–4 weeks and are generally reserved for situations in which patient compliance with oral administration is unlikely. The phenoxymethyl derivative of penicillin, designated penicillin V, is more acid stable and has become the standard penicillin for oral use. Its spectrum is similar to that for penicillin G, but it is less active against *Neisseria* species and several anaerobes. It remains the agent of choice for mild to moderate intraoral infections but is susceptible to a variety of beta lactamases produced by most strains of *S aureus* and many species of *Bacteroides*.⁷ Although the former are seldom causative agents in oral infections, resistant strains of *Bacteroides* represent a significant cause for penicillin failure. This includes several species of *Bacteroides* that have been reclassified as other genera, either *Porphyromonas* or *Prevotella*.

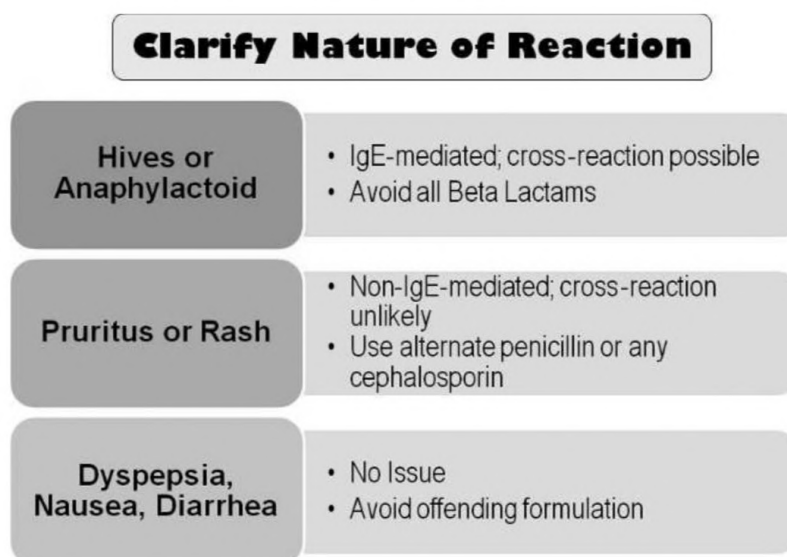


Figure 2. Managing penicillin-allergic patients.

To counter microbial resistance attributed to beta lactamase, derivatives of penicillin have been synthesized that are not susceptible to enzymatic breakdown. These penicillinase-stable agents include oxacillin and dicloxacillin. They are primarily indicated in the management of infections attributed to *S aureus*, over 90% of which are resistant to penicillin G and V. These microbes are rarely if ever present in odontogenic infections, and both oxacillin and dicloxacillin are less active than penicillin V against odontogenic pathogens. Ampicillin was the first derivative to have an extended spectrum that includes several gram-negative organisms such as *H*

influenzae and Escherichia coli, but these are rarely, if ever, associated with intraoral infections. A possible exception may be infections that also involve the maxillary or nasal sinuses in which H influenzae is a common culprit. Amoxicillin has the identical spectrum of activity attributed to ampicillin, but it exhibits greater oral bioavailability, and for this reason ampicillin is generally reserved for parenteral use. The bioavailability of amoxicillin is also superior to that of penicillin V and accounts for its replacing penicillin V in current American Heart Association guidelines for the prophylaxis of infective endocarditis. Amoxicillin and penicillin V are equally active against streptococci. The only advantages of amoxicillin for dental infections are greater bioavailability and a longer half-life. For this reason, if one adheres to the principle of choosing antibiotics having the narrowest spectrum possible, penicillin V is preferred over amoxicillin. Routine use of amoxicillin fosters the accumulation of amoxicillin-resistant microorganisms that lack dental implications. However, if one considers that the leading cause of therapeutic failure is lack of patient compliance, superior bioavailability and less frequent dosing (3 times daily [TID] versus 4 times daily [QID] for penicillin V) favor the use of amoxicillin.

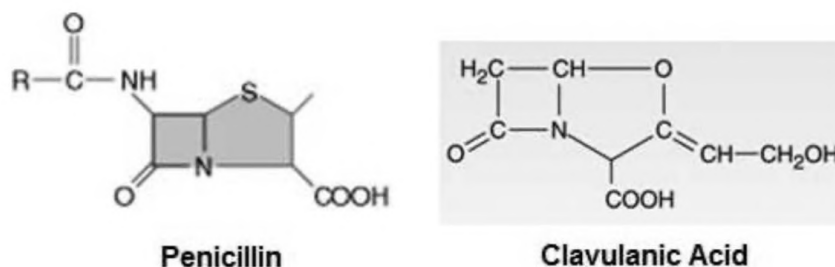


Figure 3. Clavulanic acid. The molecular structure of clavulanic acid resembles that of penicillin enough to compete for beta lactamases that are secreted by resistant microorganisms. This limits the amount of enzyme available to inactivate the penicillin.

Ampicillin and amoxicillin are not beta lactamase stable and are available in formulations that include so-called beta lactamase inhibitors, sulbactam and clavulanic acid respectively. Clavulanic acid has a molecular structure similar to that of penicillin and has weak antimicrobial action but strong affinity for beta lactamase. It is combined with amoxicillin to act as a “suicide molecule” protecting it from beta lactamase (see Figure 3). The combination of amoxicillin and clavulanic acid (Augmentin) is very expensive and should not be used for routine empiric therapy. Resistance among streptococci and most other dental pathogens is not attributed to beta lactamase. At best, the use of this product may be a heroic option in refractory odontogenic and periodontal infections that, on some occasions, become colonized by penicillin-

resistant *Bacteroides* and *Prevotella* species that produce this enzyme.⁸ However, these species are anaerobic and highly susceptible to metronidazole, which is less expensive and will be addressed later in this review. A more justifiable indication for amoxicillin-clavulanic acid would be a sinus graft infection in which subspecies of *H. influenzae* frequently produce beta lactamase. Cephalosporins. The first generation of cephalosporins has a spectrum of activity that includes that of penicillin V for odontogenic microbes. They are also active against most strains of *S. aureus* because, unlike penicillin, they are not susceptible to beta lactamases produced by this species. *S. aureus* is a common nosocomial pathogen, and for this reason the cephalosporins are ordered more frequently than the penicillins for hospitalized patients. First-generation cephalosporins offer few advantages over penicillins in the management of dental infections. As mentioned earlier, they are an alternative for the penicillin-allergic patient, and certain agents have pharmacokinetic advantages that allow less frequent dosing. For example, the long elimination half-life of cefadroxil (Duricef) allows twice daily (BID) oral dosing, whereas cephalexin (Keflex) is administered QID. Cefazolin (Ancef, Kefzol) is the standard first-generation agent for parenteral use. Second- and third-generation cephalosporins exhibit an even broader spectrum and greater resistance to beta lactamase. Several of the third-generation agents also demonstrate antipseudomonal activity. Although these antibiotics have valuable indications in the management of specific infectious diseases, too often they are prescribed inappropriately for infections that could be managed using less expensive agents. They are rarely if ever indicated for managing oral infections.

Macrolides Macrolide antibiotics exert their antibacterial action by binding to the 50S ribosomal subunit of susceptible organisms, resulting in inhibition of protein synthesis.¹ Erythromycin is the prototypic macrolide and has been prescribed historically as an alternative for patients allergic to penicillin because it formerly had reasonable activity against most penicillin-sensitive microbes. This is no longer the case, however. Macrolides have little activity against periodontal pathogens, and in recent years their activity against streptococcal species has declined to such a degree that most experts discourage their use in odontogenic infections as well. Desimone et al⁹ analyzed 150 cases of infective endocarditis in Olmstead County, Minnesota, that occurred from 1999 through 2010. Of 22 cases attributable to viridans group streptococci, ~95% were sensitive to penicillin but only ~71% to macrolides. It should be noted that streptococci and staphylococci that are resistant to erythromycin are also resistant to clarithromycin and azithromycin.⁷ Clarithromycin and azithromycin are more active than erythromycin against *Streptococcus viridans*, which accounts for their mention as penicillin alternatives in current American Heart Association guidelines for prophylaxis of infective endocarditis.¹⁰ However, it will not be surprising to see this

revised in future guidelines. In addition to growing resistance among odontogenic pathogens, macrolides produce a high incidence of nausea, and the majority of these agents inhibit cytochrome P450 enzymes. This accounts for a staggering number of potential drug interactions. Furthermore, azithromycin continues to be a concern for promoting cardiac arrhythmias in susceptible patients.

Tetracyclines Like the macrolides, tetracyclines are bacteriostatic but exert their antimicrobial effect by binding to the 30S subunit of the bacterial ribosome to inhibit protein synthesis.¹ Tetracyclines have a wide spectrum of activity, but microbial resistance has increased to the extent that they are seldom first-line agents for medically treated infections. Sinus and respiratory infections caused by H influenzae and pneumococci are notable exceptions because most of these strains remain sensitive. In dental practice, tetracyclines are useful adjuncts for managing periodontal infections. They are highly active against many of the microorganisms implicated in gingival and periodontal disease and exhibit high bioavailability in the gingival sulcus. However, their efficacy is unreliable for managing odontogenic infections due to streptococcal resistance. Notably, there is less antimicrobial resistance to doxycycline and minocycline than to other, more conventional tetracyclines, and these are generally preferred for periodontal infection. Like other tetracyclines, doxycycline (Vibramycin) increases skin sensitivity to sunlight, leading to intense sunburn and generalized erythema, but offers several advantages. It is well absorbed in the presence of food and has an extended elimination half-life that allows for once-daily dosing. It is eliminated primarily in feces, and this makes it particularly attractive for patients having hepatic or renal compromise. Finally, even at subantimicrobial doses, doxycycline inhibits the activity of collagenases that contribute to the pathogenesis of periodontal destruction.

Metronidazole Metronidazole is a prodrug that is converted to a toxic radical within anaerobic microbes. The radical destroys existing DNA and other vital compounds, rendering it bactericidal against most anaerobic organisms.¹ For this reason, it is very useful for treating severe odontogenic and periodontal infections where anaerobes are able to thrive. It is not recommended as monotherapy for oral infections because it is inactive against aerobic and facultative streptococci. However, it may be combined with beta lactams when managing severe refractory infections. Patients should be cautioned to avoid alcoholic beverages while taking this medication because disulfiram-like reactions have been reported. These consist of severe nausea and abdominal cramping due to the formation of a toxic compound resembling formaldehyde.

Clindamycin Clindamycin binds to the 50S subunit of bacterial ribosomes to suppress protein synthesis, but, unlike the macrolides, it is bacteriocidal.¹ It has reliable activity against both aerobic and anaerobic cocci, as well as most species of

Bacteroides, including *Bacteroides fragilis*. These pathogens are often implicated in severe orofacial infections. Its cost and predilection for *Clostridium difficile* infection limit its routine use for dental infections in favor of beta lactams. However, these should not be deterrents to using clindamycin when indicated. Indeed, *C. difficile* infection may be a complication associated with amoxicillin and cephalosporins as well.

Antifungal Agents Nystatin was formerly the most common antifungal agent used for oral candida infections but today the azole derivatives are preferred. These agents inhibit the synthesis of ergosterol, an essential component of the fungal cell membrane. Although a variety of agents are available, clotrimazole (Mycelex) troches are generally preferred based on cost and little risk for side effects and drug interactions. Clotrimazole can be prescribed as 10- mg troches administered 5 times daily for 10–14 days.¹² Fluconazole (Diflucan) is available for oral (PO) administration and miconazole (Oravig) as once-daily buccal tablets, but they are very expensive. These 2 azoles also inhibit several families of cytochrome P450 enzymes and should be avoided in patients taking warfarin, statins, antiretrovirals, and any drug known to prolong QT intervals.

Miscellaneous Agents The following agents have little or no indications for managing odontogenic or periodontal infections. However, some familiarity is essential for collaborative medical management of dental patients. The most significant risk for infective endocarditis is in patients having a prior history of this infection, especially those with prosthetic valves. In these cases, some cardiologists may prefer that an aminoglycoside such as gentamicin be added to the prophylactic regimen. This is based on the synergistic influence these agents have with cell wall inhibitors in killing enterococci and resistant strains of *S. viridans*. However, there is little scientific evidence to support this practice.¹⁴ For high-risk patients who are allergic to beta lactams, vancomycin may be requested and does not require the addition of gentamicin. These antibiotics must be administered by intravenous infusion over 30–60 minutes preoperatively, which may require that treatment be arranged at an outpatient clinic if the provider is inexperienced with this route of administration.

Aminoglycosides. Historically, the most familiar member of this class is streptomycin, formerly the agent of choice for treating tuberculosis. Gentamicin and tobramycin are used most commonly and are the primary agents used to treat infections caused by gram-negative rods, most notably *Pseudomonas* species. Although most antibiotics that inhibit protein synthesis are bacteriostatic, the aminoglycosides are frequently bactericidal. The newer generations of beta lactam antibiotics are also active against *Pseudomonas* species, but they are far more expensive. The major drawback of the aminoglycosides is their toxicity. This includes nephrotoxicity and ototoxicity.

Nephrotoxicity is fairly common, but is generally reversible following discontinuation of the offending drug. Ototoxicity may include either the auditory or vestibular portions of the eighth cranial nerve. Unlike renal cells, sensory neurons cannot regenerate, and toxicity may be permanent. Hearing and labyrinthine function must be carefully monitored because initial symptoms may be reversible provided the drug is withdrawn quickly. Tinnitus is the earliest sign of auditory toxicity, whereas headache and nausea generally herald the onset of vestibular toxicity. The various preparations differ in their propensity to induce toxicity in each division.

Vancomycin. Vancomycin inhibits cell wall synthesis and is active against most gram-positive cocci, including most species of streptococci, staphylococci, and enterococci. Although enterococci were once uniformly susceptible to vancomycin, outbreaks of infections caused by resistant strains are a growing problem. Scattered cases of infections caused by vancomycin-resistant enterococci are particularly sobering because they frequently result in mortality. Consequently, vancomycin is reserved for treatment of serious infections caused by organisms that are resistant to first-line agents, such as beta lactams, or in cases of serious allergy to these antibiotics. This may include patients at great risk for infective endocarditis who are allergic to beta lactams, as an alternative to clindamycin. Vancomycin can produce pseudoallergic reactions. Rapid intravenous infusion may trigger histamine release, which causes a variety of symptoms, including erythematous or urticarial reactions, flushing, tachycardia, and hypotension. The extreme flushing is called redman syndrome. The most significant untoward reactions are ototoxicity and nephrotoxicity. Auditory impairment can be permanent, especially with excessively high plasma concentrations. Nephrotoxicity is less common, but renal function should be monitored and appropriate plasma concentrations maintained. As might be expected, toxicity is more likely when administered concurrently with an aminoglycoside.

Fluoroquinolones. The fluoroquinolones are synthetic, broad-spectrum antibacterial agents that inhibit DNA gyrase, an essential enzyme that is involved in the replication, transcription, and repair of bacterial DNA. The introduction of quinolone derivatives is the most significant recent advance in antimicrobial therapy. Ciprofloxacin (Cipro) was the first of these agents introduced and is regarded as the prototype. It is active against most staphylococci and a variety of gram-negative microorganisms, but has poor activity against most streptococci and all anaerobes. This negates its use for odontogenic and periodontal infections, which generally consist of mixed aerobic and anaerobic flora (see Table 1). Newer generations of quinolones have broader activity, but their cost generally renders them inappropriate for dental-related infections. Levofloxacin (Levaquin) has good antistreptococci action but poor anaerobic activity. Once daily dosing is attractive, but its cost is ~\$25/d and its

extensive antimicrobial spectrum completely overrules conventional principles of antibiotic prescribing for odontogenic infections. Gemifloxacin (Factive) offers added anaerobic coverage but at a cost of ~\$50/d. At best it might be argued as an outrageously expensive effort to heroically salvage a persistent periimplant infection.

Antibiotic complications There are surprisingly few complications associated with antibiotic therapy. Other than allergy to beta lactam agents addressed previously, the principal complications are gastrointestinal related and potential drug interactions.

Antibiotic-Associated Diarrhea and Colitis Antibiotic-associated diarrhea is not that uncommon during a course of antibiotic therapy, but it becomes a more significant event if it is the result of *C difficile* infection, a common nosocomial pathogen. This anaerobic, spore-forming bacillus is most often contracted during hospitalization or prolonged stays in other health care facilities. However, it is also found in the community, and this source of infection is on the rise. Intestinal flora normally prevent colonization by *C difficile*, and it is present in only 1–4% of the general population, but .20% in those admitted to health care facilities for a week or antibiotics, but clindamycin, amoxicillin, second- and third-generation cephalosporins, and the fluoroquinolones are most often implicated.¹⁵ Colonization alone does not necessarily result in *C difficile* infection. Risk for actual infection depends on the interaction of several additional factors, including virulence of the particular strain and patient-related factors such as age, immune status, and the concurrent use of acid-reduction gastrointestinal drugs, eg, proton pump inhibitors. Once *C difficile* infection occurs, the consequences range from diarrhea to pseudomembranous colitis. Therefore, in outpatient dental practice the typical sequence of events leading to *C difficile* infection are as follows: 1. The patient is currently colonized with *C difficile*. (This is most likely if the patient has recently visited, has been a patient, or is a health care provider in a hospital or nursing home.) 2. Colonization is then increased by an antibiotic altering intestinal flora. (Clindamycin or amoxicillin are most likely.) 3. Patient-related factors determine risk for actual infection and subsequent severity. (Many variables contribute, but older age, poor immune status, and use of acid-reduction drugs are most significant.) The incidence of diarrhea attributed to those antibiotics commonly used in dentistry ranges from 2 to 10% and may be as high as 25% with amoxicillin/clavulanic acid (Augmentin).¹⁷ Clinically, the challenge is to distinguish this so-called nuisance diarrhea from that associated with *C difficile* disease. In a patient who normally tolerates antibiotics but experiences diarrhea that is florid (3 unformed stools per day for 2 days) and complains of abdominal pain, *C difficile* infection should be suspected. Milder symptoms in patients who have previously experienced diarrhea with antibiotics favor nuisance diarrhea.^{15,17} Mild, nuisance diarrhea may be managed using antiperistaltics and changing the antibiotic to

a narrower spectrum if possible. However, if diarrhea is severe and *C difficile* infection is suspected, the following is suggested more. When normal flora is altered by antibiotic therapy and the patient either harbors or comes into contact with *C difficile*, colonization increases. Colonization may be enhanced by most

1. Avoid antiperistaltics. Accumulation of toxin can worsen the infection.
2. Stop the current antibiotic and prescribe metronidazole 500 mg TID 3 10–14 days.
3. If there is no improvement after 2–3 days (based on severity), or diarrhea subsides and recurs, refer the patient to his or her family physician, who will evaluate fluid/electrolyte status. For severe cases, the physician may switch metronidazole to oral vancomycin, which is not absorbed but provides its action locally within the colon. However, oral vancomycin is shockingly expensive and will be initiated only in extreme cases.

It is significant that *C difficile* infection has been reported to occur as late as 6–8 weeks following clindamycin use and has also been associated with the use of macrolides, tetracycline, and most of the broad-spectrum beta lactam antibiotics. This complication is unheard of following abbreviated use of clindamycin for prophylaxis of infective endocarditis. The use of probiotics to prevent or manage antibiotic-associated diarrhea remains controversial. Nevertheless, current evidence suggests they are indeed effective and should be suggested for particularly frail patients or those who have experienced diarrhea with antibiotic regimens in the past.

Antibiotic Drug Interactions Like all drug classes, antibiotics pose a risk for drug interactions. Since the early 1980s, numerous articles have suggested that antibiotics may reduce the efficacy of oral contraceptives (OCs). However, most of these publications have been either anecdotal reports or elaborate theories based on these reports. Unfortunately, many of these are found in dental literature. Anonymous cases are frequently cited in these careless reports and mention dentists who were sued for child support following an unwanted pregnancy attributed to antibiotic-OC interaction. None of these case reports cite legal proceedings that can be researched, and these reports should be viewed with suspicion. To date, rifampin (an antituberculosis agent) is the only antibiotic having a confirmed interaction with OCs.²⁰ Despite the equivocal status of this issue, the Physicians' Desk Reference and other drug compendia continue to mention the possibility of this interaction. In a thorough review of OCs, Sondheimer²¹ stated that the generally accepted rate of unwanted pregnancy among OC users is 0.5–1% (8% among teens) and the most common reason for failure is noncompliance. Furthermore, he added that most antibiotics do not decrease the effectiveness of the birth control pill. It is entirely within reason to suspect that a woman might also be taking an antibiotic during the month of OC failure, most likely penicillin or tetracycline. To date, all human studies measuring

the influence of antibiotics on estrogen and progesterone serum concentrations have found no interaction with antibiotics other than rifampin.^{1,22–24} There is simply no sound evidence to support the contention that antibiotics other than rifampin reduce the effectiveness of OCs. Fortunately, the beta lactam antibiotics used to manage dental infections are virtually free of any significant drug interactions. The macrolides are an entirely different matter, however. They not only have an inherent potential to lengthen cardiac repolarization and prolong QT intervals but inhibit the metabolism of many drugs having even more potential for this cardiotoxic effect.^{11,25} They also delay metabolism and elevate serum concentrations of additional drugs, leading to potential toxicity. These include warfarin, digoxin, carbamazepine, valproic acid, ergotamine, and theophyllines. This alarming list of potential drug interactions, combined with their declining activity against dental pathogens, renders the routine use of macrolides questionable. The potential for interactions with warfarin deserves particular mention. Along with macrolides, metronidazole and azole antifungals delay the metabolism of warfarin and must always be avoided. Other antibiotics have some potential for enhancing warfarin effects by reducing bowel flora that produce vitamin K, but this potential is generally not a concern. Nonetheless, caution is advised when caring for older patients. A recent publication found that exposure to several classes of antimicrobials, particularly azole antifungals, was associated with an increased risk of bleeding in this population receiving warfarin.²⁶ Finally, doxycycline may elevate digoxin levels and should be avoided. It has also been found to enhance the hypoglycemic influences of exogenously administered insulin. Diabetics receiving insulin should be cautioned to monitor their glucose closely if doxycycline is prescribed.

Clinical considerations For good reason, the selection of a particular antibiotic is based on empirical judgment rather than culture and sensitivity data. This is because the most common pathogens implicated in oral infections have been well defined and the most effective antibiotics confirmed.^{7,8,27} The effectiveness of a particular antibiotic for managing specific infections is predicated on 3 variables: (a) the antibiotic's minimum inhibitory concentration (MIC)-90 for the pathogen, (b) its peak serum level, and (c) its elimination half-life. a. The MIC-90 represents the serum concentration required to inhibit or destroy 90% of the species for a selected class of microorganisms. It is important to consider that an antibiotic may exhibit activity in vitro, but it is of little use if this concentration cannot be achieved in the tissue infected. b. Following PO administration, serum concentration must exceed the MIC-90. c. An antibiotic is ineffective if its elimination pattern does not sustain an acceptable serum concentration for a reasonable period of time. Concentration drops by 50% each half-life. Data for the application of these principles to antibiotics used in dental practice

are presented in Table 1. Precise data will vary depending on the reference text consulted, but will be reasonably similar to that derived from Mandell et al.

Conclusion. In some cases, a patient may present for treatment having not premedicated. The following is a direct quote from the current American Heart Association guidelines; simply stated, administer the antibiotic regimen and complete the treatment! An antibiotic for prophylaxis should be administered in a single dose before the procedure. If the dosage of antibiotic is inadvertently not administered before the procedure, the dosage may be administered up to 2 hours after the procedure. However, administration of the dosage after the procedure should be considered only when the patient did not receive the preprocedure dose.¹⁰ The risk for hematogenous seeding and infection of total joint prostheses are more controversial. Little information has been published on this matter, but Berbari et al³⁰ have published the most significant research and found no increased risk. The American Dental Association and American Academy of Orthopaedic Surgeons published updated guidelines in 2012 that suggest discontinuing routine antibiotic prophylaxis for all patients having joint replacements.³¹ A summary of these rather vague guidelines is as follows: 1. The practitioner might consider discontinuing the practice of routinely prescribing prophylactic antibiotics for patients with hip and knee prosthetic joint implants undergoing dental procedures. 2. We are unable to recommend for or against the use of topical oral antimicrobials in patients with prosthetic joint implants or other orthopaedic implants undergoing dental procedures. 3. In the absence of reliable evidence linking poor oral health to prosthetic joint infection, it is the opinion of the work group that patients with prosthetic joint implants or other orthopaedic implants maintain appropriate oral hygiene. Regardless of continued controversy, the dentist may still encounter a patient whose orthopedist requests antibiotic coverage. In this case it is my personal practice to honor the request and cover the patient using regimens identical to those suggested for prophylaxis of infective endocarditis. Unless a patient volunteers his or her orthopedist's request for antibiotic prophylaxis, I do not broach the subject.

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МАТЕМАТИКАНИНГ HAYOTDAGI O'RNI VA AHAMIYATI

Shokirova Bibirobiya

Andijon davlat universiteti Matematika va mexanika fakulteti

Matematika yo'nalishi 4M2-guruh talabasi

Kirish

Matematika insoniyat taraqqiyotida asosiy fanlardan biri hisoblanadi. Bu fan nafaqat muammolarni hal qilish uchun vosita, balki mantiqiy fikrlash va tizimli yondashuvni shakllantiradi. Matematikani "tillar malikasi" deb atashlari bejiz emas, chunki u tabiat qonuniyatlarini, texnologiyalarni va jamiyatni tushunish uchun asosiy vositadir.

Matematikaning Asosiy Soha va Tarmoqlari

Matematika bir necha asosiy tarmoqqa bo'linadi:

1. **Arifmetika** – sonlar bilan ishlash usullari va hisoblash qoidalari.
2. **Algebra** – o'zgaruvchilar bilan ishlash, tenglamalar va tengsizliklar hal qilish ilmi.
3. **Geometriya** – shakl va fazoviy munosabatlarni o'rganadi.
4. **Statistika va ehtimollar nazariyasi** – ma'lumotlarni tahlil qilish va kelajakdagi voqealarni oldindan bashorat qilish.

Shuningdek, matematikaga asoslangan turli zamonaviy yo'nalishlar, jumladan, kriptografiya, sun'iy intellekt va kompyuter texnologiyalari, katta hajmdagi ma'lumotlarni tahlil qilish kabi fanlar ham tez rivojlanmoqda.

Matematikada Ilmiy Yondashuvning Ahamiyati

Matematikaning eng katta kuchi – uning aniqlik va izchillik tamoyillariga asoslanganligida. Masalan, ko'p muammolarni hal qilishda matematik modellar va algoritmlar foydalaniladi. Bunday yondashuv nafaqat texnik fanlarda, balki iqtisodiyot, sotsiologiya va hatto san'at sohalarida ham qo'llaniladi.

Hayotda Matematikaning Qo'llanilishi

Matematika kundalik hayotimizning ajralmas qismi. Do'konda xarid qilishdan tortib murakkab moliyaviy hisob-kitoblarga qadar matematik bilim talab etiladi. Shuningdek, texnologiyalarni yaratish, tabiatni o'rganish va kosmosni tadqiq qilishda matematikaning o'rni beqiyos.

Matematikaning Hayotdagi O'rni va Ahamiyati

Matematika insoniyat taraqqiyotida asosiy fanlardan biri hisoblanadi. Bu fan nafaqat muammolarni hal qilish uchun vosita, balki mantiqiy fikrlash va tizimli yondashuvni shakllantiradi. Matematikani "tillar malikasi" deb atashlari bejiz emas,

chunki u tabiat qonuniyatlarini, texnologiyalarni va jamiyatni tushunish uchun asosiy vositadir.

Matematikaning Tarixi va Taraqqiyoti

Matematika insoniyat tarixida eng qadimiy fanlardan biri hisoblanadi. Dastlab, odamlar oddiy hisob-kitoblarni amalga oshirish uchun matematikani qo'llashgan. Misol uchun, qadimgi misrliklar yerlarni o'lchash va sug'orish tizimlarini rejalashtirish uchun matematikadan foydalanganlar. Shu bilan birga, Bobilda dastlabki algebra va geometriya elementlari shakllangan.

Matematika qadimiy Yunonistonda keng rivojlandi. Pifagor, Evklid va Arximed kabi olimlar matematikaga asos solib, uning rivojiga ulkan hissa qo'shganlar. Evklidning "**Elementlar**" asari dunyodagi eng mashhur matematik kitoblardan biri hisoblanadi. U nafaqat yunonlar, balki keyinchalik musulmon olimlari, xususan, Al-Xorazmiy, Umar Xayyom va Ibn Sino kabi buyuk allomalar tomonidan ham keng o'rganilgan.

Matematikaning Asosiy Soha va Tarmoqlari

Matematika bir qancha asosiy tarmoqlarga bo'linadi:

1. **Arifmetika** – sonlar bilan ishlash usullari va hisoblash qoidalari. Bu matematikaning eng qadimiy va kundalik hayotda keng qo'llaniladigan sohasi.
2. **Algebra** – o'zgaruvchilar bilan ishlash, tenglamalar va tengsizliklar hal qilish ilmi. Algebra muammolarni umumlashtirish va murakkab masalalarni soddalashtirishga yordam beradi.
3. **Geometriya** – shakl va fazoviy munosabatlarni o'rganadi. U arxitektura, muhandislik va dizayn sohalarida keng qo'llaniladi.
4. **Statistika va ehtimollar nazariyasi** – bu soha ma'lumotlarni tahlil qilish, tendensiyalarni aniqlash va bashorat qilish uchun ishlatiladi.

Bundan tashqari, matematikada differensial tenglamalar, chiziqli algebra, topologiya va sonlar nazariyasi kabi murakkab tarmoqlar mavjud. Har bir soha o'zining maxsus qo'llanilish doirasiga ega.

Zamonaviy Texnologiyalar va Matematika

Bugungi kunda matematikasiz zamonaviy texnologiyalarni tasavvur qilish qiyin. Kompyuter ilmlari, sun'iy intellekt, o'yin dasturlash va kriptografiya kabi sohalar matematik asoslarga tayanadi. Masalan, kriptografiya internet xavfsizligini ta'minlashda asosiy vosita bo'lib, matematik algoritmlarga asoslanadi.

Shuningdek, katta hajmdagi ma'lumotlarni qayta ishlash (big data) sohasida matematik modellardan foydalaniladi. Ushbu modellardan iqtisodiy tahlil, marketing strategiyalari ishlab chiqish va hatto iqlim o'zgarishini bashorat qilishda foydalaniladi.

Kosmik texnologiyalarda matematik modellar yordamida sun'iy yo'ldoshlar trayektoriyasi hisoblanadi. Bu esa global aloqa va navigatsiya tizimlarining uzluksiz ishlashiga xizmat qiladi.

Matematikaning Jamiyatdagi Ahamiyati

Matematika nafaqat ilm-fan va texnologiya, balki kundalik hayotda ham muhim rol o'ynaydi. Quyida ba'zi misollar keltirilgan:

- Moliyaviy rejalashtirish – budjetni tuzish va investitsiya qilish uchun matematik bilim kerak.
- Qurilish – bino va inshootlar loyihalarini yaratishda geometriya va algebra qo'llaniladi.
- Transport tizimi – yo'llarni rejalashtirish va samarali harakatni tashkil qilishda matematika qo'llaniladi.

Matematikaning ahamiyati, shuningdek, ta'limda ham katta. Bu fan nafaqat hisob-kitoblarni o'rgatadi, balki mantiqiy fikrlash va muammolarni hal qilish ko'nikmalarini rivojlantiradi.

Matematikani O'rganishning Foydalari

Matematika o'rganish nafaqat kasbiy muvaffaqiyat, balki shaxsiy taraqqiyot uchun ham foydali:

1. **Analitik fikrlash:** Masalalarni turli burchaklardan ko'rib, yechim topishga yordam beradi.
2. **Muammolarni hal qilish:** Murakkab vaziyatlarda samarali qaror qabul qilish ko'nikmalarini rivojlantiradi.
3. **Ijodkorlik:** Matematika mantiq va ijodiy yondashuvni uyg'unlashtirish imkonini beradi.

Matematikaning Tarixi va Taraqqiyoti

Matematikaning ildizlari qadimgi tsivilizatsiyalarga borib taqaladi. Qadimgi Misr va Bobilda matematik amaliyot dehqonchilik va savdoni tartibga solish uchun ishlatilgan. Ushbu davrda matematik bilimlarning dastlabki rivoji kuzatilgan.

Yunon Matematikasi

Qadimgi yunonlar matematikani mantiqiy fan sifatida rivojlantirdi. Pifagor teoremasi, Evklid geometriyasi va Arximedning gidrostatika qonunlari bugungi kunda ham matematik asoslarni tashkil etadi. Yunonlar matematikani nazariy jihatdan rivojlantirgan va uni ko'plab muammolarni yechishda qo'llagan.

Islomiy Uyg'onish Davri

IX-XIII asrlar oralig'ida musulmon olimlar matematikani yangi cho'qqilarga olib chiqdi. Al-Xorazmiy algebra fanining asoschisi hisoblanib, uning nomi

“algoritm” atamasiga asos bo‘lgan. Shuningdek, trigonometriya, sonlar nazariyasi va geometriya sohalarida ulkan yutuqlar qayd etildi.

Zamonaviy Matematika

XVI-XVII asrlarda matematika yangi rivojlanish bosqichiga ko‘tarildi. Renessans davrida matematik modellashtirish fizikadagi muammolarni yechishda ishlatila boshlandi. I. Nyuton va G. Leybnitsning hisoblash matematikasi (differensial va integral hisoblash) bo‘yicha ishlari matematika tarixida ulkan ahamiyatga ega bo‘ldi.

Matematikaning Asosiy Yo‘nalishlari

Bugungi kunda matematika bir nechta asosiy yo‘nalishlarga ega bo‘lib, har biri alohida ilmiy va amaliy ahamiyatga ega:

1. **Sonlar nazariyasi:** Bu soha sonlarning xususiyatlarini va ularning o‘zaro bog‘liqligini o‘rganadi. Kriptografiya va kompyuter xavfsizligi sohasida qo‘llaniladi.
2. **Chiziqli algebra:** Matritsa va vektorlar bilan ishlaydi. Sun‘iy intellekt va fizika sohalarida muhim o‘rin tutadi.
3. **Geometriya va topologiya:** Fazoviy ob‘ektlarni va ularning o‘zaro munosabatlarini o‘rganadi. Arxitektura, dizayn va robototexnika sohalarida qo‘llaniladi.
4. **Statistika va ehtimollar nazariyasi:** Ma‘lumotlarni tahlil qilish va kelajakdagi voqealarni bashorat qilish uchun ishlatiladi.

Matematikaning Amaliy Tatbiqlari

Matematikaning qo‘llanish doirasi juda keng. Quyida ba‘zi muhim amaliy yo‘nalishlari keltirilgan:

Texnologiya va Dasturlash

Kompyuter dasturlari, mobil ilovalar va internet infratuzilmasi matematik algoritmlar asosida yaratiladi. Kriptografiya algoritmlari internetda ma‘lumotlarni himoya qilishda ishlatiladi. Shuningdek, o‘yin ishlab chiqish va animatsiya sohalarida ham matematik modellar qo‘llaniladi.

Muhandislik

Ko‘priklar, binolar, yo‘llar va texnik qurilmalarni loyihalashda geometrik va algebraik usullardan foydalaniladi. Shuningdek, harakat trayektoriyasini hisoblash yoki energiya samaradorligini oshirishda matematik modellar ishlatiladi.

Tibbiyot

Matematika diagnostika uskunalarning ishlashini, shuningdek, dori-darmonlarning ta‘sirini tahlil qilishda ishlatiladi. Genom tadqiqotlari, tibbiy

tasvirlarni qayta ishlash va epidemiologik modellashtirish ham matematik metodlarga asoslanadi.

Математикани О‘rganishning Hayotiy Ahmiyati

Математика nafaqat ilmiy taraqqiyot, balki shaxsiy rivojlanish uchun ham muhimdir. Uni o‘rganish orqali quyidagi ko‘nikmalar rivojlanadi:

- **Muammolarni hal qilish:** Matematika murakkab masalalarni yechishda tizimli yondashuvni rivojlantiradi.
- **Mantiqiy fikrlash:** Tenglamalarni yechish orqali mantiqiy xulosalar chiqarishni o‘rganasiz.
- **Ijodiy yondashuv:** Matematika ijodkorlikni rag‘batlantiradi, chunki u muammolarni turli usullar bilan hal qilishga imkon beradi.

Xulosa

Математика – bu insoniyat madaniyatining ajralmas qismi bo‘lib, uning rivojlanishi bizning kundalik hayotimizni yaxshilaydi. U iqtisodiyot, texnologiya, tibbiyot va boshqa ko‘plab sohalarining asosini tashkil qiladi. Matematikani o‘rganish – nafaqat ilmiy bilimlarni boyitish, balki kundalik muammolarni hal qilishda ham muhim ahamiyatga ega. Shu sababli, bu fan har bir inson uchun dolzarb va zaruriy bilimlar manbai hisoblanadi. Matematika – inson tafakkuri va ilmiy taraqqiyotning ustuni hisoblanadi. U nafaqat nazariy fan, balki kundalik hayotda va amaliy ish jarayonlarida hal qiluvchi vosita sifatida o‘z o‘rniga ega. Qadimdan boshlab insoniyat matematikadan tabiatni o‘rganish, savdo-sotiqni boshqarish va murakkab muammolarni hal qilish uchun foydalangan. Bugungi kunda esa matematika texnologiya, muhandislik, iqtisodiyot, tibbiyot va boshqa ko‘plab sohalar rivojining asosiy vositasiga aylangan.

Matematikaning rivoji inson hayotiga ulkan imkoniyatlar yaratdi. Pifagor va Evkliddan boshlab Al-Xorazmiy va Nyutongacha bo‘lgan buyuk matematiklarning ishlari jamiyatni o‘zgartirib, yangi texnologiyalarning paydo bo‘lishiga asos bo‘ldi. Zamonaviy dunyoda kompyuter texnologiyalari, sun‘iy intellekt va katta ma‘lumotlar bilan ishlash matematik modellar yordamida amalga oshiriladi. Internet xavfsizligini ta‘minlash uchun ishlatiladigan algoritmlar ham matematik usullar asosida ishlab chiqilgan.

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8. Kriptografiya asoslari: Rivest, R. L., Shamir, A. va Adleman, L. – RSA algoritmlari haqida ilmiy maqola.

9. Andijon Davlat Universiteti uchun maxsus darsliklar va ilmiy maqolalar

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Kirish

Asosiy Tamoyillar va Zamonaviy Tatbiqotlar

Sonlar nazariyasi – bu matematikaning eng qadimiy va bir vaqtning o'zida eng zamonaviy tarmoqlaridan biri bo'lib, sonlarning xossalarini va ularning bir-biri bilan munosabatlarini o'rganadi. Bu nazariya qadimgi zamonlardan boshlab olimlarning e'tiborini o'ziga tortib kelgan. Qadimgi yunon matematiklari, jumladan, Pifagor va Evklid, oddiy sonlar va ularning o'ziga xos xususiyatlariga oid dastlabki tadqiqotlarni amalga oshirgan. Hozirgi kunda esa sonlar nazariyasi ko'plab zamonaviy texnologiyalar, jumladan, kriptografiya va algoritmik hisoblashlar asosida yotadi.

Sonlar Nazariyasining Asosiy Tamoyillari

1. Oddiy sonlar va ularning ahamiyati

Oddiy sonlar (prime numbers) – bu 1 va o'zidan boshqa bo'luvchiga ega bo'lmagan sonlar. Ular sonlar nazariyasining asosiy elementlaridan biri hisoblanadi. Evklidning isboti bo'yicha oddiy sonlar cheksiz ko'p bo'lib, ular barcha boshqa butun sonlarni yaratish uchun asosiy "qurilish bloki" hisoblanadi.

Masalan:

- 2, 3, 5, 7, 11 kabi sonlar oddiy sonlardir.
- Har qanday butun sonlarni oddiy sonlarning ko'paytmasi shaklida ifodalash mumkin (masalan, $60 = 2 \times 2 \times 3 \times 5$).

2. Sonlarning bo'linishi va Evklid algoritmi

Evklid algoritmi ikki butun sonning eng katta umumiy bo'luvchisini (EKUB) topish uchun ishlatiladi. Bu algoritm nafaqat matematik tadqiqotlar, balki kompyuter hisoblashlari uchun ham muhimdir.

Misol: $EKUB(48, 18) = 6$, chunki 6 48 va 18 sonlarining eng katta umumiy bo'luvchisidir.

3. Модуляр арифметика

Модуляр арифметика ("soat arifmetikasi" deb ham ataladi) sonlar nazariyasida keng qo'llaniladigan tamoyildir. Bu yondashuvda sonlarning bo'linish qoldiqlari asosida ishlanadi.

Masalan, $17 \bmod 5 = 2$, chunki 17 ni 5 ga bo'lganda qoldiq 2 bo'ladi. Модуляр арифметика kriptografiya, kodlash va kompyuter tarmoqlari uchun asosiy vosita hisoblanadi.

Сonlar Nazariyasining Zamonaviy Tatbiqotlari

1. Kriptografiya va ma'lumotlarni himoya qilish

Sonlar nazariyasi zamonaviy kriptografiyaning, ayniqsa RSA algoritmining asosini tashkil qiladi. RSA shifrlash tizimida ikkita katta oddiy sonni ko'paytirish orqali hosil qilingan sonlardan foydalaniladi. Ushbu jarayon sonlarni faktorlarga ajratishning murakkabligi sababli xavfsiz hisoblanadi.

2. Kompyuter xavfsizligi va internet texnologiyalari

Hozirgi kunda sonlar nazariyasidan HTTPS protokollari, elektron imzolar va xavfsiz ma'lumot uzatish tizimlarida keng foydalaniladi. Masalan, Diffi-Xellman protokoli orqali shifrlash kalitlari almashinuvi amalga oshiriladi.

3. Kriptoalyutalar va blokcheyn texnologiyalari

Kriptoalyutalar, masalan, Bitcoin, sonlar nazariyasiga asoslangan hash funksiyalari va modular arifmetikadan foydalanadi. Bu texnologiyalar ma'lumotlarning xavfsizligini ta'minlash va tranzaksiyalarni tasdiqlashda ishlatiladi.

4. Signal va ma'lumotlarni qayta ishlash

Sonlar nazariyasi turli xil kodlash tizimlari, xususan, ma'lumotlarni uzatish va siqishda foydalaniladi. Shanonning axborot nazariyasi va Hamming kodlari sonlar nazariyasiga asoslangan.

5. Ilmiy tadqiqotlar va muhandislik

Sonlar nazariyasi kvant kompyuterlash va fizika sohalarida ham foydalanilmoqda. Ayniqsa, kvant kriptografiyasi sonlar nazariyasidagi tamoyillar asosida rivojlanmoqda.

Sonlar Nazariyasi: Asosiy Tamoyillar va Zamonaviy Tatbiqotlar

Sonlar nazariyasi – bu matematikaning eng qadimiy va bir vaqtning o‘zida eng zamonaviy tarmoqlaridan biri bo‘lib, sonlarning xossalarini va ularning bir-biri bilan munosabatlarini o‘rganadi. Bu nazariya qadimgi zamonlardan boshlab olimlarning e‘tiborini o‘ziga tortib kelgan. Qadimgi yunon matematiklari, jumladan, Pifagor va Evklid, oddiy sonlar va ularning o‘ziga xos xususiyatlariga oid dastlabki tadqiqotlarni amalga oshirgan. Hozirgi kunda esa sonlar nazariyasi ko‘plab zamonaviy texnologiyalar, jumladan, kriptografiya va algoritmik hisoblashlar asosida yotadi.

Sonlar Nazariyasining Asosiy Tamoyillari

1. Oddiy sonlar va ularning ahamiyati

Oddiy sonlar (prime numbers) – bu 1 va o‘zidan boshqa bo‘luvchiga ega bo‘lmagan sonlar. Ular sonlar nazariyasining asosiy elementlaridan biri hisoblanadi. Evklidning isboti bo‘yicha oddiy sonlar cheksiz ko‘p bo‘lib, ular barcha boshqa butun sonlarni yaratish uchun asosiy "qurilish bloki" hisoblanadi.

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- Har qanday butun sonlarni oddiy sonlarning ko‘paytmasi shaklida ifodalash mumkin (masalan, $60 = 2 \times 2 \times 3 \times 5$).

2. Sonlarning bo‘linishi va Evklid algoritmi

Evklid algoritmi ikki butun sonning eng katta umumiy bo‘luvchisini (EKUB) topish uchun ishlatiladi. Bu algoritm nafaqat matematik tadqiqotlar, balki kompyuter hisoblashlari uchun ham muhimdir.

Misol: $EKUB(48, 18) = 6$, chunki 6 48 va 18 sonlarining eng katta umumiy bo‘luvchisidir.

3. Modulyar arifmetika

Modulyar arifmetika ("soat arifmetikasi" deb ham ataladi) sonlar nazariyasida keng qo'llaniladigan tamoyildir. Bu yondashuvda sonlarning bo'linish qoldiqlari asosida ishlanadi.

Masalan, $17 \bmod 5 = 2$, chunki 17 ni 5 ga bo'lganda qoldiq 2 bo'ladi. Modulyar arifmetika kriptografiya, kodlash va kompyuter tarmoqlari uchun asosiy vosita hisoblanadi.

4. Fermatning kichik teoremasi va Eylerning teoremasi

Bu teoremlar oddiy sonlar va modulyar arifmetika bilan bog'liq bo'lib, ularning ko'plab amaliy qo'llanmalari mavjud. Fermatning kichik teoremasi shuni ko'rsatadiki, agar p oddiy son bo'lsa va a p ga bo'linmasa, unda:

$$a^{p-1} = 1 \pmod{p}$$

Sonlar Nazariyasining Zamonaviy Tatbiqotlari

1. Kriptografiya va ma'lumotlarni himoya qilish

Sonlar nazariyasi zamonaviy kriptografiyaning, ayniqsa RSA algoritmining asosini tashkil qiladi. RSA shifrlash tizimida ikkita katta oddiy sonni ko'paytirish orqali hosil qilingan sonlardan foydalaniladi. Ushbu jarayon sonlarni faktorlarga ajratishning murakkabligi sababli xavfsiz hisoblanadi.

2. Kompyuter xavfsizligi va internet texnologiyalari

Hozirgi kunda sonlar nazariyasidan HTTPS protokollari, elektron imzolar va xavfsiz ma'lumot uzatish tizimlarida keng foydalaniladi. Masalan, Diffi-Xellman protokoli orqali shifrlash kalitlari almashinuvi amalga oshiriladi.

3. Kriptoalyutalar va blokcheyn texnologiyalari

Kriptoalyutalar, masalan, Bitcoin, sonlar nazariyasiga asoslangan hash funksiyalari va modulyar arifmetikadan foydalanadi. Bu texnologiyalar ma'lumotlarning xavfsizligini ta'minlash va tranzaksiyalarni tasdiqlashda ishlatiladi.

4. Signal va ma'lumotlarni qayta ishlash

Sonlar nazariyasi turli xil kodlash tizimlari, xususan, ma'lumotlarni uzatish va siqishda foydalaniladi. Shanonning axborot nazariyasi va Hamming kodlari sonlar nazariyasiga asoslangan.

5. Ilmiy tadqiqotlar va muhandislik

Sonlar nazariyasi kvant kompyuterlash va fizika sohalarida ham foydalanilmoqda. Ayniqsa, kvant kriptografiyasi sonlar nazariyasidagi tamoyillar asosida rivojlanmoqda.

Sonlar Nazariyasidagi Dolzarb Muammolar

1. Oddiy sonlarni topish va tekshirish algoritmlari

Oddiy sonlarni aniqlash algoritmlari, xususan, katta sonlar uchun samarali usullarning izlanishi davom etmoqda.

2. Riman

gipotezasi

Bu nazariyada hali ham hal qilinmagan eng qiyin masalalardan biri bo'lib, oddiy sonlarning taqsimlanishini tushunishga yordam beradi. Riman gipotezasi isbotlansa, u sonlar nazariyasida ulkan yutuq bo'ladi.

Xulosa

Sonlar nazariyasi – bu matematikaning eng chuqur va keng qamrovli yo'nalishlaridan biri. Uning asosiy tamoyillari oddiy va murakkab sonlar bilan ishlashga asoslangan bo'lsa-da, amaliy qo'llanmalari zamonaviy dunyoda juda muhim o'rin egallaydi. Internet xavfsizligidan boshlab, ilmiy tadqiqotlar va texnologik taraqqiyotga qadar sonlar nazariyasi ko'plab sohalarda inqilobiy o'zgarishlarga asos bo'lmoqda. Oddiy sonlarning xossalariidan tortib, modulyar arifmetikadagi algoritmlargacha bo'lgan tamoyillar zamonaviy texnologiyalarning xavfsizligini ta'minlaydi. Internet orqali ma'lumot uzatish, moliyaviy tranzaksiyalarni himoya qilish, shuningdek, blokcheyn texnologiyalaridagi kriptoalyutalar sonlar nazariyasiga asoslangan. Ayniqsa, Riman gipotezasi kabi hal qilinmagan masalalar bu nazariyaning ilmiy dunyodagi ahamiyatini yana-da oshiradi. Sonlar nazariyasining universal ahamiyati uni nafaqat matematiklar, balki muhandislar, dasturchilar va fiziklar uchun ham muhim qiladi. Hozirgi davrda bu fan nafaqat nazariy muammolarni hal qilish, balki real hayotdagi murakkab muammolarni yechishda ham asosiy vosita hisoblanadi. Ushbu fan nafaqat nazariy bilimlarni boyitadi, balki kundalik hayotda ham dolzarb masalalarni yechishda asosiy

rol o'ynaydi. Shu sababli, sonlar nazariyasini o'rganish nafaqat matematiklar, balki texnologiya va muhandislik sohasida ishlayotgan har bir kishi uchun muhimdir.

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MATEMATIK MODELLASHTIRISH VA UNING MUHANDISLIK SOHASIDAGI O'RNI

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Kirish

Matematik modellashtirish - bu murakkab tizimlarning xususiyatlarini va ularning vaqt o'tishi bilan qanday o'zgarishini tushunishga yordam beradigan matematik usullarni qo'llash jarayonidir. Bu jarayon, har qanday fizik yoki ijtimoiy tizimni matematik formulalar yordamida ifodalashni va uning kelajakdagi holatini oldindan prognoz qilishni imkonini beradi. Matematik modellashtirish muhandislikda, ilm-fanda, iqtisodiyotda, tibbiyotda va boshqa sohalarda keng qo'llaniladi. Bu maqolada matematik modellashtirishning asosiy tamoyillari, metodlari va uning muhandislikdagi amaliy qo'llanilishiga to'xtalamiz.

Matematik Modellashtirishning Asosiy Tamoyillari

Matematik modellashtirish murakkab tizimlarning oddiy matematik formulalar yordamida tasvirlanishidir. Bu tizimlar ko'pincha fizika, kimyo, biotexnologiya yoki boshqa ilmiy sohalardan olingan haqiqiy muammolarni yechishga qaratilgan bo'ladi. Modellashtirishning asosiy tamoyillari quyidagilarni o'z ichiga oladi:

1. **Yanaqlash va soddalashtirish.** Real dunyodagi tizimlar ko'pincha juda murakkab bo'lishi mumkin. Shuning uchun matematik modellashtirishda ba'zi jihatlar yengillashtiriladi yoki e'tiborga olinmaydi. Masalan, aerodinamik modellashtirishda havo sharoitlarini ideal holatda qabul qilish mumkin.
2. **Tizimlarning xatti-harakatlarini ta'minlash.** Modellashtirishda tizimning hozirgi va kelajakdagi holatlari orasidagi munosabatlarni ifodalash uchun matematik tenglamalar yoki algoritmlar ishlatiladi. Bu xatti-harakatlarni real sharoitlarda aniqlash va kuzatish imkonini beradi.
3. **Pog'onali qadamlar (iteratsiyalar).** Modellashtirishda iterativ jarayonlar qo'llaniladi, bu esa tizimning boshlang'ich sharoitlari asosida uning vaqt o'tishi bilan qanday o'zgarishini prognoz qilish imkonini beradi. Bunday yondashuvdan, masalan, muhandislikda, kinematika va dinamikada foydalaniladi.
4. **Niqoblash (Kalman Filtri kabi algoritmlar).** Ba'zi hollarda, tizim haqidagi ma'lumotlar to'liq emas yoki shubhali bo'lishi mumkin. Bunday vaziyatlarda matematik modellashtirishda niqoblash usullari, masalan, Kalman filtri, qo'llaniladi. Bu usul tizimning o'zgarishini to'g'ri prognoz qilishga yordam beradi, hatto ba'zi ma'lumotlar yo'qolgan yoki noto'g'ri bo'lsa ham.

Математик Modellashtrishning Turlari va Metodlari

1. Statistik Modellashtrish

Statistik modellashtrish usullari asosan ma'lumotlarga asoslanadi. Bu usullar yordamida tizimlarning o'zgarishlari yoki hodisalarning ehtimolligi bashorat qilinadi. Statistik modellashtrish, masalan, iqlim o'zgarishi yoki epidemik tarqalish kabi tizimlarni tahlil qilishda qo'llaniladi.

2. Differensial Tenglamalar Modellashtrish

Differensial tenglamalar tizimning vaqt davomida qanday o'zgarishini o'rganish uchun ishlatiladi. Tizimlarning fizik, kimyoviy yoki biologik jarayonlari ko'pincha differensial tenglamalar yordamida ifodalanadi. Masalan, issiqlik almashinuvi, elektr toki va mexanik tizimlarning dinamikasi differensial tenglamalar yordamida modellashtriladi.

3. Kompyuter Simulyatsiyalari

Kompyuter simulyatsiyalari juda murakkab tizimlar uchun foydalidir. Bu usul yordamida tizimlarning matematik modelini qurib, uni kompyuter yordamida simulyatsiya qilish mumkin. Muhandislikda aerodinamika, termodinamika va elektronika kabi sohalarda kompyuter simulyatsiyalari keng qo'llaniladi.

4. Optimizatsiya va Kontrol Teoriyasi

Optimizatsiya va kontrol nazariyasi yordamida tizimning optimal xatti-harakatlarini aniqlash va uni boshqarish mumkin. Masalan, ishlab chiqarish jarayonlarida resurslarni samarali taqsimlash yoki avtomobilning harakatini optimallashtirish uchun optimizatsiya usullari qo'llaniladi.

Математик Modellashtrish va Muhandislik Sohasidagi Qo'llanilishi

1. Mexanik tizimlar

Mexanik tizimlar modellashtrishida differensial tenglamalar asosida o'zgarishlar prognoz qilinadi. Masalan, avtomobilning ishlash jarayoni, uning mexanik komponentlarining xatti-harakatlarini modellashtrishda matematik modellashtrishdan foydalaniladi. Bu tizimlar fizik qonunlarga asoslanib, dinamik, statik va vibratsion xususiyatlar bo'yicha prognoz qilish imkoniyatini beradi.

2. Elektronika va avtomatika

Elektronika sohasida elektr o'tkazgichlarning, kondensatorlar va rezistorlar kabi komponentlarning xatti-harakatlarini modellashtrish uchun differensial tenglamalar ishlatiladi. Avtomatika tizimlarida esa, masalan, robototexnika yoki dasturlashda tizimlarning optimal boshqarilishini matematik usullar yordamida aniqlash mumkin.

3. Aero- va Gidrodinamika

Aero- va gidrodinamika sohaslarida, samolyotlar yoki kemalar kabi yirik texnologik qurilmalarning harakatini matematik modellashtrish yordamida tasvirlash

mumkin. Havo va suv oqimlarining modellashtirilishi orqali dizaynni optimallashtirish, yo'qotishlarni kamaytirish va samaradorlikni oshirish mumkin.

4. Termodinamika

Termodinamika jarayonlarini modellashtirishda, issiqlik o'tish va energiya almashinuvi jarayonlarini matematik model yordamida tahlil qilish mumkin. Muhandislar bu usullarni issiqlik dvigatellari yoki sovutish tizimlarini yaratishda qo'llaydilar.

5. Iqlim va ekologiya

Iqlim o'zgarishini matematik modellashtirish orqali ularning kelajakdagi ta'sirini prognoz qilish mumkin. Ekologik tizimlarning barqarorligini va muhitni saqlash uchun modellashtirish usullari muhim ahamiyatga ega.

6. Tibbiyot va biotexnologiya

Tibbiyotda matematik modellashtirish kasalliklarning tarqalishini prognoz qilish, davolash usullarining samaradorligini tahlil qilish va yangi dori vositalarini yaratish uchun ishlatiladi. Biotexnologiyada esa, genetik manipulyatsiyalar va biologik jarayonlarning modellashtirilishi tibbiy ilm-fan rivojiga yordam beradi.

Matematik Modellashtirish va Kompyuter Texnologiyalari

Bugungi kunda matematik modellashtirish kompyuter texnologiyalarining rivojlanishi bilan chambarchas bog'liqdir. Superkompyuterlar va tezkor hisoblash tizimlari yordamida eng murakkab tizimlar ham aniq va samarali tarzda modellashtirilishi mumkin. Modellashtirishning ko'plab murakkab usullari va metodlari endi keng ko'lamda simulyatsiyalar va hisoblashlar orqali amalga oshiriladi. Bu esa sohaning rivojlanishiga turtki bo'lib, tizimlarning real vaqt rejimida tahlil qilish imkoniyatini beradi. Kompyuter simulyatsiyalari va algoritmlar yordamida ilmiy izlanishlar va texnologik yechimlar yuqori samaradorlikka erishmoqda.

Masalan, aerodinamika va gidrodinamika sohalarida, samolyotlar va kemalar dizaynini modellashtirishda kompyuter simulyatsiyalari asosiy rol o'ynaydi. O'zgartirilgan dizaynlarning xarakteristikalarini oldindan ko'rish va ularning samaradorligini tahlil qilish kompyuterlarning kuchli hisoblash imkoniyatlari yordamida amalga oshiriladi. Bu usul samolyotning havo bilan o'zaro ta'sirini va uning harakatini optimallashtirishda yordam beradi. Gidrodinamika bo'yicha esa kemanding suv bilan o'zaro ta'siri va uning harakatlanishi, energiya yo'qotishlari va boshqalar modellashtirish orqali yaxshilanadi.

Shuningdek, avtomobillarning xavfsizligi va yonilg'i samaradorligini oshirish uchun matematik modellashtirishdan keng foydalaniladi. Avtomobilning aerodinamik ko'rsatkichlarini modellashtirish orqali, uning havo qarshiligini kamaytirish va yo'l holatiga moslashgan samarali dizayn yaratish mumkin.

Автомобилsozlikda avtomobilning turli qismlari, masalan, motorlar, to‘xtash tizimlari va energiya uzatish tizimlarini yaxshilashda ham matematik modellashtirish ishlatiladi.

Matematik Modellashtirish va Xavfsizlik

Matematik modellashtirishning muhandislik sohasidagi yana bir muhim qo‘llanilishi xavfsizlikka taalluqlidir. O‘zingiz tasavvur qiling: yirik sanoat korxonasida yoki qudratli infrastruktura tizimida yuzaga kelishi mumkin bo‘lgan favqulodda vaziyatlarni oldindan aniqlash va bartaraf etish. Bunday tizimlar ko‘pincha murakkab va bir-biriga bog‘liq bo‘lgan bir nechta tizimlardan tashkil topgan bo‘ladi. Modellashtirish bu tizimlarning bir-biriga qanday ta’sir qilayotganini va favqulodda holat yuzaga kelganda qanday reaksiyalar paydo bo‘lishini tahlil qilishga yordam beradi.

Masalan, yadro elektr stantsiyalarida xavfsizlikni ta’minlashda matematik modellar yordamida ehtimoliy hodisalarni tahlil qilish mumkin. Bu modellar orqali yadro reaktori yoki boshqa xavfli tizimlarning uzilish holatlariga qanday javob berishi va o‘zgartirilgan sharoitlarda qanday ishlashini prognoz qilish mumkin. Shu tarzda, xavfsizlikni ta’minlash uchun zarur bo‘lgan yirik investitsiyalarni samarali rejalashtirish va tashkiliy choralarni ko‘rish osonlashadi.

Shu bilan birga, avtomobilsozlikda xavfsizlikni ta’minlashda ham matematik modellashtirish ishlatiladi. Yangi avto-mobil dizaynlarini ishlab chiqishda, ularning tirbandliklar, yo‘l sharoitlari va tezlikka mos kelishiga e’tibor qaratiladi. Avtomobil xavfsizligini oshirishda tizimning ichki komponentlarini modellashtirish, masalan, xavfsizlik yostig‘i, to‘xtash tizimi va boshqalar, muhim o‘rin tutadi.

Matematik Modellashtirish va Resurslarni Tejash

Matematik modellashtirish yordamida resurslarni optimallashtirish imkoniyati ham mavjud. Energiya samaradorligini oshirish, ishlab chiqarish jarayonlarini soddalashtirish va chiqindilarni kamaytirish kabi masalalar matematik modellashtirish orqali yechilmoqda. Sanoat ishlab chiqarishida yoki sanoat zavodlarida resurslarni optimallashtirish va energiyani tejash uchun maxsus modellar ishlab chiqiladi. Bunda tizimning barcha qismlari, ularning ishlash va bir-biriga ta’sir qilish jarayonlari matematik jihatdan modellashtiriladi va resurslar samarali taqsimlanadi.

Masalan, elektr energiyasini ishlab chiqarish yoki ishlab chiqarish jarayonida chiqindilarni kamaytirish uchun modellar yordamida tizimni optimallashtirish mumkin. Elektr energiyasi ishlab chiqarish stantsiyalarida isitish jarayonlari va havo bilan o‘zaro ta’siri, suv sovutish tizimlari va boshqalar modellashadi. Bu esa energiyani tejashga, chiqindilarni kamaytirishga va umumiy samaradorlikni oshirishga yordam beradi.

Sanoat ishlab chiqarishida ham modellashtirish orqali ishlab chiqarish jarayonlari soddalashtiriladi va ishlab chiqarilgan mahsulotlarning sifatini oshirish mumkin. Matematika yordamida ishlab chiqarish jarayonlarining har bir bosqichida resurslar va vaqt samarali taqsimlanadi, bu esa ishlab chiqarish hajmini oshiradi va ishlab chiqarishdagi xatoliklarni kamaytiradi.

Математик Modellashtirishning Kelajagi

Математик modellashtirish texnologiyalarining rivojlanishi kelajakda yangi imkoniyatlar yaratadi. Sun'iy intellekt va mashinani o'rganish sohalarida matematika modellashtirishni yanada kuchaytirish, tizimlar va jarayonlarning yanada murakkabroq modelini yaratish imkoniyatini beradi. Kompyuterlar va hisoblash quvvatlarining oshishi matematik modellashtirishni yanada real va samarali qilishga imkon yaratadi.

Xulosa

Математик modellashtirish – bu zamonaviy muhandislikning, ilm-fanning va texnologiyaning asosiy vositalaridan biridir. U real dunyodagi tizimlarni tahlil qilish va ularning kelajakdagi xatti-harakatlarini prognoz qilish imkoniyatini beradi. Muhandislik sohasidagi barcha yirik yutuqlar, shu jumladan aerodinamika, termodinamika, robototexnika, va boshqa sohalarida matematik modellashtirishning muhim o'rni bor. Ushbu texnologiyalarni ishlab chiqish va rivojlantirish orqali biz yangi imkoniyatlarni kashf etamiz va hayot sifatini yaxshilaymiz. Matematik modellashtirish bugungi kunda muhandislik, ilm-fan va texnologiyaning turli sohalarida asosiy vosita sifatida keng qo'llaniladi. U real tizimlarning o'zgarishini prognoz qilish, yangi tizimlar yaratish, va mavjud tizimlarning samaradorligini oshirishda muhim rol o'ynaydi. Mexanikadan tortib, aerodinamikaga, elektronika, termodinamika va biotexnologiyagacha bo'lgan barcha sohalarida matematik modellashtirish orqali innovatsiyalar va yutuqlar amalga oshirilmogda.

Математик modellashtirish nafaqat ilmiy va texnologik izlanishlarning asosini tashkil etsa, balki ekologiya, tibbiyot va iqtisodiyot kabi ijtimoiy sohalarida ham dolzarb masalalarni hal qilishda yordam beradi. Shu bilan birga, zamonaviy kompyuter texnologiyalari va sun'iy intellektning rivojlanishi matematik modellashtirishni yanada aniq va samarali qilish imkonini yaratmogda.

Kelajakda matematik modellashtirish texnologiyalarining yanada rivojlanishi, tizimlarni aniqroq tahlil qilish va kompleks jarayonlarni boshqarish imkoniyatlarini kengaytiradi. Bu esa insoniyatni yangi yutuqlar, innovatsiyalar va global masalalarni hal qilishda yangi ufqlar sari yetaklaydi. Matematik modellashtirishning kelajakdagi roli muhandislik va ilm-fanning barcha sohalarida kuchayib boradi va inson hayotining barcha jabhalarida samarali o'zgarishlarga olib keladi.

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SOME MEDICINAL PROPERTIES AND ANALYSIS OF GLYCYRRHIZA GLABRA

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Keywords: Antimicrobial, antioxidant, antiproliferative, Glycyrrhiza glabra, medicinal plants

Abstract

Objective: Alternative medicine has an important place in the fight against many diseases in human history. The biological activity of Glycyrrhiza glabra L. was investigated in this study. Material and Method: The root parts of the plant were extracted with ethanol. Antioxidant and oxidant potentials were determined using Rel Assay kits. Antimicrobial activity was tested against standard bacteria and fungus strains using the agar dilution method. Antiproliferative activity was determined by MTT test against Lung Carcinoma Cell Line (A549). Result and Discussion: As a result of the studies, the TAS value of the plant was measured as 8.770 ± 0.171 , TOS value as 14.590 ± 0.191 and OSI value as 0.167 ± 0.005 . Inhibition of the plant extract was observed against standard bacteria and fungus strains at ranging from 50-200 $\mu\text{g/mL}$ concentrations. In addition, it was determined that the plant extract displayed strong antiproliferative activity due to the increase in concentration. As a result of these studies, it has been determined that G. glabra can be used as an important natural antioxidant, antimicrobial and anticancer agent.

INTRODUCTION

Many natural materials such as mushrooms, plants and animals are used in alternative medicine [1]. It occupies a very important place in the treatment of diseases due to the active substances produced by the plants. Many studies have shown that plants have anticancer, antioxidant, antimicrobial, antiproliferative, anti-inflammatory, DNA protective, antiallergic and hepatoprotective activities [2-4]. In our study, Glycyrrhiza glabra L. (Licorice) was used as a material. Licorice; It is a plant belonging to the genus Glycyrrhiza glabra, of the genus Glycyrrhiza of the Papilionaceae family. It is used for therapeutic purposes known in the history of ancient medicine in many civilizations such as Sumer, Mesopotamia, China, Greek

and Egypt in the world. Among the aromatic and medicinal plants, the licorice plant is popularly known by 14 different names such as "biyam, dye, piyam, sweet root, etc." [5]. Licorice plant in the world at 12, while in Turkey in 6 species of yellow-blue or brown color, is a perennial shrub plant ranging between 30-160 cm in length [6]. The roots of the licorice plant are biologically known as a source of magnesium and silicon. In addition, the active ingredient in the composition of the licorice plant, glycyrrhizin is 50 times sweeter than tea sugar and 150 times sweeter than sucrose. Glycyrrhiza acid, which is found in the sweetness of the roots, and its calcium and potassium salts, two of the substances such as sucrose and mannite come from [7, 8]. Therefore, as much more intense taste is obtained with less amount, it has been involved in the cuisine and food industry of many countries for centuries [9]. In addition, in the production of licorice honey, licorice sherbet, in the manufacture of tobacco, snuff and filter cigarettes, in the confectionery and beverage industry as a fragrance and flavoring, in cosmetics, velvet dyeing and shoe dyeing in the textile industry, making foam in fire fighting, in preparations prepared to kill insects, and in the food industry, there are areas of use such as adding fragrance to foods [10-12]. Licorice plant is widely used in food, confectionery, medicine and tobacco products as a flavoring agent known worldwide as "generally safe" (GRAS) [13]. In this study, antioxidant, oxidant, antimicrobial and antiproliferative activity of ethanol extract of root parts of *G. glabra* was determined.

MATERIAL AND METHOD

Laboratory Studies

Plant samples were collected from Duhok (Iraq). Soil and dust particles were removed from the root parts of the plant. It was then dried under suitable conditions. After drying the plant parts were pulverized and weighed 30 g. It was then extracted with ethanol for about 6 hours, for example at 50 °C. The solvents of the extracts were removed in a rotary evaporator and crude extracts were obtained.

Antioxidant Parameters

The antioxidant and oxidant status of the plant extract was determined using Rel Assay TAS and TOS kits. TAS tests were performed according to the protocol specified in Erel [14] and Trolox was used as a calibrator. Results are shown in mmol Trolox equiv./L. TOS tests were performed according to the protocol specified in Erel [15] and hydrogen peroxide was used as a calibrator. Results are shown as $\mu\text{mol H}_2\text{O}_2$ equiv./L. The oxidative stress index (OSI) was determined by proportioning the TOS value to the TAS value [16].

Antimicrobial Activity Tests

The antimicrobial activity of the root parts of the plant against EtOH extract bacteria and fungus strains was determined using the agar dilution method [17-19].

The plant extract was adjusted with distilled water at 800-12.5 $\mu\text{g}/\text{mL}$ concentrations. Bacterial strains were set in Muller Hinton Broth medium. *Staphylococcus aureus* ATCC 29213, *S. aureus* MRSA ATCC 43300, *Enterococcus faecalis* ATCC 29212, *Escherichia coli* ATCC 25922, *Pseudomonas aeruginosa* ATCC 27853 and *Acinetobacter baumannii* ATCC 19606 were used as bacterial strains. Fungus strains were pre-cultured in RPMI 1640 Broth medium. *Candida albicans* ATCC 10231, *C. krusei* ATCC 34135 and *C. glabrata* ATCC 90030 were used as fungus strains. The extract concentration that inhibits the growth of bacteria and fungus strains was determined as the MIC value. Results were expressed in $\mu\text{g}/\text{mL}$ [20-22].

Antiproliferative Activity Tests

The antiproliferative activity of the EtOH extract of the plant was determined by MTT test on A549 lung cancer cells. Cells were separated after 70-80% confluence using 3.0 mL of Trypsin-EDTA solution (Sigma-Aldrich, MO, USA). It was then planted on plates and incubated for 24 hours. The plant extract (25, 50, 100, 200 $\mu\text{g}/\text{mL}$) was then adjusted at different concentrations. After the incubation period, the supernatants were dissolved in growth medium and replaced with 1 mg/mL MTT (Sigma). It was then incubated at 37 °C until a purple precipitate formed. The supernatants were then removed and dissolved by adding dimethyl sulfoxide (DMSO) (Sigma-Aldrich, MO, USA) to MTT absorbed by cells. Subsequently, plates were read at 570 nm using an Epoch spectrophotometer (BioTek Instruments, Winooska, VT) [23].

RESULT AND DISCUSSION

Antioxidant Activity In recent years, it is known that the basis of many diseases are due to oxidative stress caused by reactive oxygen species. Oxidative stress is due to the disproportion between the formation and neutralization of prooxidants [24]. The level of endogenous oxidant compounds resulting from environmental factors as a result of metabolic activities is highly toxic when they accumulate in organisms. The antioxidant defense system plays a role in reducing the effects of oxidant compounds. If the antioxidant defense system is insufficient, oxidative stress occurs. In such cases, supplemental antioxidants are important in reducing the effect of oxidative stress. In this context, it is very important to identify new natural antioxidant agents [25]

In previous studies of *G. glabra*, it was reported that aqueous, methanol, ethanol extracts have antioxidant potential using different methods (Inhibition of b-carotene–linoleate bleaching, Hypochlorous acid-scavenging activity, Inhibition of myeloperoxidase-chlorinating system, Nitric oxide radical scavenging activity, Superoxide anion scavenging activity, Hydroxyl radical scavenging activity, DPPH radical scavenging activity, ABTS•+ cation Radical Scavenging, Fe²⁺/ascorbate

induced lipid peroxidation assay, Reducing power) [26-29]. In our study, TAS, TOS and OSI values were determined for the first time by using Rel Assay kits of *G. glabra*. As a result of the studies, it has been determined that *G. glabra* has an important antioxidant activity. In addition, TAS values of *R. coriaria* var. *zebaria*, *M. longifolia* subsp. *longifolia*, *A. calocephalum*, *S. papposa*, *F. platycarpa*, *T. spicata*, *G. tournefortii*, *R. crispus* and *A. millefolium* reported in the literature were reported as 7.342, 3.628, 5.853, 5.314, 5.688, 8.399, 6.831, 6.758 and 2.436 mmol/L, respectively. TOS values were reported as 5.170, 4.046, 16.288, 24.199, 15.552, 6.530, 3.712, 5.802 and 2.839 $\mu\text{mol/L}$, respectively. OSI values were reported as 0.071, 0.112, 0.278, 0.456, 0.273, 0.078, 0.054, 0.086 and 0.083, respectively [30-38]. Compared to these studies, the TAS value of *G. glabra* was determined to be higher than *R. coriaria* var. *zebaria*, *M. longifolia* subsp. *longifolia*, *A. calocephalum*, *S. papposa*, *F. platycarpa*, *T. spicata*, *G. tournefortii*, *R. crispus* and *A. millefolium*. TAS value shows all of the antioxidant compounds produced in the plant [30]. As seen in our study, it has been determined that *G. glabra* has a very important antioxidant potential.

When TOS values were examined, it was determined that *G. glabra* was lower than *S. papposa* and *F. platycarpa*, and higher than *Rhus coriaria* var. *zebaria*, *Mentha longifolia* subsp. *longifolia*, *A. calocephalum*, *T. spicata*, *G. tournefortii*, *R. crispus* and *A. millefolium*. The TOS value indicates all of the oxidant compounds produced by the environmental effects in the plant [30]. It is seen that the oxidant levels of the plant used in our study are at normal levels. When OSI values were examined, it was determined that *G. glabra* was lower than *A. calocephalum*, *S. papposa* and *F. platycarpa*, and higher than *R. coriaria* var. *zebaria*, *M. longifolia* subsp. *longifolia*, *T. spicata*, *G. tournefortii*, *R. crispus* and *A. millefolium*. The OSI value shows how much oxidant compounds produced in the plants are suppressed by the antioxidant defense system. A low OSI value indicates that the antioxidant defense system of the plant works well [30]. In our study, it was determined that the antioxidant defense system of *G. glabra* was sufficient in suppressing oxidant compounds. As a result, it was determined that *G. glabra* has significant antioxidant activity.

Antimicrobial Activity

Today, many diseases occur due to microorganisms. Antibiotics are used extensively in the treatment of microorganism-based diseases. Today, resistant strains are emerging due to the unconscious use of antibiotics [39]. Antibiotics used against resistant microorganisms are insufficient. In addition, due to the possible side effects of chemical antibiotics, the tendency towards natural products is increasing. In this context, the discovery of new antimicrobial drugs is inevitable [40]. In this study, the activities of *G. glabra* against bacteria and fungi were investigated.

In previous studies, it has been reported that methanol extracts of *G. glabra* are effective against *Staphylococcus aureus*, *Bacillus megaterium*, *B. subtilis*, *Sarcina lutea*, *Salmonella paratyphi*, *S. typhi*, *Escherichia coli*, *Shigella dysenteriae*, *Vibrio minicus*, *V. parahemolyticus* and *Pseudomonas aeruginosa* at different concentrations [41]. In a different study, ethanol extracts of *G. glabra* were reported to be effective against *Candida albicans*, *Staphylococcus aureus*, *Bacillus subtilis*, *Enterococcus faecalis*, *Escherichia coli*, *Pseudomonas aeruginosa* and *Klebsiella pneumoniae* [42]. Ethanolic, hexane fraction, ethyl acetate fraction and methanol fraction of *G. glabra* have been reported to be effective against *Staphylococcus aureus*, *Staphylococcus epidermidis*, *Streptococcus mutans*, *Bacillus subtilis*, *Enterococcus faecalis*, *Klebsiella pneumoniae*, *Salmonella typhi*, *Yersinia enterocolitica*, *Enterobacter aerogens* and *Escherichia coli* [43]. In our study, *G. glabra* was determined to be effective against *A. baumannii*, *C. glabrata* and *C. albicans* at 25 µg/mL, *S. aureus*, *S. aureus* MRSA and *C. krusei* at 50 µg/mL, *E. faecalis* and *P. aeruginosa* at 100 µg/mL, *E. coli* at 200 µg/mL extract concentrations. As a result, it was determined that *G. glabra* has antibacterial and antifungal activities.

Conclusion

In this study, some medicinal properties of the root parts of *G. glabra* were determined. As a result of the studies, it was determined that the root extracts of the plant exhibit significant antioxidant, antimicrobial and antiproliferative activity. As a result, it is thought that *G. glabra* can be used as a natural material in pharmacological designs.

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PROGRESIYALAR: MATEMATIK TAHLIL VA ILMIY AMALIYOTDAGI AHAMIYATI

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Annotatsiya: Matematika, xususan, analiz sohasida Ketma-ketliklar muhim bo'limi juda muhim hisoblanadi. Progresiyalar – bu har bir sohada juda ham keng qollaniladi. Ushbu maqolada arifmetik va geometrik progresiyalarning yig'indisi uchun formulalari, Iqtisodiyotda qo'llanilishi, biologiya va ekologiyada qo'llanilishi, fizika va muhandislik sohasida qo'llanilishi yoritib berilgan

Kalit so'zlar: arifmetik progresiya, geometrik progresiya, ketma-ketlik, element, 1-hadi, n-hadi.

Matematika sohasida progresiyalar — bu elementlarning ketma-ketligini tashkil etadigan sonli to'plamlar bo'lib, har bir keyingi element oldingi elementga nisbatan o'zgaradi. Progresiyalar o'rganilayotgan soha turiga qarab ko'plab tarmoqlarda, xususan, algebra, analiz va iqtisodiyotda keng qo'llaniladi. Ularning asosiy turlari — arifmetik va geometrik progresiyalar bo'lib, har biri o'ziga xos xususiyatlar va amaliy qo'llanilish sohasiga ega. Ushbu maqolada progresiyalar haqida kengroq tahlil olib boriladi va ularning matematika va amaliyotdagi o'rni ko'rsatiladi.

1. Arifmetik progresiya

Arifmetik progresiya- bu sonlar ketma-ketligi bo'lib, undagi har bir keyingi son avvalgi sondan bir hil songa farq qiladi. Arifmetik progresiyaning umumiy ko'rinishi quydagicha bo'ladi:

$$a_n = a_1 + (n - 1) * d$$

Bu yerda:

a_n - n- element,

a_1 - 1-element,

d- ayirma (ya'ni har bir elementning o'zgarishi)

n- elementning tartib raqami

Arifmetik progresiya nafaqat matematika sohasida, balki real hayotda ham uchraydi. Misol uchun, iqtisodiyot va statistika sohasida ortib boruvchi daromadlar, vaqt o'tishi bilan o'zgaragan narxlar va boshqa o'zgaruvchilarni tahlil qilishda arifmetik progresiyadan foydalaniladi. Arifmetik progresiyaning tahlili uning qismlariga va summalariga nisbatan qo'llaniladi.

2. Geometrik progressiya

Geometrik progressiya – bu sonlar ketma ketligi bo'lib, undagi har bir keying son

avvalgi songa malum bir sonni ko'paytirishdan hosil bo'ladi. Geometrik progressiyaning umumiy ko'rinishi quyidagicha bo'ladi:

$$b_n = b_1 * q^{n-1}$$

Bu yerda:

b_n – n – element

b_1 – 1-element

q – ayirma

n – elementning tartib raqami.

Geometrik progressiyalar ko'pincha biologiya, fizika va iqtisodiyotda o'sish va kamayish jarayonlarini modellashtirishda qo'llaniladi. Masalan, biror jarayonning o'sish sur'ati doimiy bo'lsa, bu jarayon geometrik progressiya sifatida modellashtirilishi mumkin. Epidemiyalari, biologik populyatsiyalar yoki moliya bozoridagi o'sishlar geometrik progressiya yordamida tahlil qilinadi.

3. Progressiyaning yig'indilari

Progressiyaning yig'indisi — bu uning barcha elementlarining yig'indisi. Arifmetik va geometrik progressiyalar uchun summalar alohida hisoblanadi.

Arifmetik progressiya yig'indisi:

$$S_n = \frac{n(a_1 + a_n)}{2}$$

Arifmetik progressiyaning n-elementigacha bo'lgan yig'indisi ushbu formuladan foydalanib hisoblanadi.

Geometrik progressiya yig'indisi:

$$S_n = \frac{b_1(1 - q^n)}{1 - q}$$

Geometrik progressiyaning n-elementigacha bo'lgan yig'indisi ushbu formula orqali hisoblanadi.

Bu yig'indilar nafaqat matematik hisob-kitoblar, balki amaliy sohalarda, xususan, moliyaviy tahlil va iqtisodiy modellarda qo'llaniladi. Misol uchun, kredit olishda to'lovlar yoki daromadlar doimiy ravishda o'zgarishi geometrik progressiya yordamida hisoblanadi.

4. Progressiyalarning amaliy qo'llanilishi

Progressiyalar matematikadan tashqari ko'plab amaliy sohalarda qo'llaniladi. Ularning ba'zi qo'llanilish sohalari:

Мотивавий хисоб-килолар: Прогресиалар иқтисодий ва мотивавий тahlилларда кенг қo‘лланлади. Масалан, инвеститсия даромадлари, кредитлар ва фоиз ставкалари геометрик прогрессиа yordamida хисобланади.

Биология ва экология: Популятсия o‘сishi, касалликлар тарқалиши yoki ресурслар исте‘мoли каби жарайонлар геометрик yoki арифметик прогрессиалар yordamida modellashtiriladi.

Физика ва муhandислик: Прогресиалар har xil mexanik жарайонлар, электромангнит далгалар ва бoшқа физик hodisalarni modellashtirishda ishlatiladi.

Хулoса

Прогресиалар математик ва амалий тahlilda катта o‘ringa ega bo‘lgan mavzu хисобланади. Арифметик ва геометрик прогрессиалар нафақат o‘rganilgan математик тushunchalar, balki ular real dunyoda ko‘plab жарайонларни modellashtirish uchun қulay vosita хисобланади. Ushbu konseptlarning chuqur тahlili va qo‘llanilishi turli sohalarda samarali yechimlarni ta‘minlaydi. Прогресиаларни o‘rganish orqali biz hayotdagi ko‘plab voqealarni yanada samarali тahlil qilish imkoniyatiga ega bolamiz.

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RATSIONAL TENGLAMALAR VA ULARNI YECHISH USULLARI

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Annotatsiya: Ratsional tenglamalar mavzusi algebra va matematik analizning muhim bo'limlaridan biridir. Ratsional tenglama — bu ratsional ifodalardan tuzilgan tenglamadir. Bunday tenglamalar ko'pincha algebraik ifodalar yordamida beriladi va ularni yechish ko'plab amaliy masalalarda qo'llaniladi. Ratsional tenglamalar, ayniqsa, murakkab algebraik ifodalar va kasrlarning xossalari bilan bog'liq bo'lgan yechimlarni izlashda katta ahamiyatga ega. Mazkur maqolada ratsional tenglamalar turkumiga kiruvchi masalalar va ularni yechish usullari ko'rib chiqiladi.

Kalit so'zlar: tenglama, ratsional tenglama, tenglama yechish, yechim,ildiz,

Ratsional tenglamalarga o'tishdan oldin tenglama haqida qisqa ta'rif va tushunchalarni berib o'tsak.

Ta'rif: $f(x) = g(x)$ ko'rinishidagi tenglik *bir noma'lumli tenglama* deyiladi, (bu yerda $f(x)$ va $g(x)$ lar x noma'lumli funksiyalar).

Agar tenglamada x ning o'rniga shunday $x = a$ qiymat qo'yilganda $f(a) = g(a)$ to'g'ri tenglik hosil bo'lsa, $x = a$ qiymat $f(x) = g(x)$ tenglamaning ildizi deyiladi.

Tenglamani yechish deganda uning barcha ildizlarini topish yoki uning ildizi mavjud emasligini isbotlash tushuniladi. Agar tenglamaning ildizlari a_1, a_2, \dots, a_n , sonlar bo'lsa, ular $\{a_1, a_2, \dots, a_n\}$ to'plam ko'rinishida, yoki

$x_1 = a_1, x_2 = a_2, \dots, x_n = a_n$ kabi yoziladi.

Tenglamaning barcha ildizlari to'plami *tenglamaning yechimi* deyiladi. Tenglamaning ildizi mavjud bo'lmagan holda "*Tenglamaning ildizi yo'q*" yoki "*Tenglamaning yechimi - bo'sh to'plam*" iborasi ishlatiladi, bu holat $x \in \emptyset$ kabi ham yozish mumkin.

1-misol. $(x + 3)(2x - 1)(x - 2) = 0$ tenglamani yeching

Bu tenglamaning o'ng tarafi nolga teng, chap tarafi esa 3 ta ifodaning ko'paytmasidan iborat. Ko'paytuvchilaridan hech bo'lmaganda bittasi nolga teng bo'lgandagina ko'paytma nolga teng bo'lganligi uchun, har bir ko'paytuvchi ifodani nolga tenglashtirib olamiz: $x + 3 = 0, 2x - 1 = 0, x - 2 = 0$. Hosil bo'lgan ushbu tenglamalardan tenglamaning ildizlari

$$x_1 = -3, \quad x_2 = \frac{1}{2}, \quad x_3 = 2$$

ekanligi kelib chiqadi.

2-misol. Ildizlari 0, -1 va $\sqrt{2}$ ga teng bo'lgan tenglama tuzing.

Turli ko'rinishdagi tenglamalar javob tariqasida berilishi mumkin. Eng sodda tenglama $x(x + 1)(x - 2) = 0$ ko'rinishida bo'lishini eslatib o'tamiz.

Bu sonlar yana quyidagi tenglamaning ham ildizi bo'la oladi:

$$(x^2 + x^3)(x - \sqrt{2})(x^2 + 3) = 0$$

Ta'rif: Agar $f(x) = g(x)$ tenglamaning barcha ildizlari $f_1(x) = g_1(x)$ tenglamaning ildizlari bo'lsa, va aksincha, $f_1(x) = g_1(x)$ tenglamaning barcha ildizlari $f(x) = g(x)$ tenglamaning ildizlari bo'lsa, ya'ni ularning yechimlari ustma-ust tushsa, bunday tenglamalar *teng kuchli tenglamalar* deyiladi.

3-misol. $3x - 6$ va $2x - 1 = 3$ tenglamalarni teng kuchliligini tekshiring.

$3x - 6 = 0$ va $2x - 1 = 3$ tenglamalar teng kuchli, chunki har birining ildizi $x = 2$ ga teng.

Yechimi bo'sh to'plam bo'lgan har qanday ikkita tenglama ham teng kuchli bo'ladi.

Teng kuchli tenglamalar quyidagicha belgilanadi: $3x - 6 = 0 \Leftrightarrow 2x - 1 = 3$

Tenglama quyidagi holatlarda o'ziga teng kuchli bo'lgan tenglamaga o'tadi:

a) Tenglamaning biror-bir hadi tenglikning bir qismidan ikkinchi qismiga qarama-qarshi ishora bilan o'tkazilganda.

Masalan, $f(x) = g(x) + t(x) \Leftrightarrow f(x) - g(x) = t(x)$

b) Tenglamaning ikkala tarafini noldan farqli songa ko'paytirilganda yoki bo'lganda.

Butun ratsional tenglamalar

Agar $f(x)$ va $g(x)$ funksiyalar butun ratsional ifodalar bilan berilgan bo'lsa, $f(x) = g(x)$ tenglama, *butun ratsional tenglama* deyiladi.

Bunday tenglamaning aniqlanish sohasi barcha haqiqiy sonlar to'plami bo'ladi.

Ta'rif. Quyidagi ko'rinishdagi tenglama

$$a_0x^n + a_1x^{n-1} + \dots + a_{n-1}x + a_n = 0, a_0 \neq 0.$$

standart ko'rinishdagi n-darajali butun ratsional tenglama deb ataladi.

Agar $a_0 = 1$ bo'lsa, $x^n + a_1x^{n-1} + \dots + a_{n-1}x + a_n = 0$ tenglama keltirilgan n -darajali butun ratsional tenglama deb ataladi. a_0, a_1, \dots, a_{n-1} –koeffitsiyentlar, a_n –ozod had deb ataladi.

Ma'lumki, n - darajali ko'phad tadan ko'p bo'lmagan ildizlarga ega bo'lishi mumkin, demak, har bir standart ko'rinishdagi n - darajali butun ratsional tenglama ham n tadan ko'p bo'lmagan ildizlarga ega bo'ladi.

Teorema: Butun koeffitsiyentli keltirilgan butun ratsional tenglamaning ildizlari butun son bo'lsa, ular ozod hadining bo'luvchilari bo'ladi.

Ko'phadni ko'phadga burchakli bo'lish usuli yordamida yechish

4-misol: $x^4 + 2x^3 = 11x^2 - 4x - 4$ tenglamani yeching.

Yechish: Avval uni standart ko'rinishga keltiramiz:

$$x^4 + 2x^3 - 11x^2 + 4x + 4 = 0$$

Bu tenglamaning butun ildizlari borligini tekshirish uchun ozod hadi 4 ning barcha bo'luvchi- larini yozib olamiz: $\pm 1, \pm 2, \pm 4$. Bu sonlarni ketma-ket tenglamaga qo'yib ko'rib, $x_1 = 1$ va $x_2 = 2$ sonlar tenglamaning ildizlari bo'lishini aniqlab olamiz. Demak, $x^4 + 2x^3 - 11x^2 + 4x + 4$ ko'phad

$(x - 1)(x - 2) = x^2 - 3x + 2$ ko'phadga qoldiqsiz bo'linadi.

$$\begin{array}{r|l}
 x^4 + 2x^3 - 11x^2 + 4x + 4 & x^2 - 3x + 2 \\
 - x^4 - 3x^3 + 2x^2 & x^2 + 5x + 2 \\
 \hline
 5x^3 - 13x^2 + 4x + 4 & \\
 - 5x^3 - 15x^2 + 10x & \\
 \hline
 2x^2 - 6x + 4 & \\
 - 2x^2 - 6x + 4 & \\
 \hline
 0 &
 \end{array}$$

Demak, tenglamani quyidagi ko'paytuvchilarga ajratish mumkin:

$(x - 1)(x - 2)(x^2 + 5x + 2) = 0$. Demak, hosil bo'lgan tenglama birinchi tenglamaga teng kuchli tenglamadir. Har bir ko'paytuvchini nolga tenglashtirib, tenglamaning ildizlarini topamiz.

Javob: $x_1 = 1, x_2 = 2, x_{3,4} = \frac{-5 \pm \sqrt{17}}{2}$.

Kasr-ratsional tenglamalar

$\frac{f(x)}{g(x)} = 0$ ko'riinishga keltirish mumkin bo'lgan tenglamalarga kasr-ratsional tenglamalar deyiladi.

$\frac{f(x)}{g(x)} = 0$ ko'rinisdagi kasr-ratsional tenglamaning aniqlanish sohasi $g(x) \neq 0$.

Ratsional tenglamalarni yechish qadamlari:

- Tenglamadagi barcha ifodalarni tenglikning chap tarafiga o'tkaziladi; Barcha ifodalar umumiy maxrajga keltiriladi;
- Tenglama $\frac{f(x)}{g(x)} = 0$ ko'rinishiga keltiriladi;
- Suratining nollari topiladi;
- Aniqlanish sohasi topiladi;

• Aniqlanish sohasini qanoatlantiruvchi suratining nollari tenglamaning ildizlari bo'ladi.

• Yoki $\frac{f(x)}{g(x)} = 0$ ratsional tenglamaning yechimini topish uchun uni quyidagi $\begin{cases} f(x) = 0 \\ g(x) \neq 0 \end{cases}$ teng kuchli sistema ko'rinishida yozib olinadi va yechiladi.

Ba'zi hollarda bir tenglamadan unga teng kuchli tenglamaga o'tishda *chet ildizlar* paydo bo'li shi mumkin, masalan, quyidagi tenglamani qaraylik,

$$\frac{x^2 + x - 2}{x - 1} = 0$$

Kasrning suratini nolga tenglashtiramiz:

$$x^2 + x - 2 = 0 \rightarrow x_1 = -2, x_2 = 1$$

Bu tenglamaning aniqlanish sohasi $x \neq 1$, ya'ni $x = 1$ qiymat berilgan tenglamaning yechimi bo'la olmaydi, demak, $x = 1$ — *chet ildiz* bo'ladi.

5-misol. Tenglamaning ildizini toping:

$$\frac{2x + 3}{x - 1} = 0$$

Yechish:

$$\begin{cases} 2x + 3 = 0 \\ x - 1 \neq 0 \end{cases} \Rightarrow \begin{cases} 2x = -3 \\ x \neq 1 \end{cases} \Rightarrow \begin{cases} x = -1,5 \\ x \neq 1 \end{cases}$$

Javob: $x = -1,5$.

6-misol. Tenglamaning ildizni toping:

$$\frac{-2x - 4}{x^2 - 4} = \frac{x + 5}{x - 2}$$

Yechish. Barcha ifodalarni tenglikdan chap tarafga o'tkazamiz va umumiy maxrajga keltiramiz.

$$\begin{aligned} \frac{2x + 4}{x^2 - 4} + \frac{x + 5}{x - 2} = 0 &\Rightarrow \frac{(x + 5)(x + 2) + 2x + 4}{x^2 - 4} = 0 \\ &\Rightarrow \frac{x^2 + 7x + 10 + 2x + 4}{x^2 - 4} = \frac{x^2 + 9x + 14}{x^2 - 4} = 0 \end{aligned}$$

Kasr-ratsional ifodaning suratini nolga tenglashtiramiz va nollarini topamiz. Viyet teoremasidan foydalanamiz:

$$x^2 + 9x + 14 = 0 \Rightarrow x = -2; x = -7.$$

Kasr-ratsional ifodaning maxrajini nolga tenglashtiramiz va nollarini topamiz. Ko'paytuvchilarga ajratish usulidan foydalansak bo'ladi:

$$x^2 - 4 = (x - 2)(x + 2) = 0 \Rightarrow x = -2; x = 2.$$

Ko'rinib turibdiki, $x = -2$ ham suratning, ham maxrajning noli. Maxraj hech qachon nol bo'la olmaydi. Shuning uchun $x = -2$ tenglamaning ildizi emas.

Demak, tenglamaning ildizi bitta $x = -7$.

Жавоб: $x = -7$.

Хулоса

Ratsional tenglamalar ikki yoki undan ortiq algebraik ifodalarni o'z ichiga olgan tenglamalardir. Ularni yechish uchun, ko'pincha umumiy qoidalar, masalan, tenglamani yaxlitlash, ko'paytirish va tenglama qismlarini oddiylashtirish metodlari qo'llaniladi. Ratsional tenglamalarni to'g'ri yechish uchun, ular ustida tahlil qilish va yechimlar uchun ehtiyotkorlik bilan tekshiruvlar o'tkazish zarur. Bu turdagi tenglamalar matematikaning ko'plab sohalarida, xususan, analitik geometriya va algebra sohalarida keng qo'llaniladi.

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RATSIONAL TENGLAMALAR YECHISHDA SIMMETRIK TENGLAMALAR

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Annotatsiya: Ratsional tenglamalar mavzusi algebra va matematik analizning muhim bo'limlaridan biridir. Ratsional tenglama — bu ratsional ifodalardan tuzilgan tenglamadir. Ratsional tenglamalarni yechishda simmetrik tenglamalar ham muhim ahamiyat kasb etadi. Ular orqali murakkab ratsional tenglamalar qulay usul bilan yechiladi. Ushbu maqolada ratsional tenglamalar turkumiga kiruvchi simmetrik tenglamalar ularni turlari va yechish usullari ko'rib chiqiladi.

Kalit so'zlar: tenglama, ratsional tenglama, simmetrik tenglama, yechish, yechim, ildiz.

Ratsional tenglamalar haqida qisqacha

Butun ratsional tenglamalar

Agar $f(x)$ va $g(x)$ funksiyalar butun ratsional ifodalar bilan berilgan bo'lsa,

$$f(x) = g(x)$$

tenglama, *butun ratsional tenglama* deyiladi.

Bunday tenglamaning aniqlanish sohasi barcha haqiqiy sonlar to'plami bo'ladi.

Ta'rif. Quyidagi ko'rinishdagi tenglama

$$a_0x^n + a_1x^{n-1} + \dots + a_{n-1}x + a_n = 0, a_0 \neq 0.$$

standart ko'rinishdagi n-darajali butun ratsional tenglama deb ataladi.

Agar $a_0 = 1$ bo'lsa, $x^n + a_1x^{n-1} + \dots + a_{n-1}x + a_n = 0$ tenglama keltirilgan n -darajali butun ratsional tenglama deb ataladi.

a_0, a_1, \dots, a_{n-1} —koeffitsiyentlar,

a_n —ozod had deb ataladi.

Ma'lumki, n - darajali ko'phad tadan ko'p bo'lmagan ildizlarga ega bo'lishi mumkin, demak, har bir standart ko'rinishidagi n - darajali butun ratsional tenglama ham n tadan ko'p bo'lmagan ildizlarga ega bo'ladi.

Teorema: Butun koeffitsiyentli keltirilgan butun ratsional tenglamaning ildizlari butun son bo'lsa, ular ozod hadining bo'luvchilari bo'ladi.

Simmetrik tenglamalar va ularga keltiriladigan tenglamalar

Ushbu $ax^n + bx^{n-1} + cx^{n-2} + \dots + cx^2 + bx + a = 0$ ko'rinishdagi butun ratsional tenglama *simmetrik tenglama* deyiladi.

Bunda tenglamaning boshidan va oxiridan bir xil uzoqlikda yotgan hadlarining koeffitsiyentlari bir-biriga teng bo'ladi. Simmetrik tenglamaning ildizlaridan hech biri nolga teng emasligini ko'rish oson.

Agar $x = 0$ tenglamaning ildizi bo'lsa, u holda biz $a = 0$ ga ega bo'lamiz va tenglamaning darajasi pastroq bo'ladi.

1.Oldin juft ($n = 2k$) darajali simmetrik tenglamani ko'rib chiqamiz.

Tenglamaning har ikkala qismini x^k ga bo'lib, hadlarni guruhlash natijasida uni quyidagi ko'rinishga keltiramiz:

$$a \left(x^k + \frac{1}{x^k} \right) + b \left(x^{k-1} + \frac{1}{x^{k-1}} \right) + \dots + b \left(x + \frac{1}{x} \right) + a = 0$$

Agar bu tenglamada $x + \frac{1}{x} = t$ deb belgilash kiritsak, ketma-ket quyidagilarni topamiz:

$$x^2 + \frac{1}{x^2} = t^2 - 2, x^3 + \frac{1}{x^3} = t^3 - 3t; \dots$$

Bu ifodalarni yuqoridagi tenglamaga qo'yib, t ga nisbatan k darajali tenglamani hosil qilamiz. x ning qiymatlarini esa $x^2 - tx + 1 = 0$ tenglamadan topamiz.

1-misol. $x^4 - 5x^3 + 8x^2 - 5x + 1 = 0$ tenglamani yeching.

Yechish. Berilgan tenglama 4-darajali qaytma (simmetrik) tenglama. Uni yechish uchun tenglamaning ikkala tomonini $x^2 \neq 0$ ga bo'lamiz va unga teng kuchli tenglamani hosil qilamiz:

$$x^2 - 5x + 8 - \frac{5}{x} + \frac{1}{x^2} = 0$$

Qo'shiluvchilarni guruhlab, tenglamani quyidagi ko'rinishga keltirib olamiz

$$x^2 + \frac{1}{x^2} - 5 \left(x + \frac{1}{x} \right) + 8 = 0$$

$$x + \frac{1}{x} = t, x^2 + \frac{1}{x^2} = t^2 - 2$$

belgilash kiritib, $t^2 - 5t + 6 = 0$ tenglamani hosil qilamiz. Bu tenglamani yechimlari $t_1 = 2$ va $t_2 = 3$. Bu qiymatlarni belgilashga qayta qo'yib, berilgan tenglamaning yechimi

$$x + \frac{1}{x} = 2, x + \frac{1}{x} = 3$$

tenglamalarning yechimi birlashmasiga teng bo'lishini ko'ramiz.

Bu tenglamalarni yechib,

$$x_1 = 1, x_2 = \frac{3 + \sqrt{5}}{2}, x_3 = \frac{3 - \sqrt{5}}{2}$$

ekanligini topamiz.

Javob: $x_1 = 1, x_2 = \frac{3+\sqrt{5}}{2}, x_3 = \frac{3-\sqrt{5}}{2}$

2. Toq darajali ($n = 2k + 1$) simmetrik tenglamani juft darajali simmetrik tenglamani yechoshga keltiriladi

Ushbu $ax^{2k+1} + bx^{2k} + cx^{2k-1} + \dots + cx^2 + bx + a = 0$ tenglamaning $x = -1$ ildizga ega ekanligini ko'rish qiyin emas. Demak, bu tenglamaning chap qismi $x + 1$ ga bo'linadi. Tenglamaning ikkala qismini har biri $x + 1$ ga bo'linadigan qo'shiluvchilar yig'indisi ko'rinishida ifodalaymiz:

$$a(x^{2k+1} + 1) + bx(x^{2k-1} + 1) + cx^2(x^{2k-3} + 1) + \dots + x^k(x + 1) = 0$$

$$(x + 1)(ax^{2k} + b_1x^{2k-1} + \dots + b_1x + a) = 0$$

Shunday qilib, masala juft ko'rsatkichli ushbu $ax^{2k} + b_1x^{2k-1} + \dots + b_1x + a$ simmetrik tenglamani yechishga keltiriladi.

Simmetrik tenglamaning yana o'ziga xos bir xususiyati bor. Agar $x = x_0$ soni simmetrik tenglamaning ildizi bo'lsa, u holda $x = \frac{1}{x_0}$ soni ham shu tenglamaning ildizi bo'ladi.

2-misol. $x^7 + 2x^6 - 5x^5 - 13x^4 - 13x^3 - 5x^2 + 2x + 1 = 0$ tenglamaning ildizlarini toping

Yechish. Toq darajali simmetrik tenglamaning ildizi $x = -1$ bo'ladi. Tenglamaning chap tarafidagi ifodani $x + 1$ ikkihadga bo'lib, quyidagi ko'paytuvchilarga ajratmiz:

$$(x + 1)(x^6 + x^5 - 6x^4 - 7x^3 - 6x^2 + x + 1) = 0$$

Har birini nolga tenglashtiramiz $x + 1 = 0 \Rightarrow x_1 = -1$ yoki

$x^6 + x^5 - 6x^4 - 7x^3 - 6x^2 + x + 1 = 0$ bu tenglamada $x \neq 0$ bo'lgani uchun, tenglamaning ikkala tarafini $x^3 \neq 0$ ga bo'lish mumkin:

$$x^3 + x^2 - 6x - 7 + \frac{6}{x} + \frac{1}{x^2} + \frac{1}{x^3} = 0;$$

$$\left(x^3 + \frac{1}{x^3}\right) + \left(x^2 + \frac{1}{x^2}\right) - 6\left(x + \frac{1}{x}\right) - 7 = 0$$

Belgilash kiritib olamiz:

$$x + \frac{1}{x} = t, x^2 + \frac{1}{x^2} = t^2 - 2, x^3 + \frac{1}{x^3} = t^3 - 3t$$

va quyidagilarni hosil qilamiz:

$$t^3 + t^2 - 9t - 9 = 0$$

$$(t + 1)(t - 3)(t + 3) = 0.$$

Bundan, $t = -1, t = 3$ yoki $t = -3$.

$$1) t = -1 \Rightarrow x + \frac{1}{x} = -1 \Rightarrow \frac{x^2 + x + 1}{x} = 0 \Rightarrow x^2 + x + 1 = 0 \Rightarrow$$

$$\Rightarrow \text{haqiqiy ildizi yo'q}$$

$$2) t = 3 \Rightarrow x + \frac{1}{x} = 3 \Rightarrow \frac{x^2 - 3x + 1}{x} = 0 \Rightarrow x_{2,3} = \frac{3 \pm \sqrt{5}}{2}$$
$$3) t = -3 \Rightarrow x + \frac{1}{x} = -3 \Rightarrow \frac{x^2 + 3x + 1}{x} = 0 \Rightarrow x_{4,5} = \frac{-3 \pm \sqrt{5}}{2}$$

Javob:

$$x_1 = -1, x_{2,3} = \frac{3 \pm \sqrt{5}}{2}, x_{4,5} = \frac{-3 \pm \sqrt{5}}{2}.$$

3. Ushbu $ax^4 + bx^3 + cx^2 + dx + l = 0$, ($l \neq 0$) tenglama simmetrik tenglama bo'lishi uchun uning koeffitsiyentlari quyidagicha bog'langan bo'lishi kerak: $d = \lambda b, l = \lambda^2 a$

4. Quyidagi $(x + a)(x + b)(x + c)(x + d) = m$ tenglamani simmetrik tenglamaga keltirish uchun uning koeffitsiyentlari orasida $a + b = c + d$ (yoki $a + c = b + d$, yoki $a + d = b + c$) tenglik bajarilishi kerak. Bunda avval

$(x + a)(x + b)$ va $(x + c)(x + d)$ lar ko'paytirilib, keyin almashtirish bajariladi.

Xulosa

Ratsional tenglamalar ikki yoki undan ortiq algebraik ifodalarni o'z ichiga olgan tenglamalardir. Simmetrik tenglamalar ham ratsional tenglamani bir turi hisoblanib ularni yechish uchun, ko'pincha umumiy qoidalar, masalan, belgilash usuli qo'llaniladi. Ratsional tenglamalarni to'g'ri yechish uchun, ular ustida tahlil qilish va yechimlar uchun ehtiyotkorlik bilan tekshiruvlar o'tkazish zarur.

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PSIXOTRENING HAQIDA UMUMIY TUSHUNCHA: JISMONIY TARBIYA FANI DARSLARIDA PSIXOTRENINGLARNI QO‘LLASH TEXNOLOGIYASI

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Annotatsiya: Maqolada psixotrening haqida umumiy tushuncha va jismoniy tarbiya fani darslarida psixotreninglarni qo‘llash texnologiyasi borasida to‘liq ma’lumotlar keltirilgan.

Kalit so‘zlar: psixotrening, stress, texnologiya, diagnostika, shaxslararo muloqot, sportchilarni psixologik tayyorlash, metodika.

Psixologik trening - psixologik amaliyotning keng tarqalgan shakllaridan biri bo‘lib kelmoqda. Trening o‘zining o‘sishi bilan psixologiyaning amaliy sohasida o‘zgacha o‘rin tutadi. Har yili yangidan-yangi ilmiy yo‘nalishlarni, trening maktablari esa o‘zlarining o‘zgacha texnikaviy modellari va mashg‘ulotlarini ko‘rsatishadi.

Trening termini (ingliz tilidan kelib chiqqan bo‘lib, train, training) ko‘plab ma’nolarga ya’ni: o‘qitmoq, tarbiyalamoq, (trenirovka) mashq qilmoq kabi ma’nolarga ega. Xuddi shunday ko‘p ma’nolilik treningning ilmiy talqiniga ham mos keladi.

Ijtimoiy va tashkiliy psixologiya kontekstida trening muammosiga e’tibor bergan ko‘plab mualliflar, trening jarayonini tashkil etishning turli metodik uslublariga o‘zlarining bor diqqatlarini qo‘yidagicha jamlaganlar:

- trening guruhlarida o‘tkaziladigan turli metodikalarini tasvirlaydilar;
- mashq va priyomlarni qo‘llashning detallariga tushuncha beradilar;

Treningning u yoki bu psixologik maktabiga xos mashqlar, texnikalar faqatgina vosita bo‘lib qolaveradi, chunki uning natijaviyligi bu vositanining sifatiga emas balki uni qo‘llovchi shaxsning mahoratiga bog‘liq.”

Yuqorida ko‘rsatilgan izlanishlar sikli shuni ko‘rsatadiki, trening kursining samaradorligini aniqlashda uning nazariy tizimining ustivorligi va uning doirasida hosil bo‘lgan amaliy metodikalar haqida so‘z ketmaydi, balki shu treningni olib boruvchi shaxslar va ularning noyob malakalari haqida aytib o‘tiladi. Shunday qilib trening mashg‘ulotlarni olib borishda birinchi o‘rinda: to‘g‘ri nazariya, vositalar yoki trenerning shaxsiy tayorgarligi, trening natijasi, diagnostikasi, hal qiluvchi masalalar shulardan kelib chiqadi. Psixologik trening bo‘yicha barcha kitob mualliflarining, trening ishida samaradorliklar bo‘yicha tafovutlari mavjud. Hozirgi kunda psixologiyada trening tushunchasiga oid ko‘p tarqalgan ta’riflar keltiriladi. Rus

olimpi L.A. Petrovskaya psixologik treningni "shaxslararo muloqot sohasida bilim, ko'nikma, malaka, ijtimoiy ustanovka va tajribalarni rivojlantirishga qaratilgan ta'sir etish vositasi", "muloqotda kompetentlikni rivojlantirish", "psixologik ta'sir etish vositalari" sifatida qaraydi. G.A. Kovalev bo'yicha psixologik trening – majmuaviy ijtimoiy didaktik yo'nalish sifatida faol ijtimoiy-psixologik o'qitish metodlaridir. B.D. Parigin guruhiy maslahat metodlarini umuman jamiyat va hayotda muloqot qilish ko'nikmalariga o'rgatuvchi faol o'qitish uslubi sifatida tavsiflaydi.

Yuqoridagilaridan kelib chiqqan holda psixologik treningga quyidagicha ta'rif berishimiz mumkin - trening ko'p funksiyali bo'lib, u inson fenomenlari psixologiyasini maqsadli o'zgaritish yuzasidan guruh va tashkilotlar, insonning professional va shaxsiy muvofiqligini maqsadli o'zgartirishga qaratilgan metoddir.

Trening mashg'ulotining asosiy maqsadi: shaxsni psixologik (ruhiy) ozod qilish, bunda tabiiy erkinlikni his etishni, o'z guruhida va undan tashqarida o'zaro munosabat va aloqa o'rnata olishdan iborat. Demak-ki, trening – shaxsda mavjud bo'lgan yoki vujudga keladigan muammolarni hal qilish uchun zarur bo'lgan bilim, ko'nikma malakalarni hosil qilish maqsadida bahs-munozara, o'yin va mashqlar orqali o'tkaziladigan mashg'ulotlar yig'indisidir. Shuni alohida qayd etish lozimki, trening jarayonida muammolarni yechish ham, bu boradagi bilim, ko'nikma va malakalarni hosil qilish ham trenerdan shaxs psixologiyasi, shaxs individual psixologiyasi bilan ishlashni taqozo etadi. Shuning uchun psixologiyada bunday treninglar psixologik treninglar deb ataladi.

Masalan ko'plab oliygohlarda ijtimoiy faoliyatning u yoki bu sohalari uchun mutaxassislar tayyorlanadi. Lekin ularning kelgusi faoliyatlarida odamlar bilan murakkab munosabatlarga o'rgatish, o'zini va o'zga shaxslar hamda yahlit ijtimoiy guruhlar faoliyatlarini boshqarishga mashqlantirish va u shaxsni ijtimoiy muloqotga oldindan maqsadli tarzda tayyorlash demaqdir. Treningning tabiiy hamda maxsus tarzda uyushtirilgan turlari haqida mulohaza yuritish mumkin. Birinchi holatni biz hattoki, kichik yoshli bolalarda ham kuzata olamiz. Masalan, yosh bolalarning turli ijtimoiy rollar doirasida o'zaro har hil rolli va syujetli o'inlari bilan mashg'ul bo'lishlari, unda turli rollar (o'qituvchi, tarbiyachi, haydovchi, boshliq va hokazo)ni improvizatsiya qilishlari, tabiiyki ulardagi nafaqat dunyoqarashni, balki bo'lg'usi ijtimoi faoliyatlarga tayyor bo'lishlarida katta ahamiyat kasb etadi. Maxsus tarzda uyushtirilgan treningda alohida vaziyatlar va har bir o'yin ishtirokchisining shaxsiy ehtiyojlari, ularda individual shakllanishi zarur bo'lgan sifatlar katta rol o'ynaydi va shaxs ataylab u yoki bu ijtimoiy psixologik vaziyatga o'zgalar tomonidan qo'yiladi.

Shuningdek trening malakalarni orttirishga qaratilgan tadbirlar va tayyorgarlik majmuasidir. Ya'ni uning asosiy vazifalari quyidagilar bilan izohlanadi:

- shaxsning ijtimoiy psixologik bilimdonligini oshirish;

- muloqot (muomala) faoliyatida namoyon bo'ladigan yaqqol bilimlar malakalar va ko'nikmalarni hosil qilish;

- samarali muloqotda namoyon bo'ladigan zarur sifatlar, ijtimoiy ustanovkalarni shakllantirish;

- noadekvatlarini korreksiya qilish;

- o'zini-o'zi to'laroq anglash, bilish;

- hamda o'zgalarga nisbatan to'g'ri munosabatlarini shakllantirish qobiliyatini o'stirish.

Psixologik treningga murojaat etuvchilar guruxi: bolalar, kattalar guruxlari. Hozirgi davrda odamlar orasida ruhiy zo'riqish holatlari avvalgi paytlardagiga nisbatan ancha ko'p uchrayotganligi va buning natijasida ko'pgina hayotiy muammolar vujudga kelayotganligi ko'pchilikni, ayniqsa keng jamoatchilikni, shuningdek aynan psixolog mutaxassislarni ham tashvishga solayotganligi bejiz emas. Aytish mumkinki bunday holatlar turli darajadagi zo'riqishlar natijasida vujudga kelmoqda.

Ayni kunlarda asabiylashish holatlari kuzatilayotgan quyidagi kishilar guruxini alohida ta'kidlab o'tish joiz:

I. Bolalar orasida:

1. Bog'cha bolalari orasida kuzatiladigan asabiylik holatlari;

2. Maktab o'quvchilari orasida kuzatiladigan asabiylik holatlari;

3. O'smirlar orasida kuzatiladigan asabiylik holatlari;

II. Kattalar orasida:

1. Ish joylarida (rahbar yoki xodimlar orasida) kuzatiladigan asabiylik holatlari;

2. Oilada (er-xotin, qaynona-kelin, ota-ona va farzandlar orasida) kuzatiladigan asabiylik holatlari;

3. Keksalar orasida (psixologik o'zgarishlar natijasida) kuzatiladigan asabiylik holatlari.

Mazkur sanab o'tilgan muammolarni hal qilishda psixologik trening deb ataluvchi o'yin va mashqlar seriyasidan iborat mashg'ulotlar yordam beradi.

Yuqoridagi guruhlar o'zi istab, o'z xohishi bilan treningga keladi va trenerning ko'rsatmalariga amal qiladi. Lekin ba'zi guruhlar bo'ladiki, bu guruh a'zolari treningga istamasdan, xohlamasdan keladi misol: voyaga yetmagan bolalar o'rtasidagi jinoyatchilar, bezorilar, o'g'rilar. Lekin guruh a'zolarining istagidan qat'iy nazar treningning vazifasi ularning muammolarini hal etishda zarur ko'nikmalarni shakllantirishga qaratilgan bo'ladi.

Qadimgi manbalarda ham trening elementlariga oid fikrlar mavjud bo'lib, guruhiy terapiya elementlari vujudga kelgan. Jamoaviy marosim va tadbirlar

o'tkazish orqali bir kishidan ko'ra guruhga ta'sir o'tkazish samarali bo'lishini tabiblik va shamanlik amaliyotlarida keng tarqalgan. Chunki ular shu tadbirlar orqali guruhdagi emotsional kayfiyatni ko'tarinki bo'lishi, ishtirokchilarga yuqishi va shu orqali insonlarni davolashda yaxshi natijalarga erishganlar.

Bugungi kunda hamma uchun umumiy qabul qilingan "trening" tushunchasi yo'q, shuning uchun bo'lsa kerak, psixologik amaliyotda uning ma'nosini anglatuvchi ko'plab metod, shakl va uni anglatib beruvchi manba hamda vositalar kabi tushunchalar kelib chiqadi.

Trening turlari

Treninglarni qanday maqsadda tashkil etilishiga qarab, asosan quyidagi turlarga bo'lish mumkin:

1. Turli xil psixologik muammolardan chiqib ketish uchun ko'nikmalar hosil qilish maqsadidagi treninglar;

2. Davolash maqsadida tashkil etiladigan treninglar;

3. Boshqaruv malakalarini shakllantiruvchi treninglar.

Birinchi turdagi treningni yana bir necha xilga ajratish mumkin:

- Shaxslararo muloqotchanlik ko'nikmalarini hosil qilish uchun tashkil etiladigan treninglar.

- Shaxsni barkamollashtirishga qaratilgan treninglar.

- Emotsional hissiy zo'riqlashlarni bartaraf etish bilan bog'lik treninglar.

- Tanani yangi xatti-harakatlarga o'rgatish uchun treninglar.

Bularni har birini alohida qarab chiqiladigan bo'lsa, quyidagi ma'lumotlarni berish mumkin bo'ladi.

Tanani yangi xatti-harakatlarga o'rgatish uchun treninglar.

Ilmiylashtirish. Shunday o'quvchilarni uchratish mumkinki, ularning o'quvchilar orasida, hatto yaqinlari orasida ham shaxslararo munosabatga kirishishi qiyin. Bunday o'quvchilar gapirayotganida ham yuzida juda kam mimikalarni kuzatish mumkin. Ularning atrofdagilar, ayniqsa ko'pchilik oldida erkin harakat qilishga tortinayotganligini, hatto gapirishga ham botinmayotganligini sezish qiyin emas. Aytish mumkinki, bunday o'quvchilar harakat qilishga ham qo'rqadi, negaki ularda "Nojo'ya harakat qilib, kulguga qolmay yoki ularda o'zim haqimda salbiy fikr uyg'otib qo'ymay", degan o'ziga nisbatan past baho berish ustunligi mavjud. Ular o'quvchilar orasida o'zini haddan tashqari qandaydir ramka ichida sezadi. Bunday muammoning asl sababi — ularning ichki dunyosida qandaydir muammo mavjud. Baxtlilar ichida baxtsizligini (otasi, onasi, yaqin do'stlari yo'qligini) o'zi bilgani holda, bu holatini atrofdagilariga bildirmaslikka harakat qilish. O'zining muammosini boshqalardan yashirib yurishi – bu holatlarni bartaraf etishda treninglar

muhim o‘rin tutadi. Chunki yuqorida sanab o‘tilgan holat bilan bog‘liq muammolar o‘quvchi shaxsning tana harakatlarida namoyon bo‘ladi.

Mashq qilish usuli haqida tushuncha

Mashq qilish usuli — trening jarayonida ishtirokchilarni faollashtirish, kayfiyatini ko‘tarish, ular orasida o‘zaro ishonch va samimiylik muhitini yaratish maqsadida pisixogimnastik mashqlar usulini qo‘llash taktikasidir.

Mashq qilish usuli — zarur malaka va ko‘nikma hosil qilish hamda ularni mustahkamlash uchun nazariy, amaliy bilimlarni ongli ravishda, ko‘p martalab takrorlashdan iborat.

Bu usulning vazifasi — olingan bilimlardan ko‘nikma va malakalarga utishdir. Shuningdek, mashq qilish trening davomida olingan ma‘lumotlarni ishtirokchilar qanday o‘zlashtirayotganligini ham ko‘rsatadi. O‘qituvchidan talab qilinadigan xususiyatlar, ya‘ni mashqni tanlashda o‘qituvchi nimalarni hisobga olishi zarurligi haqida gan ketganda quyidagilarni ta‘kidlab ko‘rsatish joiz.

O‘qituvchi birinchi navbatda mashqni o‘tkazish natijasida guruxda qanday holat vujudga kelishini hisobga olishi lozim. Bunda asosan 2 xil holat kuzatiladi.

- a) butun guruxning holati o‘zgaradi.
- b) guruxdagi har bir ishtirokchining holati o‘zgaradi.

Ikkinchi navbatda o‘qituvchi gurux taraqqiyotning qaysi bosqichida turganligini hisobga olishi kerak. Buni bilishning zaruriyati shundaki, gurux ishtirokchilari qanchalik jipslashgan bo‘lsa, o‘zini erkin sezsa, o‘tkazilayotgan mashqlar tahlikasiz o‘tadi. Ayniqsa gurux a‘zolarining tana kontaktlariga oid bo‘lgan va ko‘zni yumib bajariladigan mashqlarga e‘tibor qaratish kerak, chunki bunday mashqlarning bevaqt o‘tkazilishi guruxda zo‘rikish yoki norozilik holatlarini keltirib chiqarishi mumkin.

O‘qituvchi hisobga olishi zarur bo‘lgan uchinchi holat kun vaqtini hisobga olishdir, kun boshlanishida guruxda ishchanlik, ahillik, o‘zaro ishonch muhitini yaratuvchi mashqlarni o‘tkazish maqsadga muvofikdir. Bu — guruxning ayni paytdagi ishga taalluqli bo‘lmagan tashvish va muammolarini unutishga olib keladi, gurux a‘zolari "hozir va shu yerda" degan sharoitni sezishadi. Bundan tashqari, butun diqqat-e‘tiborini va aqliy faoliyatini safarbar etishiga imkon tuhiladi. Kunning ikkinchi yarmida esa charchoqni tarqatadigan, hayajonli his-tuyg‘ularni yumshatishga olib keladigan mashqlarni o‘tkazish tavsiya etiladi. "Tushgacha ochlikka qarshi, tushdan sung uyquga qarshi kurashish kerak" — bu har qaysi o‘qituvchining shiori bo‘lishi kerak.

Yo‘riqnoma.

Mashqda eng asosiy samaradorlikni ta‘minlovchi qism yo‘riqnoma deyiladi. Mashqning samaradorligi yo‘riqnomaning aniq, puxta, oydin va ixchamligiga bog‘lik bo‘lib, u o‘zida yetarli darajada zarur axborotlarni ifodaetishi kerak. Yo‘riqnomani

ortiqcha tafsilotlar va tushuntirishlar bilan to'ldirmaslik kerak. U qanchalik aniq, qisqa, tushunarli bo'lsa, mashq shunchalik samarali o'tadi va kutilgan natijani beradi. O'qituvchining yo'riqnomani tushuntirish uchun sarflagan vaqti mashqni bajarishga ketgan vaqtga nisbatan kamroq vaqtni olsa, bunday yo'riqnomani risoladagidek yo'riqnoma deyish mumkin. O'qituvchi yo'riqnomani tushuntirish davomida har bir ishtirokchi bilan ko'z orqali kontakt o'rnatishi kerak. Bu esa ishtirokchilarning e'tiborini oshirish, diqqatini jalb etish va ularni yaxshiroq tushunishga olib keladi. O'qituvchi yo'riqnomaning tushunarliliigi yoki tushunmaganlik holati bo'lganligini so'rash shart.

Yo'riqnoma hamma uchun tushunarli bo'lganligini va ishtirokchilar nima qilishni bilib olganligiga ishonch xosil qilgandan keyingina boshlovchi mashqni bajarishga kirishishi mumkin. Agar mashqni bajarish jarayonida yo'riqnomani kimdir yaxshi tushunmagan bo'lsa, u xolda mashqni bajarishni to'xtatish va yo'l qo'yilgan xatoni tuzatish lozim buladi.

O'qituvchining o'zi mashq bajarishda qatnashishi kerakmi? degan savolga javob izlanadigan bo'lsa, aytish mumkinki, bu savolga javob aniq emas. Bu borada faqat ba'zi bir ko'rsatmalarni ta'kiddab o'tish mumkin.

- O'qituvchi kunning 1-yarmida o'tkaziladigan qisqa psixogimnastik mashqlarda imkoniyatiga qarab ishtirok etishi kerak, ayniqsa kun boshida. Buni xatto qoida sifatida qabul qilish ham mumkin. Imkoniyat deganda esa bitta odam o'qituvchi bo'lib ishlash qiyin, har doim yordamchi o'qituvchi bo'lishi kerakligi nazarda tutiladi.

- Ishtirokchilarning toq yoki juft soni talab qilinadigan mashqlarda guruhni to'ldirish uchun qatnashishi mumkin. Lekin, bu o'qituvchi shunday holatdagi barcha mashqlarda albatta qatnashishi shart degani emas. Lekin o'qituvchi mashq jarayonida guruhni tartibga solib turishi kerak.

- Agar o'qituvchidan mashqni nazorat qilib turish talab etilsa, u mashq bajarishda qatnashmaydi. Ayniqsa ko'zni yumib bajariladigan mashqlarda.

Mashqni to'xtatish va muhokama qilish.

Treninglar davomida qo'llaniladigan mashqlar ishtirokchilar uchun qiziqarli va g'ayri oddiy bo'lganligi uchun odatda ko'pchilik ularning uzoqroq davom ettirilishini istaydi. Lekin bu o'qituvchining rejasi buzilishiga va trening samarasining pasayishiga olibkelishim mumkin. Shuning uchun o'qituvchi har bir mashqni vaqtida to'xtatish va muhokama qilish texnikasini puxta egallashi zarur.

Mantiqiy yakunga ega bo'lgan mashqlar ham mavjud. Bunday mashqlar jumlasiga "Buzuq telefon" nomi bilan keng tarqalgan mashq kiradi. Bu mashq ma'lumot oxirgi ishtirokchiga yetib borganda yakunlanadi. Boshlovchi ba'zan mashq tugashining shartlarini oldindan aytib qo'yadi. Masalan, agar guruh ishtirokchilaridan

birortasi gapirib yuborsa, bunday sharoitda mashq to'xtatiladi. Boshlovchi tanlashi mumkin bo'lgan yo'llardan yana biri, mashqni oldindan aytib berishdir. Bunda boshlovchi vaqtni kuzatib boradi va uning tugashini guruhga ma'lum qiladi. Lekin ko'pincha mashqni o'tkazishning chegarasini oldindan aniqlab bo'lmaydi, bunda asosiy e'tibor guruh a'zolari qanday sezishi, ularning bu ishga qo'shilganligi va qiziqqanlik darajasini hisobga olishga qaratiladi.

Umumiy qoida shunday: mashqdan qoniqish yuqori darajaga yetganda, uni yakunlash kerak. Diagnostikani amalga oshirish va guruh ishtirokchilarining holatidagi o'zgarishlarni diqqat bilan kuzatayotgan boshlovchi ana shunday daqiqani payqab olishi kerak. Bu daqiqa shundan iboratki, bir tomondan mashq maqsadi uchun va uning muhokamasi uchun yetarli materiallar yig'iladi, boshqa tomondan esa guruhning ko'pgina ishtirokchilari mashqni bajarishni davom ettirish niyatida bo'lib va uni tugatishga roziligini izhor etadilar.

Umumiy qoida shunday: mashq qanchalik ko'p va mazmunli axborot olishga yo'naltirilgan bo'lsa, uning muhokamasiga ham shuncha ko'p vaqt sarflanadi.

Agar mashqlarning maqsadi guruh a'zolari holatidagi o'zgarishlarni bilishga qaratilgan bo'lsa, unda muhokamada "Siz o'zingizni qanday his qilyapsiz? "Hozir kayfiyatingiz qanday?" kabi qisqa savollar beriladi.

Ba'zan bir xildagi "yaxshi", "tetikman", "me'yorda" kabi javoblar bilan chegaralaniladi. Ba'zi hollarda ishtirokchilarning aniq bir holatini ko'rgan boshlovchi ham ularga gan qotadi: "Siz hushvaqtsiz endi keyingi murakkab ishlarga ham o'tish mumkin", "Men ko'ryapmanki hamma tabassum qilayapti, menimcha kayfiyatlar yaxshi, ishni davom ettirish mumkin" va h.k.

Boshlovchi mashq jarayonida quyidagilarni ham kuzatib borishi lozim: ishtirokchilarda qiyinchilik tug'ilayaptimi (agar qiyinchiliklar bo'lsa, u qanday mazmunga ega), ishtirokchilarning holati qanday o'zgarayapti, ular nimaga erishayapti va nimaga erisha olmayapti. Bunday kuzatishlar esa mashqlar tugagandan keyingi beriladigan savollar xarakterini belgilaydi.

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ПОНЯТИЕ ТОВАРНОГО ЗНАКА И ЗНАКА ОБСЛУЖИВАНИЯ, ИХ СУТЬ.

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Аннотация: Статья рассматривает понятие и правовые основы товарных знаков и знаков обслуживания, их роли и значения в современном праве интеллектуальной собственности. Рассматриваются основные признаки и функции этих объектов интеллектуальной собственности также будет дан небольшой исторический анализ по поводу товарных знаков и знаков обслуживания.

Ключевые слова: товарный знак, авторское право, интеллектуальная собственность, знак обслуживания.

Законодательство Республики Узбекистан в области товарных знаков и знаков обслуживания является довольно прогрессивным. Понятие товарного знака и знака обслуживания можно подчеркнуть оттуда потому что там оно четко определено. Товарный знак и знак обслуживания представляют собой официально зарегистрированное обозначение, которое используется для различения товаров и услуг одного юридического или физического лица от аналогичных товаров других лиц. Опираясь на это понятие можно сделать вывод что товарный знак служит для удобства потребителей, а также дает возможность производителям и их товарам иметь возможность отличаться друг от друга. Товарные знаки используются для индивидуализации какого либо товара. Знаки обслуживания же используют для индивидуализации оказываемых услуг. Основной разницей является то что товарным знаком компании маркируют товары, а под знаком обслуживания компании оказывают услуги потребителям. А если смотреть на историческую подоплеку то можно понять что уже в Древнем Египте, Греции и Риме производители использовали различные маркировки на своих продуктах, чтобы идентифицировать происхождение товаров и качество. Эти символы служили своего рода гарантом качества. Законодательство о товарных знаках начало развиваться в Европе в XVIII-XIX веках, когда промышленная революция способствовала росту производства и торговли. Одним из первых официальных законодательных актов, регулирующих использование товарных знаков, стала английская Акт о товарных знаках 1875 года. Система регистрации товарных знаков начала активно развиваться в Европе и США в конце XIX века, что дало возможность

владельцам зарегистрированных товарных знаков защищать свои права на территории других стран.

С развитием международной торговли и интеграции экономики товарные знаки стали играть все более важную роль в защите интересов производителей, потребителей и инвесторов.

В XX веке с распространением глобализации и технологических изменений товарные знаки стали не только инструментами защиты, но и важными элементами маркетинга и брендинга.

Следующим значимым шагом в развитии товарных знаков и их законодательного регулирования стало создание Мадридской системы для международной регистрации товарных знаков в 1891 году, которая позволила производителям регистрировать свои товарные знаки в нескольких странах с помощью одной заявки. Эта система функционирует и в настоящее время, обеспечивая единый механизм охраны прав на товарные знаки в международном масштабе. Теория работы данной системы очень проста она предполагает, что заявитель регистрирует товарный знак в своей стране (национальная регистрация), а затем подает заявку в ВОИС для международной регистрации. Эта заявка, при условии выполнения всех формальностей, будет распространена на страны, которые являются членами системы, по выбору заявителя. В данной системе прописаны и указаны также ограничения:

- Зависимость от национальной регистрации: Международная регистрация товарного знака зависит от первоначальной национальной регистрации.

- Ограниченность стран: Некоторые страны, такие как США и Китай, не являются полными участниками Мадридской системы, хотя они подписали Протокол.

Товарные знаки и знаки обслуживания бывают двух основных типов: индивидуальные и коллективные. Индивидуальный товарный знак — это знак, принадлежащий конкретному юридическому или физическому лицу, который используется для обозначения товаров или услуг этого лица. Он позволяет отличить продукцию или услуги одного производителя от товаров или услуг других производителей на рынке.

Коллективный товарный знак — это знак, принадлежащий группе юридических и/или физических лиц, объединённых для совместной коммерческой деятельности. Такой знак используется для обозначения товаров или услуг, производимых или предоставляемых участниками этой группы и обладающих общими характеристиками или качествами.

Индивидуальные и коллективные товарные знаки выполняют важную функцию в защите прав их владельцев и интересов потребителей.

Индивидуальные знаки гарантируют уникальность и исключительность продукции, тогда как коллективные знаки способствуют объединению участников для совместного продвижения и стандартизации товаров или услуг. В Узбекистане правовая охрана товарного знака осуществляется на основе его регистрации в соответствии с положениями национального законодательства и международными договорами Республики Узбекистан. Регистрация товарного знака может быть произведена на имя юридического или физического лица. Для регистрации товарного знака и знака обслуживания необходимо направить заявку в министерство юстиции. Юридические и физические лица, а если быть точнее заявители подают заявки на регистрацию товарного знака, через государственные информационные системы в Министерство юстиции. Заявка на коллективный знак оформляется от имени объединения юридических или физических лиц на основании соглашения участников, определяющего порядок использования такого знака. Регистрация обозначений в качестве товарных знаков в Республике Узбекистан регулируется строгими нормами, направленными на защиту общественных и правовых интересов, предотвращение введения потребителей в заблуждение, а также охрану культурных и исторических ценностей. Согласно действующему законодательству, не подлежат регистрации:

- Государственная символика и официальные атрибуты такие как изображения гербов, флагов, государственных наград, официальных знаков отличия государственных служб, а также контрольные, гарантийные и пробирные клейма и печати.

- Наименования государств и международных организаций.

- Вводящие в заблуждение обозначения, а также ложные или формально корректные, но дающие ошибочное представление

- Обозначения, противоречащие принципам морали и гуманности, например, те, которые оскорбляют общественные ценности.

Перечень ограничений на регистрацию товарных знаков, предусмотренный законодательством Республики Узбекистан, является исчерпывающим. Изучив его лицо, которое хочет зарегистрировать товарный знак или знак обслуживания может сделать четкие выводы о том что подлежит запрету. Также можно отметить защиту прав потребителя ведь ограничения на использование ложных или вводящих в заблуждение обозначений защищают права потребителей. Они предотвращают злоупотребления, связанные с недостоверным указанием качества, места происхождения или других характеристик товаров.

Запрет на регистрацию знаков, противоречащих общественным интересам или моральным нормам, способствует защите культурных и этических ценностей общества. В рамках законодательства Республики Узбекистан в качестве товарных знаков могут быть зарегистрированы различные виды обозначений, включая изобразительные, словесные, объемные и другие формы. Эти элементы могут использоваться как по отдельности, так и в комбинации, а также быть представлены в любом цвете или их сочетании. Данный подход отражает многообразие способов идентификации товаров и услуг на рынке

Заключение

Современное и стандартизированное законодательство в области товарных знаков служит на пользу всем сторонам правовых отношений. Как можно понять товарные знаки и знаки обслуживания это обозначение, которые используются для различения товаров одного производителя от товаров других производителей. Это может быть слово, изображение, комбинация букв и цифр, или даже специфический цвет, форма упаковки и другие визуальные элементы. Сущность данных объектов интеллектуальной собственности заключается в том что они обеспечивают стабильность среди участников рынка, а также помогают потребителям осуществлять свои права и не использовать фальсифицированный товар. Для создателей и владельцев товарных знаков эти объекты интеллектуальной собственности служат в роли маркетингового инструмента для создания репутации бренда.

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BUGUNGI KUNDA O‘ZBEKISTONNING EKOLOGIK HOLATI

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Annotatsiya: Bugungi kunda O‘zbekistonning ekologik holati dolzarb masalalardan biri bo‘lib qolmoqda. Davlatda tez o‘sayotgan sanoat, intensiv qishloq xo‘jaligi faoliyati, suvlarga nisbatan ortib borayotgan talab va iqlim o‘zgarishlari kabi omillar ekologik muammolarni kuchaytirgan. Qishloq xo‘jaligida suv resurslarining noto‘g‘ri taqsimlanishi, tuproq eroziyasi, havoning ifloslanishi va tabiiy boyliklarning haddan tashqari foydalanilishi O‘zbekistonning ekologik barqarorligini xavf ostiga qo‘ymoqda. Shu bilan birga, so‘nggi yillarda mamlakatda ekologik muvozanatni tiklashga qaratilgan chora-tadbirlar ko‘rilmoqda, jumladan, yirik infratuzilma loyihalarini amalga oshirish, qayta tiklanuvchi energiya manbalariga o‘tish va ekologik ta‘limni kuchaytirish kabi qadamlar qo‘yilmoqda.

Kalit so‘zlar: O‘zbekiston, ekologik holat, iqlim o‘zgarishi, suvlarga talab, qishloq xo‘jaligi, tuproq eroziyasi, havoning ifloslanishi, ekologik barqarorlik, qayta tiklanuvchi energiya, ekologik ta‘lim.

O‘zbekiston Respublikasi, Markaziy Osiyoning yuragi bo‘lib, o‘zining boy tabiiy resurslari, qishloq xo‘jaligi va sanoati bilan tanilgan mamlakatdir. Biroq, bu sohalarda amalga oshirilgan intensiv faoliyatlar va tabiiy resurslardan haddan tashqari foydalanish, ekologik muammolarning yuzaga kelishiga sabab bo‘lmoqda. Hozirgi kunda O‘zbekiston ekologik holatiga ta‘sir ko‘rsatayotgan asosiy omillar, iqlim o‘zgarishlari, suv resurslarining kamayishi, tuproqning ifloslanishi va tabiiy boyliklarning o‘zgarishidir. O‘zbekistonning ekologik holatiga eng katta tahdidni suv resurslarining kamayishi tashkil etmoqda. O‘zbekiston Markaziy Osiyodagi eng ko‘p suv iste‘mol qiluvchi mamlakatlardan biri bo‘lib, mamlakatning qishloq xo‘jaligi va sanoati katta miqdorda suvga ehtiyoj sezadi. Asosiy suv manbalari – Amudaryo va Sirdaryo — o‘zaro bo‘linib, qo‘shni mamlakatlar bilan qattiq raqobatni keltirib chiqarmoqda. Bu suvlarga bo‘lgan raqobat, suv taqsimoti bo‘yicha ham, ekologik muammolarni keltirib chiqarmoqda. Suvning ifloslanishi, sug‘orish usullarining samaradorligi va iqlim o‘zgarishi bu muammoning kuchayishiga sabab bo‘lmoqda.

Tuproqning eskirishi va ifloslanishi ham ekologik holatga salbiy ta‘sir ko‘rsatmoqda. O‘zbekistonda intensiv qishloq xo‘jaligi amaliyotlari, ayniqsa paxta

ekinlari bilan shug'ullanish, tuproqni kamaytirishga olib kelgan. Paxtachilikda qo'llaniladigan pestitsidlar va kimyoviy o'g'itlar tuproqning biologik faoliyatini pasaytiradi, uni ifloslantiradi. Bundan tashqari, tuproq eroziyasi va sho'rlanishi ham katta muammo bo'lib, bu yerlarning unumdorligini kamaytiradi. Shu sababli, samarali sug'orish tizimlari va ekotizimlarni tiklashga qaratilgan chora-tadbirlar zarur. Iqlim o'zgarishi ham O'zbekistonning ekologik holatiga salbiy ta'sir ko'rsatmoqda. O'zbekistonning iqlimi asosan quruq va yarim quruq bo'lib, global isish bilan bog'liq ravishda, qurg'oqchilik va yuqori haroratlar tez-tez yuz berayotgani kuzatilmoqda. Bu, ayniqsa, qishloq xo'jaligi va suv resurslariga ta'sir ko'rsatadi. O'simliklar va ekinlar suvning kamayishi sababli muammo yuzaga kelmoqda, bu esa oziq-ovqat xavfsizligi uchun tahdid solmoqda. O'zbekiston hukumati ekologik vaziyatni yaxshilash uchun turli tashabbuslarni amalga oshirmoqda. Bu tashabbuslar orasida tabiiy resurslarni saqlash, chiqindilarni qayta ishlash va yashil energiya manbalarini rivojlantirish kabilar mavjud. 2021-yilda O'zbekistonda ekologik taraqqiyot bo'yicha milliy strategiya qabul qilindi, bu esa mamlakatning uzoq muddatli ekologik barqarorligini ta'minlashga qaratilgan muhim qadamlardan biridir. Bundan tashqari, suv resurslaridan samarali foydalanish, aqlli qishloq xo'jaligini joriy etish, tabiiy hududlarni himoya qilish kabi ekologik islohotlar amalga oshirilmoqda. Ekoturizmni rivojlantirish, chiqindilarni qayta ishlash va suvni tejashga qaratilgan dasturlar ekologik holatni yaxshilashga yordam beradi. O'zbekistonning ekologik holati hali ham o'zgarishga muhtoj bo'lib qolmoqda. Agar tabiiy resurslar va ekologik muammolarni hal etish uchun zarur choralar ko'rilmasa, mamlakatda yirik ekologik falokatlar yuzaga kelishi mumkin. O'zbekistonning ekologik holatini yaxshilash uchun davlat va jamiyat o'rtasida hamkorlik, innovatsion texnologiyalarni joriy etish va global ekologik harakatlar bilan birgalikda ish olib borish zarur. O'zbekistonning ekologik holati jiddiy muammolarni o'z ichiga oladi, lekin mamlakatning ekologik kelajagini yaxshilash uchun qadamlar qo'yilmoqda. Suv resurslaridan samarali foydalanish, qishloq xo'jaligida ekologik texnologiyalarni joriy etish va iqlim o'zgarishiga qarshi kurashish masalalari dolzarb bo'lib qolmoqda. Kelajakda O'zbekistonning ekologik barqarorligini ta'minlash uchun mamlakatning barcha sektorlarida mas'uliyatli yondashuv va kompleks choralar zarur. Insoniyat yovvoyi o'simlik va hayvon turlarining kamayib borayotganligini bilgan sayin, uning hayotdagi muhim ahamiyatini anglab yetmoqda. Mamlakatimizda biologik xilma-xillikni saqlash va undan barqaror foydalanishni ta'minlash, muhofaza qilinadigan tabiiy hududlarni rivojlantirish va kengaytirish, tabiiy ekologik tizimlarning tanazzulga uchrash su'ratlarini pasaytirish, hayvonlar va o'simliklarning kamyob va yo'kolib borayotgan turlarini tiklash, bioxilma-xillikni saqlab qolish asosiy maqsadlardan biridir.

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WAYS TO END POVERTY IN TODAY'S INNOVATIVE ECONOMY

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Annotation. This article explores effective strategies to address poverty in an era shaped by technological advancements and innovative economic models. By analyzing methodologies such as financial inclusion, digital skills training, and sustainable development programs, the study identifies impactful solutions for poverty alleviation. The article emphasizes the role of innovation in creating equitable opportunities and fostering sustainable growth.

Keywords. Poverty alleviation, innovative economy, financial inclusion, digital transformation, education access, technology for good, microfinance, social entrepreneurship, sustainable development, wealth distribution.

INTRODUCTION

Poverty remains a persistent global challenge despite advancements in technology and economic innovation. According to the World Bank, over 700 million people live on less than \$2.15 a day. While traditional methods such as charitable aid and welfare programs have played a crucial role, they often fail to address systemic barriers. Today's innovative economy, driven by technology and digital transformation, offers new opportunities to tackle poverty sustainably. This article examines effective strategies that leverage innovation to reduce poverty and create inclusive economic opportunities. Below is a review of the literature on this topic:

FDI has been identified as one of the strategic engines of the economic prosperity. Further empirical evidence has reinforced that FDI has the potential to propel advancement of growth in various countries.¹ The Global Findex Database reveals that many developing countries have used financial inclusion initiatives to combat poverty and enhance income generating opportunities.²

¹ Bhuimali, A., Partha, P. S., Sidhartha, S. L., & Madhabendra, S. (2019). FDI, trade, and economic growth: a dynamic panel study on global economy. In Rajib Bhattacharyya (Ed.), *The Gains and Pains of Financial Integration and Trade Liberalization* (pp. 77–87). Bingley: Emerald Publishing Limited.

² The Global Findex Database (2021). The World Bank.

<https://www.worldbank.org/en/publication/globalindex/brief/the-global-findex-database-2021-chapter-3-financial-resilience>.

METHODOLOGY

To identify practical solutions for ending poverty, this study employed a mixed-method approach combining:

1. **Case Studies:** Analysis of successful poverty alleviation programs such as Kenya’s mobile money system M-Pesa and India’s Digital India campaign.
2. **Quantitative Data:** Examination of poverty rates, income inequality indices, and access to digital infrastructure.
3. **Qualitative Research:** Interviews with experts in social entrepreneurship, microfinance, and sustainable development.
4. **Comparative Analysis:** Evaluation of policies across different countries to identify scalable and replicable strategies.

RESULTS

The research identified several innovative approaches with significant potential for poverty reduction: (Fig. 1.)

Fig. 1.

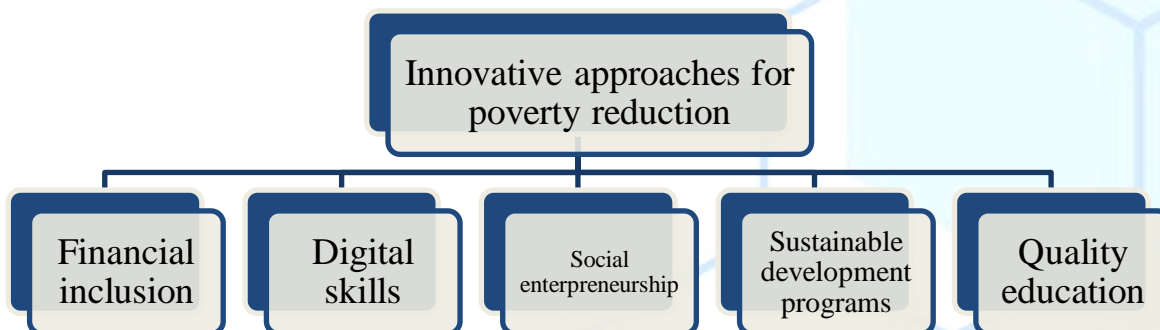
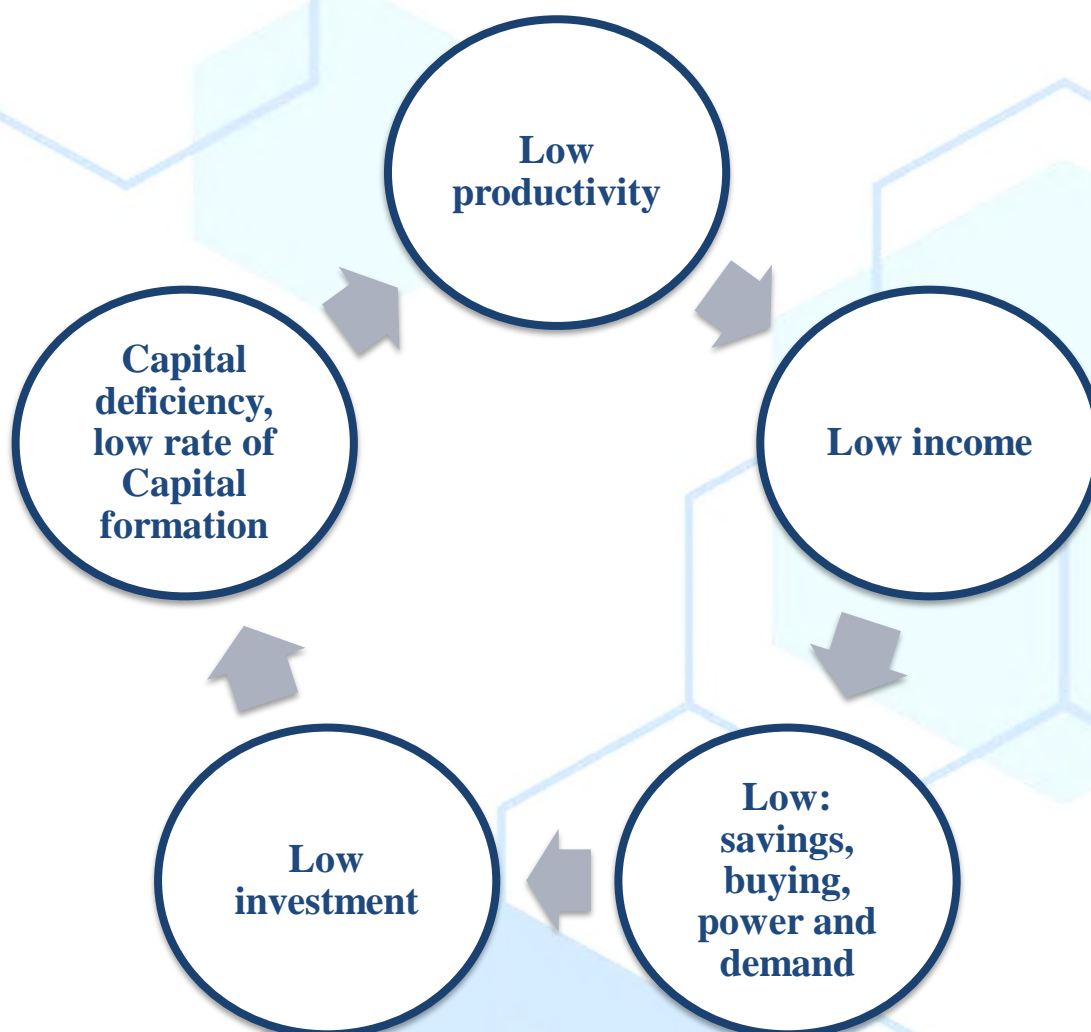


Figure 1. Innovative approaches for poverty reduction

1. **Financial Inclusion through Technology.** Mobile banking and fintech solutions, such as M-Pesa, have revolutionized access to financial services for underbanked populations, enabling savings, credit, and investment opportunities.
2. **Digital Skills Training.** Programs that equip individuals with digital literacy and technical skills have empowered marginalized communities to participate in the global digital economy. Initiatives like Code.org and Udemy for Business have demonstrated scalable success.
3. **Social Entrepreneurship.** Businesses that address social issues, such as TOMS Shoes and Grameen Bank, combine profitability with impactful poverty reduction strategies.

4. **Sustainable Development Programs.** Renewable energy initiatives, like off-grid solar solutions in Sub-Saharan Africa, provide affordable power while creating jobs and improving quality of life.
5. **Universal Access to Quality Education.** Digital learning platforms, such as Khan Academy and Coursera, democratize education and improve access for disadvantaged populations.

Fig. 2.

Figure 2. The vicious circle poverty.³

CONCLUSION

The innovative economy holds immense promise for ending poverty through scalable and sustainable solutions. By harnessing technology, promoting financial inclusion, and investing in education and entrepreneurship, societies can address

³ Rohima, S., Suman, A., Manzilati, A., & Ashar, K. (2013). Vicious circle analysis of poverty and entrepreneurship. IOSR Journal of Business and Management (IOSR-JBM), 7(1), 33–46.

systemic inequalities and create pathways for inclusive growth. However, achieving these outcomes requires collaboration among governments, private enterprises, and non-profits to ensure equitable access to resources and opportunities. Through such coordinated efforts, poverty can be reduced, empowering millions to lead better lives.

In today's innovative economy, the fight against poverty is no longer limited to traditional approaches. Technological advancements, digital transformation, and inclusive policies offer a new paradigm for tackling this age-old challenge. The integration of financial technologies, such as mobile banking and microfinance, empowers individuals by granting them access to essential financial services. Digital skills training and online education platforms democratize knowledge, creating opportunities for individuals to improve their livelihoods. Meanwhile, sustainable development programs, like renewable energy initiatives, directly address environmental challenges while fostering economic growth.

However, innovation alone is not enough. Effective poverty reduction requires an ecosystem of collaboration between governments, private sectors, non-profits, and local communities. Policymakers must create an enabling environment through regulations and infrastructure investments. Simultaneously, private companies and social enterprises must design products and services that prioritize inclusion and affordability.

Ultimately, addressing poverty in an innovative economy is about equity—ensuring that technological progress benefits everyone, not just a privileged few. By leveraging innovation responsibly and inclusively, we can not only reduce poverty but also build a more resilient, equitable, and prosperous future for all.

To further reduce poverty, the following suggestions are proposed:

1. **Expand Access to Digital Infrastructure:** Governments and private sectors should invest in affordable internet access and technological infrastructure in underserved areas, enabling more people to participate in the digital economy.
2. **Promote Inclusive Financial Services:** Develop tailored financial products such as microloans, savings plans, and insurance schemes for low-income groups to support entrepreneurship and financial stability.
3. **Invest in Education and Workforce Development:** Prioritize affordable education and vocational training programs that equip individuals with the skills needed for jobs in emerging industries, ensuring they are prepared to thrive in a rapidly changing economy.

By implementing these strategies, societies can harness innovation to create a more equitable and prosperous future for all.

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ZAHIRIDDIN MUHAMMAD BOBURNING TARIXDA TUTGAN O'RNI*Sultonova Anzirat Lutfulloyevna**1-sonli ayrim fanlarni chuqur o'rganishga ixtisoslashtirilgan
maktabning ona tili va adabiyot o'qituvchisi***Annotatsiya:**

Zahiriddin Muhammad Bobur yoshligidan ilimga chanqoq bo'lib, o'z tengdoshlari orasida ajralib turgan shaxs bo'lgan. Bobur barcha temuriy shahzodalar kabi maxsus tarbiyachilar, yirik fozil-u ulamolar ustozligida harbiy ta'lim, fiqh ilmi, arab va fors tillarini o'rganadi, ko'plab tarixiy va adabiy asarlar mutolaa qiladi, ilm-fanga, she'riyatga qiziqqa boshlaydi. Boburning ulkan san'atkorligi shundaki, shaxsiy kechinmalarini jiddiy umumlashma darajasiga ko'tara oladi va natijada asarlarida olg'a surilgan g'oyalar umuminsoniy qadriyatlar darajasiga ko'tariladi.

Kalit so'zlar: Zahiriddin Muhammad Boburning ilmiy-ijodiy, milliy madaniyatimiz, xalqimiz tafakkurining shakllanishidagi roli, Boburning adabiyotga va she'riyatga qiziqishi, Bobur ijodida ishq-muhabbat, sevgi-sadoqat, visol va hijron mavzusi g'azal va ruboiylar, tuyuq va masnaviylarida ma'shuqaning maftunkor go'zalligi, beqiyos husnu latofati, sharqona odobu axloqi

Abstract

Zahiriddin Muhammad Babur had a thirst for knowledge from his youth and was a person who stood out among his peers. Like all Timurid princes, Babur studied military education, jurisprudence, Arabic and Persian languages under the tutelage of special tutors and great religious scholars, read many historical and literary works, became interested in science and poetry. can rise to the level of generalization, and as a result, the ideas advanced in his works rise to the level of universal values.

Keywords: Zahiriddin Muhammad Babur's scientific and creative role in the formation of our national culture and the thinking of our people, Babur's interest in literature and poetry, the theme of love, loyalty, visal and hijran in Babur's work is the charming beauty of the lover in his ghazals and rubai, tuyuk and masnavi, incomparable elegance, oriental manners and morals

Istiqlol yillari o'zbek adabiyotshunosligida navoiyshunoslik bilan bir qatorda yangi ilmiy tarmoq - boburshunoslik ham uzil-kesil shakllandi. XIX asrdayoq G'arbiy Yevropada paydo bo'lgan va XX asrda rivojlanish bosqichiga kirgan boburshunoslik ilmi endi nafaqat shakllandi, hatto bu sohada "Zahiriddin Muhammad Bobur ensiklopediyasi" va "Zahiriddin Muhammad Bobur "Bibliografiya" (Moskva, 2016) singari fundamental nashrlar ham dunyo yuzini ko'rdi.

Bobur tavalludining 534 yilligi tantanalarida xalqaro anjumanga qatnashgan jahonning mashhur boburshunoslari Eyji Mano (Yaponiya), Magda Maxluf (Misr), Aziz Qayumov, Saidbek Hasanov (O'zbekiston), Mansura Haydar (Hindiston), Ilza Sirtautas (AQSH), Ramiz Asker (Ozarboyjon), Bilol Yujel (Turkiya) boburshunoslik ilmining markazi O'zbekistonga - Toshkentga ko'chganini bir ovozdan e'tirof etdilar.

Bu sohada Bobur nomidagi xalqaro jamoat fondi rayosati va raisi Zokirjon Mashrabovning alohida xizmatlari borligi qayd etildi. O‘shandan buyon har yili boburshunoslikka doir yuzlab maqola va o‘nlab risola, monografiya yozilib nashr etilmoqda. Jumladan, 2017 yili Bobur tavalludining 535 yilligi oldidan o‘tkazilgan “Zahiriddin Muhammad Bobur asarlarining jahon madaniyati tarixida tutgan o‘rni” mavzusidagi xalqaro anjuman va uning materiallarining “Bobur abadiyati” nomida nashr etilgani ham boburshunoslikdagi muhim voqea bo‘ldi.

O‘tgan yilgi - Zahiriddin Muhammad Bobur tavalludining 539 yilligiga bag‘ishlangan Mirzo Kenjabekning “Mubayyin” va “Volidiya”ga doir yangi tadqiqotlari va taniqli boburshunos Hasan Qudratullayevning “Boburning adabiyestetik olami” (“Ma’naviyat” nashriyoti, 2018) monografiyalarining chop etilgani ham ilmdagi sezilarli ishlardan bo‘ldi. “Boburnoma” qomusiy asar bo‘lgani uchun o‘nlab fanlar ma’lumotlari saqlangan xazinaga o‘xshaydi. Bu xazinaga adabiyotshunos kiradimi, tilshunos bosh suqadimi, tarixchi varaqlab ko‘radimi, har gal o‘zidan oldingi tadqiqotchining ko‘zi tushmagan yangi-yangi ma’lumotlarga duch kelaveradi.

Tadqiqotchi yangi asarida “Boburnoma”ga tipologiya nuqtai nazaridan yondoshishni asosiy maqsad qilib olgan. Muallif mohirlik bilan “Boburnoma”dagi voqea-hodisalar, shaxslar va ularning qismlari haqidagi matnlarni o‘sha zamonning ulug‘ adiblari va tarixchilari Alisher Navoiy, Zayniddin Vosifiy, G‘iyosiddin Xondamir, Abdurazzoq Samarqandiyning kitoblaridagi ma’lumotlarga qiyosan tahlil qilgan. Ayni paytda mualliflarning mavqei, shaxsi, iqtidori, e‘tiqodi, shaxsiy uslubi haqida ham mushohada yuritish payida bo‘lgan.

“Boburnoma” o‘zbek va umumturkiy adabiyotining dunyoga ma’lum va mashhur qomusiy asari. Bu memuarda O‘zbekiston, Afg‘oniston va Hindiston xalqlarining madaniyati, qadriyatlarini, o‘ziga xos xususiyatlaridan tortib, tabiati, geografiyasi, hayvonot va nabotot olami to‘g‘risida bebaho ma’lumotlar mavjud. Bu nodir manbaning turli tillarga tarjima qilingan nashrlarini qo‘ya turaylik, o‘zimizda mumtoz asarlari yuzasidan tuzilgan mukammal izohli lug‘atlar ham kamchilikdan xoli emas.

Bugun “Boburnoma”ni nozik jihatlarigacha teran anglab, tadqiq etiladigan boburshunoslar borligiga aminmiz. Zahiriddin Muhammad Boburning ilmiy-ijodiy merosini, davlatchilik va sarkardalik faoliyatini keng o‘rganish maqsadida xalqaro miqyosda ilmiy izlanishlar olib borish va ularning natijalarini e‘lon qilish, yangi ilmiy, badiiy-publitsistik asarlar yaratish;

Zahiriddin Muhammad Boburning hayoti va faoliyatiga bag‘ishlangan yuqori sifatli media mahsulotlar hamda audiovizual asarlar yaratish, ularni mahalliy va xorijiy ommaviy axborot vositalarida e‘lon qilish, Internet va ijtimoiy tarmoqlarda keng targ‘ib qilish;

O‘zbekiston Respublikasining xorijiy mamlakatlardagi elchixonalarini, O‘zbek milliy madaniy markazlari, vatandoshlar jamiyatlarida Zahiriddin Muhammad Bobur ijodini keng o‘rganish va targ‘ib qilishga bag‘ishlangan ma’rifiy tadbirlar, davra suhbatlari tashkil etish.

Madaniyat va turizm vazirligi Tashkiliy qo'mitaning ishchi organi etib belgilansin va mazkur qarorda belgilangan vazifalar bo'yicha vazirlik va idoralar faoliyatini muvofiqlashtirib borsin. Andijon viloyati hokimligi tomonidan Bobur nomidagi xalqaro jamoat fondi bilan birgalikda Andijon shahrida "Zahiriddin Muhammad Bobur ijodiy merosining bashariyat ma'naviy-ma'rifiy taraqqiyotidagi o'rni" mavzusidagi xalqaro ilmiyamaliy konferensiya;

Oliy ta'lim, fan va innovatsiyalar vazirligi tomonidan Alisher Navoiy nomidagi Toshkent davlat o'zbek tili va adabiyoti universitetida "Zahiriddin Muhammad Bobur merosining Sharq davlatchiligi va madaniyati rivojida tutgan o'rni" mavzusida xalqaro ilmiy-nazariy anjuman;

Toshkent shahar hokimligi, Madaniyat va turizm vazirligi tomonidan Toshkent shahrida Zahiriddin Muhammad Bobur tavalludining 540 yilligiga bag'ishlangan adabiy-badiiy anjuman;

Madaniy meros agentligi va Bobur nomidagi xalqaro jamoat fondi tomonidan Andijon shahridagi "Bobur va jahon madaniyati" kitob muzeyida Boburning hayoti, ilmiy va ijodiy faoliyatiga bag'ishlangan asarlarning qo'lyozma va nashr nusxalarining ko'rgazmasi; Badiiy akademiya va "Hunarmand" uyushmasi tomonidan mavzuga bag'ishlangan tasviriy san'at asarlari, miniatyuralar, xalq amaliy san'ati namunalari ko'rgazmalari yuqori saviyada o'tkazilishini ta'minlasin. Zahiriddin Muhammad Boburning ibratli hayoti va boy merosini aholi orasida keng targ'ib qilish maqsadida: Madaniyat va turizm vazirligi Bobur nomidagi xalqaro jamoat fondi bilan birgalikda: "Bobur merosi" xalqaro sayyohlik targ'ibot dasturini amalga oshirilishi.

2023-yilda Zahiriddin Muhammad Bobur hayoti va asarlari asosida yangi spektakllar yaratish, shoir g'azallari bilan ijro etiladigan eng yaxshi qo'shiqlar tanlovlari hamda "Nazm va navo" maqom kechalarini tashkil etishi belgilandi. Davlat buyurtmasi asosida Zahiriddin Muhammad Boburning bolalik davriga bag'ishlab suratga olinayotgan "Yo'lbarsning tug'ilishi" badiiy filmi yakuniga yetkazish uchun yana mukammal ishlash, tomoshabinga yetkazib bera oladigan darajada ishlash, yoshlarni jasur, mard, vatanga muhabbat, fidoyilik ruhida tarbiyalash lozimligi haqida bir qancha takliflar berildi.

Zahiriddin Muhammad Bobur hayoti va ijodiga doir "Bobur ensiklopediyasi"ning to'ldirilgan uchinchi nashri, "Bobur" kitob-albomi, shuningdek, Bobur asarlari lug'ati, Bobur devonining mukammal nashrini; "Boburnoma" asarining zamonaviy o'zbek va qoraqalpoq tillariga tabdilini yaratish; "Boburga armug'on" rukni ostida shoir asarlari, uning hayoti va ijodi haqidagi ilmiy va ommabop kitoblar turkumini tayyorlash va chop qilish choralarini ko'rish chora tadbirlari amalga oshirilmoqda.

Oliy ta'lim, fan va innovatsiyalar vazirligi Yozuvchilar uyushmasi, Respublika Ma'naviyat va ma'rifat markazi, Bobur nomidagi xalqaro jamoat fondi bilan birgalikda: ikki oy muddatda Zahiriddin Muhammad Bobur hayoti va ijodiy merosini tadqiq etish bo'yicha ilmiy tadqiqot ishlariga davlat buyurtmasi talablariga muvofiq ilmiy loyihalar tanlovini e'lon qilishi yoshlarimizni yanada xursand qildi.

Bobur Mirzo hayoti va faoliyatiga bag'ishlangan asarlarning o'zbek tilidan xorijiy tillarga hamda xorijiy tillardan o'zbek tiliga bosqichma-bosqich tarjima qilinishi va chop etilishini ta'minlasin. 2023-2024 o'quv yilidan boshlab oliy ta'lim muassasalari talabalari uchun tarix va geografiya yo'nalishlarida Zahiriddin Muhammad Bobur nomidagi davlat stipendiyasi ta'sis etilsishi.

Vazirlar Mahkamasi uch oy muddatda mazkur davlat stipendiyasini tayinlash tartibi to'g'risidagi nizomni tasdiqlasin. Biz yoshlarga bo'lgan e'tibor shuningdek yanada sifatli ta'lim olishimiz uchun qilinayotgan shartsharoitlar meni hamda butun O'zbekiston yoshlarini o'ziga bo'lgan ishonchini yanada oshirish imkonini berdi desak mubolag'a bo'lmaydi. Ushbu maxsus stipendiya bilan Z.M.Boburning hayoti va ijodini o'rganish, faoliyatini yoritish, ilmiy tadqiq qilish va targ'ib etish yo'nalishida izlanish olib borayotgan, adabiyot va kitobxonlikni keng targ'ib qilish yo'nalishida alohida faollik ko'rsatayotgan va konferensiyalarda (tanlovlarda) qatnashgan, mualliflik asosida nashr etilgan ishlari (asarlari) mavjudligi mezonlarga asosan har yili 20- mayga qadar institutda tahsil olayotgan 1-3 bosqich kursantlari rag'batlantiriladi.

“Zahiriddin Muhammad Bobur” nomidagi ko'krak nishoni nikel hamda tilla qoplangan mis qotishmasidan tayyorlangan bo'lib, sakkiz qirrali tilla rangli yulduz shakliga egadir. Ko'krak nishonining markazida havo rang emal bilan qoplangan, orqa tomonidan quyosh nurlari taralayotgan fonda Zahiriddin Muhammad Boburning sarkardalik mahorati va saltanat sohibi ekanligini anglatuvchi suvoriy qiyofasidagi oltin rangda bo'lgan sur'ati joylashgan bo'lsa, uning yuqori qismida ikki tomonidan qabariq sakkiz qirrali yulduz bilan ajratilgan qabariq harflarda «BOBUR» degan yozuv mavjud.

Ko'krak nishonining orqa tomonida esa Davlat gerbi tasvirlangan. Uning qadag'ichidagi qizil, moviy, sariq ranglardagi shoyi lenta ham o'z ma'nosiga ega bo'lib, u Zahiriddin Muhammad Bobur asos solgan davlat bayrog'ining ranglarini tasvirlaydi. Qoraqalpog'iston Respublikasi Vazirlar Kengashi, viloyatlar va Toshkent shahar hokimliklari, Respublika Ma'naviyat va ma'rifat markazi, Yozuvchilar uyushmasi, Maktabgacha va maktab ta'limi vazirligi, Oliy ta'lim, fan va innovatsiyalar vazirligi hamda boshqa vazirlik, idora va tashkilotlar Zahiriddin Muhammad Boburning ilmiyijodiy merosiga bag'ishlangan ijodiy uchrashuvlar, davra suhbatlari, kitoblar taqdimotlari hamda shunga o'xshash tadbirlar o'tkazilmoqda.

Jahon tarixida o'chmas iz qoldirgan betakror siymolardan biri Zahiriddin Muhammad Bobur buyuk shoir, qomusiy olim, davlat arbobi va mohir sarkarda sifatida butun dunyoda ma'lum va mashhurdir. Uning beqiyos ilmiy-ijodiy merosi nafaqat milliy madaniyatimiz va xalqimiz adabiy-estetik tafakkurining shakllanishida, balki jahon adabiyoti, ilm-fani va davlatchiligi tarixida alohida o'ringa ega. Mustaqillik davrida Zahiriddin Muhammad Boburning hayoti va faoliyatini har tomonlama chuqur o'rganish, uning asarlarini yurtimiz va xorijiy davlatlarda targ'ib qilish borasida keng ko'lamli ishlar amalga oshirildi.

Xususan, shoir tug‘ilgan kun - 14-fevral sanasi har yili mamlakatimiz bo‘ylab adabiyot va ilm-ma‘rifat bayrami sifatida nishonlanmoqda. Boburshunoslik sohasida ko‘plab tadqiqotlar, respublika va xalqaro miqyosda ilmiy anjumanlar muntazam o‘tkazilmoqda. Keyingi yillarda Toshkent va Andijon shaharlarida Bobur Mirzoning muazzam haykallari o‘rnatilgani, uning tug‘ilib o‘sgan yurti - Andijon shahrida Bobur nomidagi xalqaro jamoat fondi va uning tasarrufidagi “Bobur va jahon madaniyati” kitob muzeyi faoliyat ko‘rsatayotgani, “Bobur ensiklopediyasi”, “Bobur kulliyoti”, “Babur. Baburidi. Bibliografiya” deb nomlangan salmoqli asarlarning nashrdan chiqarilgani, “Bobur va dunyo” jurnalining tashkil qilingani madaniy hayotimizda katta voqea sifatida e‘tirof etildi. Jonajon Vatanimiz milliy rivojlanishning yangi bosqichiga - Uchinchi Renessans davriga qadam qo‘yayotgan, hayotimizning barcha jabhalarida tub o‘zgarishlar yuz berayotgan bugungi kunda Bobur Mirzoning bebaho merosini chuqur o‘rganish va ommalashtirish yanada muhim ahamiyat kasb etmoqda.

Buyuk ajdodimiz asarlarining milliy va umuminsoniy mohiyatini, uning yosh avlodimiz intellektual va ma‘naviy salohiyatini oshirish, farzandlarimizni shu asosda Yangi O‘zbekiston bunyodkorlari etib tarbiyalash borasidagi ulkan o‘rni va ta‘sirini inobatga olib, Bobur Mirzoning ilmiy va ijodiy merosini mamlakatimiz va xalqaro miqyosda yanada chuqur o‘rganish va targ‘ib etish maqsadida keng ko‘lamli ishlar amalga oshirilmoqda.

Madaniyat va turizm vazirligi, Oliy ta‘lim, fan va innovatsiyalar vazirligi, Fanlar akademiyasi, Yozuvchilar uyushmasi, Respublika Ma‘naviyat va ma‘rifat markazi, Bobur nomidagi xalqaro jamoat fondi hamda jamoatchilik vakillarining 2023-yilda Zahiriddin Muhammad Bobur tavalludining 540 yilligini keng nishonlash to‘g‘risidagi taklifi ma‘qullandi. Shuningdek bir hafta muddatda Zahiriddin Muhammad Bobur tavalludining 540 yilligini nishonlash bo‘yicha amalga oshiriladigan chora-tadbirlar dasturini tasdiqlasin. Ushbu dasturda quyidagi masalalarga alohida e‘tibor qaratilsin: mamlakatimizdagi Zahiriddin Muhammad Bobur nomi bilan bog‘liq obida va qadamjolarini, jumladan yodgorlik majmualarini ta‘mirlash va ularning hududlarini obodonlashtirish; Bobur Mirzo merosiga mansub qo‘lyozma, qadimiy kitoblar, san‘at asarlari va boshqa madaniy boyliklarni restavratsiya qilish, ularni ishonchli darajada saqlash uchun zarur sharoit yaratish; xorijiy mamlakatlarda saqlanayotgan Zahiriddin Muhammad Boburning hayoti, ilmiy-ijodiy merosi hamda u yashagan davrga oid noyob qo‘lyozma asarlar va boshqa madaniy boyliklarni aniqlash, ularning nusxalarini O‘zbekistonga olib kelish va tadqiq qilishni davom ettirish; kabi ishlar amalga oshirilmoqda. O‘tgan vaqt ichidagi bu katta yutuqlar O‘zbekistonni dunyo boburshunosligining markaziga aylanishiga xizmat qildi.

Bobur hayoti va ijodi bilan xalqimizga ma‘nan yaqinlashdi. Barcha bajarilgan ishlarning solnomasi sifatida mamlakatimizda ilk bor shaxsga nisbatan qomus, ya‘ni “Bobur ensiklopediyasi” yaratildi. 64 bosma toboqli bu ulkan ensiklopediyani yaratishda o‘zbek boburshunos olimlari qatorida Yaponiya, Hindiston, Turkiya, Afg‘oniston va yevropalik olimlar ham faol ishtirok etishdi. Bobur ijodini qirq yildan beri o‘rganib kelayotgan yaponiyalik boburshunos olim Eyji Mano ensiklopediyaga

“butun dunyo boburshunoslari uchun muhim qo‘llanma bo‘ladi” deya baho berdi. Xullas, Zahiriddin Muhammad Bobur bugungi yoshlarga barcha tomonlama o‘rnak bo‘la oladigan shoh, shoir va sarkardadir.

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HAMMURAPI QONUNLARIDA OILA MUNOSABATLARI

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Annotasiya: Ushbu maqolada Qadimgi Bobil podsholigi hukmdori Hammurapi tomonidan tuzdirilgan, davlatning har tomonlama rivojlanishi uchun xizmat qilishi nazarda tutilgan “Hammurapi qonunlari” haqida so'z boradi. Hammurapi qonunlarida “Oila” munosabatlariga alohida e'tibor qaratilgan bo'lib, ushbu kodeksda oila a'zolarining huquq va majburiyatlari atroflicha yozib qo'yilgan. Aynan shu qonun-qoidalarga oila a'zolarining amal qilib yashashi ma'lum ma'noda jamiyat rivojini ta'minlagan, ayni shu jihatlar maqolada yetarlicha yoritib berilgan.

Kalit so'zlar: Qadimgi Bobil, Hammurapi qonunlari, Elam davlati, bazalt ustunlari, Shamash, bel ashshentum, Koshaker, talion huquqi, er va xotin burchlari, ota va o'g'il munosabatlari.

Qadimgi Sharq xalqlarining sivilizatsiyalari asosan, buyuk daryolar Nil, Dajla va Frot, Hind, Gang, Xuanxe, Yanszi, Amudaryo kabi daryo havzalarining unumdor vodiylarida sun'iy sug'orishga asoslangan xo'jalik hayotini samarali rivojlanishi bilan ajralib turadi. Qadimgi Sharq sivilizatsiyasi jahon xalqlari taraqqiyotining keyingi rivojlanishiga samarali ta'sir ko'rsatadi va uning poydevori hisoblanadi.

Hozirgi kunda dunyoda 240 dan ortiq davlatlar mavjud bo'lib, ular faoliyatida ma'lum bir ustunlarga tayanib ish ko'radilar. Mana shunday asosiy ustunlardan biri bu - davlatda o'rnatilgan qonun-qoidalardir. Qonun qoidalarga asoslangan har bir davlatda tinchlik, totuvlik, aholining farovon hayoti hukm suradi. O'z davri uchun mukammal qonunlar yaratilishi tarixiga qaraydigan bo'lsak, Qadimgi Bobil davlatida Hammurapi nomi bilan bog'liq qonunlarga duch kelamiz. Bu qonunlar tavsifiga to'xtalishdan oldin Hammurapining shaxsiy faoliyati tarixiga to'xtalib o'tamiz.

Bobil davlatining gullab-yashnashi o'z sulolasining oltinchi vakili hisoblangan Hammurapi (er .avv.1792-1750-yillarga) hukmronligi davriga to'g'ri keladi. Hammurapi dono, uzoqni ko'ra oladigan, yirik strateg, o'ziga xos ayyor davlat arbobi, mohir tashkilotchi va adolatli qonunshunos bo'lgan. Hammurapi mohir diplomat bo'lib, Bobil uchun foydali bo'lgan ittifoqlar tuzgan va u vazifasini o'tagach tezda voz kechgan[Rajabov R. 2009. 90-b.].

Hammurapi hukmronligi davrida davlat, jamiyat hayotini tartibga solish maqsadida o'z qonunlarini ishlab chiqqan. Hammurapi qonunlari sifatida talqin

qilinadigan bu nizom me'yorlari davlat hayotining bir maromda kechishiga asos bo'lib xizmat qilgan. Hammurapi qonunlarida sud huquq sohasi, jinoiy ishlar, o'g'rilik, talonchilik, oila va nikoh masalalari, aholining asosiy mashg'uloti bo'lgan dehqonchilik va chorvachilik sohalariga alohida e'tibor qaratilgan [www.wikipedia.uz. internet sayti].

Hammurapi qonunlari bazalt ustunlarga o'yib yozilgan bo'lib, ushbu tosh ustunlar davrimizgacha to'liq saqlanmagan. O'zaro urushlar, Bobilning bosib olinishi natijasida, ustunlarning ayrimlari Elam hukmdori tomonidan o'lja sifatida olib ketiladi. Hammurapi qonunlari uch qisimdan ya'ni 1.Kirish 2.Asosiy qism. 3.Xulosalardan iborat bo'lgan. Mazkur qonunlarnig kirish qismida bu qonunlar majmuasini yaratishdan asosiy maqsad adolat o'rnatib, farovon hayot kechirish deyiladi [Kurshkol. Y.S.1975. 119-121-b.].

Ustunlarda adolat, haqiqat va yorug'lik xudosi bo'lgan Shamash va uning oldida xudo qo'llaridan oliy sud ramzi bo'lgan cho'qmor va chamber olayotgan podsho Hammurapining bo'rtma siymolari tasvirlangan [Avdiyev A .1984. 99-b.].

Hammurapi qonunlarida jamiyatning asosi bo'lgan oila mavzusiga alohida o'rin ajratilgan. Bobilda oila patriarxal oilalar tashkil topgan. Patriarxal oilaning har birida ota va er hukumronlik qilib oilaning har bir a'zosi ularga bo'ysunishga majbur bo'lgan. Hammurapi qonunlarining 129-moddasida er xo'jayin (bel ashshentum) bo'lib xotin er izmida bo'lgan, er xotin olishdan oldin qaynotasiga ma'lum miqdorda haq to'lab sotib olgan va shu tariqa xotin cho'riga aylangan.

Yirik tarixchi Koshaker Qadimgi Bobil huquqlarini o'rganib ularga oid bir qancha asarlar yozgan. U o'zining asarlarida Qadimgi Sharqdagi oilalar haqida yozgan reaksiya tarixchilarni qattiq tanqid qilgan. Bu qonunlarning bir qanchasini tahlil qilsak, ayol huquqi er huquqlariga nisbatan past bo'lgan. Hammurapi kodekslarida ayol va er vafodorligi buzilsa ularga beriladigan jazo farq qilgan. Agar er xiyonat qilsa, ayol sepini olib otasining uyiga ketishi mumkin bo'lgan. Agar xotin xiyonat qilsa, uni suvga tashlash shart bo'lgan. Nikoh ahtida xotin eridan yuz o'g'irsa eri unga tamg'a bosib sotib yuborish huquqiga ega bo'lgan [Kabirov A. 2016. 127-128-b.]. Bundan tashqari xiyonatkor ayollarga boshqa jazolar ham qo'llangan. Xiyonatkor ayolni shu chog'da o'ldirish mumkin bo'lgan. Erini o'ldirishda hayrixoh bo'lgan ayolni qoziq ustiga o'tkazib o'ldirishgan, isrofgar ayolni esa, uydan haydab yuborgan yoki cho'riga aylantirilgan.

Otasini urgan o'g'il qo'l panjasini kesib tashlash bilan jazolangan. Vaholanki, o'g'ilni urish ham jinoyat hisoblangan. Ba'zida, o'g'il otasi qilgan jinoyatlari uchun javobgar bo'lgan. Agar ota beparvolik qilib uy qursa u qurgan u biror kishining farzandini bosib qolsa, uning farzandi ham o'lim jazosiga hukm qilingan (o'g'il uchun o'g'il- talion prinsipi). Lekin davlat oilaviy shafqatsiz huquqni har holda biroz

cheklab qo‘ygan. Agar er ayoliga tuhmat qilsa unga badal sifatida haq to‘lagan. Ota farzandini o‘zboshimchalik bilan meros huquqidan mahrum qila olmagan. Bu mazkur ishni faqat sud orqali hal qilgan. Shunday qilib, davlat organlari oilaviy munosabatlarga ijobiy natijalarga erishish uchun ham aralashgan[Rajabov R. 2015. 108-111-b.]

Hammurapi qonunlarida ota va o‘g‘il munosobotlariga katta ahamiyat berilgan. Agar asrandi o‘g‘il otasidan voz kechsa, u qullikka mahkum qilingan. Oilani yanada mustahkamlash uchun ajrashishni yanada qiyinlashtirilgan. Ayolga eri moxov kasalini yuqtirsa uni tashlab keta olmagan. Aksincha, umrining oxirigacha xotiniga qarab o‘tgan. Oila munosabatlariga ahamiyat berish orqali jamiyat rivojiga ham alohida o‘rin ajratilgan[Kabirov A. 2016. 129-b.].

Xulosa o‘rnida aytish mumkinki, Hammurapi qonunlari Ibtidoiy jamiyatda paydo bo‘lgan yozilmagan xulq-atvor qoidalari normalarining amal qilishini birlashtirish va to‘ldirishga mo‘ljallangan mavjud huquqiy tartibotning katta islohoti natijasidir. Qadimgi Mesopotamiya mixxat huquqi taraqqiyotining cho‘qqisi sifatida qonunlar ko‘p asrlar davomida Qadimgi Sharqning huquqiy madaniyatiga ta’sir ko‘rsatgan.

Qonunlar O‘rta Sharqdagi sinfy jamiyati shakllanishining dastlabki bosqichida yaratilgan bo‘lib, ular tomonidan belgilangan jinoiy jazolarning qiyosiy shafqatsizligiga olib kelganiga qaramay, qonunlar huquqiy tartibga solishning o‘ta puxta o‘ylanganligi va uyg‘unligi bilan ajralib turadi. Sharqning boshqa qadimiy yodgorliklaridan farqli o‘laroq, Hammurapi kodeksi individual huquqiy normalarning muqaddas va diniy motivlarining deyarli yo‘qligi bilan ajralib turadi, bu esa uni insoniyat tarixidagi birinchi sof qonunchilik hujjatiga aylantiradi. Bu qonunlar qaysidir jihati bilan shafqatsizlik, ayol va er huquqlarida tenglik bo‘lmaslik, inson qadr-qimmatiga e’tibor berilmaganligi jihatlari bo‘lsada, oila munosabatlaridagi jarayonlarga qo‘llanilgan ayrim tartib-qoidalar ahamiyatlidir. Hammurapi qonunlarining oila munosabatlariga daxldor ayrim qoidalarini davlatimiz qonunchiligida joriy etsak, balkim “muqaddas” deya ta’riflanuvchi oilalarni saqlanishi, ajrimlar holatini kamayishi, ota va o‘gil o‘rtasidagi munosabatlarga doir salbiy illatlarni yo‘qotilishiga xizmat qilishi mumkin.

Foydalanilgan adabiyotlar ro‘yxati:

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QADIMGI DUNYONING “TO‘RT IQLIM PODSHOLARI”

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Annotatsiya. Ushbu maqolada Ikki daryo oralig‘i sivilizatsiyasida tashkil topgan davlatlarda o‘z faoliyati amalga oshirgan, 5 ta “To‘rt iqlim podshosi” nomiga sazovor bo‘lgan hukmdorlar va ularning amalga oshirgan ishlari xususida ma‘lumotlar keltirilgan. Ushbu “To‘rt iqlim podsholari”ning o‘z davlati hududini kengaytirish, aholining ijtimoiy-iqtisodiy hayotini rivojlantirish uchun qilgan ishlari tarixi mavjud manba va adabiyotlar tahlili asosida yoritib berildi.

Kalit so‘zlar: Mesopatamiya, “To‘rt iqlim podshosi”, Sargon I, “Haqiqiy podsho”, muntazam qo‘shin, Naram-Suen, Shulgi, Gandash, Agum II, Esagil ibodatxonasi,

Insoniyat tarixida ibtidoiy jamoadan sivilizatsiyaga o‘tish shaharlarning paydo bo‘lishi, ularning hokimiyat va diniy markaz sifatida shakllanishi ibodatxona, saroylar qurilishi, yozuvni paydo bo‘lishi bilan va shuningdek, jamiyatda turli sinflar va davlatchilikni paydo bo‘lishi bilan boshlanadi. Qadimgi sivilizatsiyalar davri, qadimgi dunyo tarixi fani tomonidan o‘rganiladi. Tabiiyki, sivilizatsiyalar tarixi qadimgi sharqda eramizdan avvalgi IV ming yilliklardan jamiyatning taraqqiyoti natijasida turli ijtimoiy qatlamlarni paydo bo‘lishi bilan boshlanadi.

Qadim Sharqning muhim sivilizatsiya o‘chog‘i sifatida talqin qiluvchi Mesopatamiya hududi o‘zining shonli yo‘lini, davlatchiligini va o‘zining keng islohotlari tufayli dunyoga tanitgan hukmdorlari orqali tarixdan joy olgan. Ta‘rixdan ma‘lumki, Ikki daryo oralig‘ida tashkil topgan davlat hukmdorlari ko‘p asrlar davomida hukmronlikni qo‘ldan bermay kelishgan. Mesopatamiya hududi o‘zining siyosiy va iqtisodiy keng imkoniyatlari tufayli bu yerda kuchli va markazlashgan davlatlar paydo bo‘la boshlagan. Ushbu maqola orqali Mesopotamiya hamda Bobil tarixidagi o‘tgan eng kuchli hukmdorlar va ularning faoliyati bilan tanishamiz.

Mesopatamiya davlatchiligi tarixida yorqin iz qoldirgan, Shumer va Akkad davlatlari o‘rtasidagi urushda g‘alaba qozonib, ularni birlashtirgan hukmdor bu-Sargon I (2316-2261) edi. Ma‘lumotlarga qaraganda, Sargon I kambag‘al oilada tug‘ilgan va onasi uni boqishga iloji bo‘lmay tashlab ketgan. Ma‘buda Ishtar esa uni yoqtirib, Akkadga podsho etib ko‘tarar ekan. Sargon I Sharukkin “Haqiqiy podsho” degan ma‘noni anglatadi. [Kabirov A. 2001. 70-b.].

Sargon I markaziy hokimiyatni mustahlamlanish va tashqi xavflarni bartaraf etish uchun kurash olib boradi va kuchli qo'shin bilan Kishni bosib oladi. Undan keyin, Sargon I Umma hokimi Lugal-zagis va uni qo'llab quvvatlagan 50 hukmdor qo'shinlarini tor-mor etgan. [Kabirov A. 2001. 70-b.]. Natijada, Sargon I ko'plab chiroyli shaharlarni o'zida jamlagan Shummerni egallaydi va ikki davlat hududini birlashtirib, Mesopotamiya va Old Osiyoni o'z ichiga olgan ulkan davlat barpo etadi.

Shuni alohida aytib o'tish joizki, jahon tarixidagi muntazam qo'shin ham ilk bor Sargon I davrida tuzilgan. Uning soni 5400 nafarni tashkil etgan. Sargon o'zining 55 yillik hukmronligi davrida mamlakatning iqtisodiy va harbiy qudrati oshirdi. Bosib olingan hududlardagi qo'zg'olonlarni shafqatsizlik bilan bostirganiga qaramay, nafaqat o'z xalqi, balki qo'l ostidagi barcha hudud aholisining ham manfaatlaridan kelib chiqqan holda farmon va qonunlar qabul qildi. U mamlakat iqtisodiyotining ravnaqi uchun olib borgan islohotlari barcha uchun bir xil bo'lgan o'g'irlik, uzunlik o'lchov birliklarini joriy etilishi bo'lgan [Rajabov R. 2009. 88-b.]. Bu islohotlar va qilingan ishlar tarixi Sargon I ga "To'rt iqlim podshosi" unvonini olib keldi.

Sargon I dan so'ng uning vorislari davrida ham Mesopotamiyada o'z maqomini yo'qotmadi, davlat hududini kengaytirish uchun ko'plab yurishlar olib borildi. Bu ishlarni amalga oshirish Sargon I ukasi Naram-Suenga nasib qildi. Naram-Suen Suriya, Falastin, Subarti, Elam va Fors qo'ltig'i sohilidagi mamlakatlarni o'ziga itoat ettirgan. U "To'rt iqlim podshosi" unvonini olib, o'zini xudo darajasiga ko'targan [Kabirov A. 2001. 71-b.]. Naram Suen akasi davrida egallangan hududlar o'z ta'sirini yo'qotmadi va uning hukmronligi ham Akkad davlatini yuqori cho'qqiga olib chiqqan.

Mesopotamiyadagi keyingi siyosiy jarayonlar va davatlar o'rtasidagi urushlarda Ur shahar davlati siyosiy kurash maydoniga chiqadi. Urning 3-sulolasi vakillari o'zlarini Shumer va Akkad podsholari deb, hatto "Dunyoning 4 iqlim podsholari" deb atashganki, bu narsa butun dunyoda hukmronlik qilishga da'vogar bo'lishdan dalolat beradi. Ba'zida ular hatto xudolar deb ataladilar (bunda Akkad podshosi Naram Suen ularga ibrat bo'lgan)[Krushkol Y.S. 1974].

Ur 3-sulolasi Shummer-Akkad podsholigini 115 yil idora qilgan. Bu sulola vakillari, xususan, Shulgi (2109-2046) davrida Suriya, Falastin, Elam, Kichik Osiyo va boshqa o'lkalar hisobiga podsholik yerlari kengaytirilgan. Shulgi ham o'zini "To'rt iqlim podshosi" deb atagan [Kabirov A. 2001. 72-b.] Uning davrida mamlakat xo'jaligi, hunarmandchilik, chorvachilik va savdo-sotiq ishlariga katta e'tibor berilgan. Qo'shni davlatlar bilan keng miqyosda savdo aloqalari o'rnatilgan. Ishlab chiqarishni takomillashtirishga hissa qo'shgan va rag'batlantirgan.

Navbatdagi fikr yuritmoqchi bo'lgan hukmdor ham o'z faoliyati tarixida yuqorida keltirilgan rutabaga ega bo'lgan. Bunda Bobil davlatining zaiflashuvi kassit

qabilalarini faollashtirdi. Mil.avv. 1742-yilda kassitlar sardori Gandash Bobilga bostirib kirib “O’zini to’rt iqlim podshosi” deb e’lon qilgan. U Shumer, Akkad va Bobil hukmdori sifatida kassitlar sulolasiga asos solgan [Kabirov A. 2016. 129-b.].

Mil.avv. XVI asr boshlaridan boshlab mamlakatda kassitlar sulolasining hukmronligi Bobil podsholigining O’rta davri deb atalgan. Kassit sulolasi podsholari mil.avv.1155-yilgacha Bobilda hukmronlik qilgan. Ular Bobilni bosib olgach, bobilliklarning madaniyatini qabul qilganlar. Kassitlar Bobilda mutahkam o’rnashib olganlaridan so’ng. Shimoliy-g’arbda xetlar qarshiligini sindirib, janubdagi dengizbo’yi sulolasi qo’shinlarini mag’lubiyatga uchratib, u yerlarni ham o’zlariga itoat ettirganlar [Kabirov A. 2016. 129-130-b.].

O’rta Bobil podsholigi Agum II davrida ya’ni mil.avv.XVI asrda kuchayadi Agum II va uning vorislari Qadimgi Bobil podsholigining istilochilik sivosatini davom ettirib, butun Shumerni o’zlariga itoat ettiradilar. So’ng dengizbo’yi sulolasining hukmronligiga barham berganlar. Agum II davrida Bobil kuchayib, uning qo’shinlari Yuqori Frot mamlakatlarini istilo qilgan. Agum II o’z yozuvlarida Xanaan mamlakatidan xudo Marduk va uning xotini Sarpanitning haykallarini keltirganligini, bu haykallarni zarbof kiyimlar, qimmatbaho narsalar va dabdabali toshlar bilan bezaganligini hamda bu xudo haykallarini Bobildagi Esagil ibodatxonasiga qaytadan o’rnatganligini faxr bilan gapirgan [www.wikipedia.org. internet sayti].

Bevosita ko’rinib turibdiki, ushbu voqealar bayonida Agum II ning mashur haykallarni Esagil ibodatxonasiga qaytarilishi uning din va madaniyat faoliyatiga e’tiborini ko’rsatib turibdi. Ya’ni ushbu haykallarning faqatgina moddiy qiymati emas, balki tarixiylik darajasi yuzasidan ham hukmdorning e’tiborini tortgan. Tarixiy ma’lumotlarga qaraganda, ushbu haykallar ibodatxonaga 25 yildan so’ng keltirilgan.

Agum II o’zini “Kashshu va Akkad podshosi, keng Bobil mamlakatining podshosi, Guti mamlakatining podshosi” deb ham atagan [Kabirov A. 2016. 130-b.]. Ushbu holat kassitlar podshosining hokimiyati Dajla daryosining sharqidagi viloyatlarga ham yoyilganligini ko’rsatadi. Ushbu qilingan ishlar podsho Agum II ga ham “To’rt iqlim podshosi” unvoni berilishiga olib kelgan.

Ushbu hukmdorlarning deyarli barchasi Ikki daryo oralig’i hududlari, xususan, Shummer va Akkad davlatlarini birlashtirganlar. Nega aynan “To’rt iqlim podshosi” unvoni? – bunga sabab qilib Mesopotamiya xalqi qarashlaridan kelib chiqish mumkin. Ular dunyoni 4 tomoni – shimol, janub, sharq va g’arbni ajrata bilganlar va ular eng qudratli hukmdorlarini “Dunyoning to’rt burchagi egasi” yoki “To’rt iqlim podshosi” kabi ramziy nomlar bilan atashgan. Bu dunyo ustida hukmronlik demakdir.

Xulosa o’rnida aytish mumkinki, Ikki daryo oralig’ida faoliyat ko’rsatgan turli davlardan turli vaqtlarda birlashtirib, o’z davlatini har tomonlama rivojlantira olgan

ayrim hukmdorlargina tarixda “To’rt iqlim podshosi” unvoniga sazovor bo’lgan. Bu unvonga ega bo’lish faqatgina harbiy yurishlar bilangina emas, davlat miqyosida o’tkazilgan, xalq uchun foydali, keng islohotlar natijasida hukmdorlarga berilgan. Demak, har ikki davlat hududi (Shummer va Akkad) hamda Sharqiy O’rtayer dengizi davlatlarining kuch-qudrati aynan bir hukmdor qo’l ostida bo’lishi bu judayam katta jasorat, kuch-qudrat va davlat boshlig’i salohiyatining yuqori saviyasidan darak beradi.

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MUHAMMAD ALIXON DAVRIDA QO'QON XONLIGI

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Annotatsiya. Ushbu maqolada Qo'qon xonligi tarixida o'tgan 30 dan ortiq xonlar ichida o'z o'rniga ega bo'lgan Muhammad Alixon (Madalixon) faoliyati tarixi haqida so'z boradi. Madalixon Qo'qon adabiy muhiti shakllantirib bergan Umarxonning o'g'li bo'lib, uning Qo'qon xonligidagi faoliyati va tutgan o'rni mavjud manba hamda adabiyotlar tahlili asosida, xolis yoritib berildi.

Kalit so'zlar: Qo'qon xonligi, Umarxon, Qo'qon adabiy muhiti, Muhammad Alixon, Qo'qon yurishi, Xonariq, madrasalar, Rossiya bilan aloqalar, kanizak muammosi, Amir Nasrullo.

XIX asr boshlarida Turon zaminida 3 ta xonlik faoliyat ko'rsatgan bo'lib, ulardan eng yirigi Qo'qon xonligi edi. Tarixdan ma'lumki, Qo'qon xonligiga Shoxruhbiy ibn Ashur Muhammad 1710-yilda asos solgan. Qo'qon xonligi (1710-1876) tarixan qisqa vaqt bo'lsa-da, O'rta Osiyo xalqlarining siyosiy, ijtimoiy-iqtisodiy va madaniy hayotida katta ro'l o'ynagan. Ayniqsa, o'zbek davlatchiligining uzviy bo'lagi bo'lgan Qo'qon xonligi va uning ma'muriy-boshqaruv tizimini aniq faktlarga tayangan holda ochib berish, tahlil qilish tarix fani uchun dolzarb ahamiyatga egadir.

Bu xonlik davlat tuzilishining ko'p xususiyatlari bilan boshqa O'rta Osiyo xonliklariga o'xshash bo'lgan bo'lsa-da, undagi davlatni idora etishga mas'ul bo'lgan shaxslar, boshqaruv tizimining ayrim bo'g'inlari funksiyalarida keskin farqlar bor edi[Ermatova M. 165-b.].

Qo'qon xonligi faoliyati tarixida 35 ta xonlar o'tgan bo'lib, ular orasida Madalixon nomi ostida Muhammad Alixon alohida o'rin tutadi. Madalixon Umarxon va Nodiraning o'g'li bo'lib, otasi vafotidan keyin 13 yoshida taxtga o'tirgan. Ma'lumki, Qo'qon xonligida XIX asr boshlarida Qo'qon adabiy muhiti degan narsa paydo bo'ladi. Bu madaniy muhit, uning shakllanishi va rivojlanishi bevosita Qo'qon xoni Umarxon va uning turmush o'rtog'i Mohlaroyim nomlari bilan bog'liqdir[Asqarov A. 1994. 183-185-b.].

Bu davrda Qo'qon xonligida tarixnavislik, xattotlik, me'morchilik, adabiyot va she'riyat sohalari har qachongidanda yuksak rivojlanadi. Bu davr voqealari muarrixlarning ajoyib tarixiy asarlarida o'z aksini topdi.

Qo'qon xoni Umarxon qisqa vaqt hukmronlik qilgan bo'lib, ayrim tarixiy manbalarda yozilishicha, mayparast va mayishatparast sifatlari bilan unga ta'rif berilgan. Umarxon 36 yoshida vafot etadi va otasining vafotidan so'ng Qo'qon xonligi taxtiga yosh Madalixon o'tiradi. Madalixon hukmronlik qilgan davrda Qo'qon xonligi bir qadar rivojlangan hisoblanadi.

Muhammad Alixon siyosiy tarixi haqida fikr yuritadigan bo'lsak, u hukmronlik davrida xonlik hududini kengaytirishga uringan. Yurishlar natijasida, Qorategin butunlay, Darvoz, Shug'on, Roshan, Vohonfaqat nomigagina zabt etilgan. Madali 1829-yilda Qashqarga yurish qilgan va uning bu harakatidan foydalangan Qashqar musulmonlari Xitoyga qarshi bosh ko'targan [Bobobekov H. 1996. 234-b.]. Shiddatli janglarda mag'lub bo'lgan uyg'urlardan 70 mingi Muhammad Alixon bilan birga qaytib, Qo'qon xonligidagi shaharlarga joylashtirilgan.

Muhammad Alixon uyg'urlar yurti sifatida qaraluvchi - Qashqarga qilgan qayta-qayta hujumi natijasida Sharqiy Turkiston shaharlaridan boj yig'ish huquqini olgan. Muhammad Alixon hukmronligi davrida sug'orish ishlari yo'lga qo'yilgan bo'lib, Toshkent yaqinida Xonariq qazilgan. Toshkent hokimi Lashkar qushbegi Muhammad Alixonning yaqin maslahatchisi bo'lib qolgan [Бобоев Х., Хидиров З. 2009. 76-78-b.].

Muhammad Alixon qisqa vaqt hukmronlik qilgan bo'lsada, Rossiya bilan savdo va diplomatik aloqalarni yaxshi yo'lga qo'ya oldi. Manbalarda yozilishicha, 1828-yilda Qo'qondan Sankt-Peterburgga elchilar boradi va ular yaxshi kutib olinadi. Aloqalar davomida 1830-yilda Qo'qonga Rossiya elchisi xorunjiy Potanin keladi [O'z.ME.2000. 328-330-b.]. Kichik Juz qozoq xonligining hududi masalasida ikki davlat o'rtasidagi munosabatlar buzilib, aloqalar ma'lum vaqt olib borilmaydi.

Muhammad Alixon g'azallar yozgan, uning buyrug'iga binoan, xattotlar Alisher Navoiy asarlarini miniatyuralar bilan bezatib ko'chirgan, ko'plab tarixiy asarlar fors va arab tillaridan o'zbek tiliga tarjima qilingan. Muhammad Alixon davrida maktab va madrasalar qurilgan, Qo'qonning eski o'rdasi ta'mirlangan. Shaxsan Muhammad Alixon donatorligida Quva, Qo'qon va Toshkentda uning nomi bilan atalgan madrasalar bunyod etilgan [www.wikipedia.uz. internet sayti].

Muhammad Alixon hukmronligining so'nggi yillarida ichkilikbozlik va axloqsizlikka beriladi. Muhammad Alixonning hukmronlik davrida Qo'qon-Buxoro munosabatlari keskin yomonlashadi. Ular orasida bo'lib o'tgan urushlar natijasida Buxoro amirligi hukmdori Amir Nasrulloh Qo'qon qo'shinini tor-mor qiladi. Muhammad Alixon o'zini noiloj amirning noibi deb e'tirof qiladi. Oradan ikki yil o'tgach, 1841-yilning oktyabrida Qo'qonda xon zulmiga qarshi xalq qo'zg'oloni ko'tariladi. Muhammad Alixon 1841-yil noyabrda ukasi Sulton Mahmud foydasiga taxtdan voz kechadi, shunday bo'lsa ham 1842-yilda aprelda Buxoro amirligi

hukmdori Amir Nasrulloh Qo‘qonni zabt etdi [Исҳоқхон тўра Ибрат. 2005. 152-б.].

Madalixon bilan Buxoro amiriligi o‘rtasida turli xil ziddiyatlar bo‘lgan bo‘lib bunga asosiy sabab m‘alum bir hududlar sabab bo‘lgan bo‘lsada, ba‘zi adabiyotlarida bunga sabab qilib Otasi Umarxondan beva qolgan yosh go‘zal kanizak sababli deya aytib o‘tilgan.

Otasi Umarxon haramida voyaga yetmagan go‘zal kanizagi bo‘lib, yovaya yetishi bilan Umarxonga nikohlanishi kerak edi. Ammo bo‘lg‘usi o‘gay onasi bo‘lmish kanizakni Umarxonning vafoti tufayli ammalga oshmay qolgan nikohdan so‘ng Muhammad Alixon o‘z nikohida olish istagini bildiradi [Bobobekov H. 1996.]. Diniy ulamolar bunga qarshi chiqib, asosiy sabab qilib garchan otasi uylanmagan bo‘lsada kanizak Madalixonga ona maqomida hisoblanib shariyat bo‘yicha ruxsat berilmasligi aytib o‘tilsada Madalixon otasi Umarxonning bevasi bo‘lmish kanizakka uylanadi va hattoki nikohini qonuniylashtiradi.

Xulosa qiladigan bo‘lsak, Madalixon hukmronligi davrida davlatni birlashtirish harakatlari davom ettirildi. Davlatning qudratlilik jihatlari ta‘minlandi, aholining ijtimoiy-iqtisodiy hayoti nisbatan bo‘lsada, yaxshi davom etdi. Madalixon tarix sahnasida ba‘zi yaxshi ba‘zi yomon hislatlari bilan eslab o‘tilsada, Qo‘qon xonligini 20 yil davomida boshqardi. Madalixon hukmronligining so‘nggi yillarida ichkilikka va maiyshatga ruju qo‘ygan bo‘lib, davlat ishlariga befarq bo‘lib qoladi. Bundan foydalangan amir Nasrulloxon 1842-yilda Qo‘qon xonligiga bostirib kiradi va Madalixonni va oilasini qatl ettiradi. Bir jihatdan olib qarasa, bunday birgina hukmdorning salohiyatsizligi, nomaqbul siyosati Qo‘qon adabiy muhitini ma‘lum vaqtgacha rivojlanishini to‘xtatib qo‘ydi.

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THE PRACTICAL IMPORTANCE OF THE INTERNATIONAL PISA

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Abstract: This article describes PISA (Programme for International Student Assessment) as an international assessment program that serves to evaluate the practical application of education and students' literacy in various subjects. It focuses on applying acquired knowledge and skills to real-life situations, making informed decisions, independent thinking, and further shaping a worldview.

Keywords: Skill, experience, innovation, program, Research, global education, teaching training, analysis, international Collaboration

PISA(The programme for International Student Assessment) is an international assessment that measures 15-year-old students' knowledge and skills in science, mathematics, reading literacy, and problem-solving. It includes students from many developed and developing countries and assesses their ability to apply their knowledge and skills to real-world situations, including critical thinking, analysis, application, and innovative thinking.

PISA is considered to be of significant importance in improving the quality of education. That is, PISA results allow for the improvement of curricula, teacher training, and other aspects of the education system. Furthermore, by comparing with education systems in other countries, it helps in formulating strategies to improve student learning. Additionally, PISA encourages international collaboration and facilitates the exchange of research and data in the field of education.

PISA has several key objectives. These include: International Comparison: PISA allows for the comparison of students' knowledge and skills across different countries. Assessment of Educational Quality: PISA helps evaluate the effectiveness of education systems and identify their strengths and weaknesses. Improving Educational Policies: PISA provides data necessary for improving curricula and enhancing educational policies. Assessing Educator Preparedness: PISA is also used to assess the competence of teachers, principals, and other education professionals.

PISA's dimensions are: Reading: Assesses students' abilities to understand, interpret, and reason using texts. Mathematics: Assesses students' abilities to solve

problems, think logically, identify patterns, and generalize. Science: Assesses students' abilities to understand natural phenomena, conduct experiments, and analyze results.

Conculation

PISA results influence educational policy, teacher training, various standards for measuring student knowledge, and play a significant role in evaluating the global values of education systems. PISA provides valuable data on the quality of education according to international standards.

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UMUMTA'LIM MAKTABLARIDA QIZIQARLI MATEMATIKA MASALALARI

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Annotatsiya: Ushbu maqola matematik ta'limda qiziqarli masalalarni qo'llash va ularning samaradorligini o'rganishga qaratilgan. Mualliflar matematik fikrlash, muammolarni hal qilish ko'nikmalarini rivojlantirish va o'quvchilarning qiziqishini oshirish uchun turli metodologiyalarni ko'rib chiqadilar. Kitoblar, maqolalar va onlayn resurslar orqali taqdim etilgan materiallar ta'lim jarayonida muammolarni hal qilishning ahamiyatini va ular orqali o'quvchilarni jalb qilishning samarali usullarini yoritadi. Maqola matematik ta'limga oid ilmiy tadqiqotlar va amaliy tajribalarni birlashtirgan holda, o'qituvchilar va ta'lim mutaxassislari uchun foydali manba bo'lib xizmat qiladi.

Аннотация: Данная статья посвящена применению интересных задач в математическом образовании и их эффективности. Авторы рассматривают различные методики развития математического мышления, навыков решения задач и вовлечения учащихся. Материалы, представленные в книгах, статьях и онлайн-ресурсах, подчеркивают важность решения проблем в обучении и эффективные способы вовлечения учащихся посредством решения проблем. Статья представляет собой полезный ресурс для учителей и специалистов в области образования, сочетающий научные исследования и практический опыт математического образования.

Abstract: This article focuses on the use of interesting problems in mathematics education and their effectiveness. The authors consider various methodologies for developing mathematical thinking, problem-solving skills, and increasing student interest. The materials presented in books, articles, and online resources highlight the importance of solving problems in the educational process and effective ways to engage students through them. The article serves as a useful resource for teachers and education professionals, combining scientific research and practical experience in mathematics education.

Kalit so'zlar: matematik ta'lim, muammolarni hal qilish, qiziqarli masalalar, matematik fikrlash, ta'lim metodologiyalari, o'quvchilarning qiziqishi, amaliy tajribalar.

Ключевые слова: математическое образование, решение задач, интересные задачи, математическое мышление, методики обучения, интерес учащихся, практический опыт.

Keywords: mathematics education, problem solving, interesting problems, mathematical thinking, educational methodologies, student interest, practical experiences.

Umumta'lim maktablarida matematika ta'limi o'quvchilarning umumiy rivojlanishi uchun juda muhimdir. Matematika nafaqat raqamlar va formulalar bilan bog'liq, balki mantiqiy fikrlash, muammolarni hal qilish va analitik qobiliyatlarni rivojlantirishga yordam beradi. Ushbu fan orqali o'quvchilar:

- Mantiqiy fikrlashni rivojlantiradilar: Matematika masalalarini yechish jarayonida o'quvchilar mantiqiy xulosalar chiqarishni, muammolarni turli xil yondashuvlar bilan hal qilishni o'rganadilar.

- Muammolarni hal qilish ko'nikmalarini oshiradilar: Qiziqarli masalalar orqali o'quvchilar muammolarni aniqlash, tahlil qilish va yechish strategiyalarini ishlab chiqish ko'nikmalarini egallaydilar.

- Ijodkorlikni rag'batlantiradilar: Qiziqarli va noan'anaviy masalalar o'quvchilarning ijodkorligini oshiradi, chunki ular o'z fikrlarini ifodalash va yangi yechimlarni izlashga undaydi.

- Qiziqishni oshiradilar: o'ziga jalb qiluvchi masalalar orqali matematika darslari yanada qiziqarli bo'ladi. o'quvchilar o'z bilimlarini amaliyotda qo'llash imkoniyatiga ega bo'lishadi, bu esa ularning fan ga bo'lgan qiziqishini oshiradi.

- o'z-o'zini baholashni rivojlantiradilar: Qiziqarli masalalarni yechish jarayonida o'quvchilar o'z bilimlarini baholash va o'zlashtirish darajasini aniqlash imkoniyatiga ega bo'lishadi, bu esa ularning o'z-o'zini rivojlantirishiga yordam beradi.

Umumta'lim maktablarida matematika ta'limining ahamiyatini oshirish uchun o'qituvchilar qiziqarli masalalarni tanlash va ulardan foydalanishlari zarur. Bu nafaqat ta'lim jarayonini jonlantiradi, balki o'quvchilarning matematikaga bo'lgan qiziqishini ham oshiradi, natijada ularning muvaffaqiyatlarini ta'minlaydi.

Maqolamizning maqsadi qiziqarli matematik masalalarni tanlash va ularni ta'lim jarayonida samarali qo'llash orqali o'quvchilarning matematikaga bo'lgan qiziqishini oshirishdir. Bunday masalalar o'quvchilarning fikrlash qobiliyatini rivojlantirish, ijodkorlikni rag'batlantirish va muammolarni hal qilish ko'nikmalarini oshirishga yordam beradi.

Qiziqarli matematik masalalarni tanlashda ko'zda tutilgan vazifalar quyidagilar bo'lishi mumkin:

* Mantiqiy fikrlashni rivojlantirish: Masalalar o'quvchilarga mantiqiy xulosalar chiqarishga va o'z fikrlarini tizimli ravishda ifodalashga yordam berishi kerak.

Namuna masala*: "Agar birinchi raqam 3 ga teng bo'lsa, ikkinchi raqam 5 ga teng bo'lsa, u holda bu raqamlarning yig'indisi va farqini toping."

* Muammolarni hal qilish ko'nikmalarini oshirish: Masalalar turli xil yondashuvlar bilan yechishga imkon berishi va o'quvchilarni muammoni tahlil qilishga undashi lozim.

Namuna masala*: "Bir bog'da 12 ta olma va 8 ta nok bor. Agar siz 4 ta olma va 2 ta nokni olib ketsangiz, bog'da qancha meva qoladi?"

* Ijodkorlikni rag'batlantirish: o'quvchilarni yangi yechimlarni izlashga undovchi masalalar tanlanishi kerak.

Namuna masala*: "Sizda 10 ta turli rangdagi to'p bor. Agar siz har bir rangdan 1 tadan olib, ularni qanday qilib eng ko'p rangli to'pni olish yo'lida tartibga solishingiz mumkin?"

* Amaliyotga oid masalalar: o'quvchilarga kundalik hayotda uchraydigan vaziyatlardan kelib chiqqan masalalarni taklif etish.

Namuna masala*: "Agar bir kilogramm kartoshka 50 so'm bo'lsa, 3 kilogramm kartoshka xarid qilish uchun qancha pul kerak?"

* Qiziqarli va interaktiv masalalar: o'quvchilarni jalb qiladigan, guruhda yoki juftlikda ishlashga imkon beradigan masalalar.

Namuna masala*: "Sizda 20 ta shokolad bor. Agar siz bu shokoladlarni 4 do'stingiz bilan teng taqsimlasangiz, har biringizga qancha shokolad to'g'ri keladi?"

Ushbu vazifalar orqali o'quvchilar matematikani nafaqat nazariy jihatdan, balki amaliyotda ham o'rganadilar, bu esa ularning bilimlarini yanada mustahkamlashga yordam beradi.

Matematika ta'limida qiziqarli masalalar o'quvchilarning diqqatini jalb qilish, motivatsiyasini oshirish va fikrlash qobiliyatini rivojlantirishda muhim rol o'ynaydi. Qiziqarli masalalarni tanlash jarayoni bir qancha omillarni hisobga olishni talab qiladi. Quyida masalalarni qanday tanlash va ularning ta'limiy jihatlari haqida ma'lumot beramiz.

- o'quvchilarning qiziqishlarini inobatga olish

Masalalarni tanlashda o'quvchilarning qiziqishlari va ehtiyojlarini hisobga olish muhimdir. o'quvchilarni qiziqtiradigan mavzular, masalan, sport, san'at, tabiiy fanlar yoki kundalik hayotdagi muammolar bilan bog'liq masalalar, ularning matematikaga bo'lgan qiziqishini oshiradi.

Misol: "Agar sizning sevimli sportingiz futbol bo'lsa, futbol o'yinlari bilan bog'liq masalalarni taklif qilish orqali ularni yanada qiziqtirish mumkin."

- Mantiqiy fikrlash va muammoni hal qilish ko'nikmalarini rivojlantirish

Tanlanadigan masalalar o'quvchilarga mantiqiy fikrlashni rivojlantirishga yordam berishi kerak. Masalalar turli yondashuvlar bilan yechishga imkon berishi va o'z fikrlarini tizimli ravishda ifodalashga undashi lozim.

Misol: "Bir kunda 5 ta kitob o'qiyotgan o'quvchi 7 kun ichida qancha kitob o'qiydi?" Ushbu masala o'quvchilarni ko'paytirish va yig'indilarni hisoblashga undaydi.

- Amaliyotga oid masalalar

o'quvchilarga kundalik hayotda uchraydigan vaziyatlardan kelib chiqqan masalalarni taklif etish, ularning matematikani amaliyotda qo'llash ko'nikmalarini rivojlantiradi. Bu, shuningdek, matematikani haqiqiy hayot bilan bog'laydi.

Misol: "Agar siz supermarketda 3 ta olma va 2 ta nok sotib olsangiz, jami qancha pul to'lashingiz kerak?" Bu savol o'quvchilarga arifmetik amallarni amaliy ravishda qo'llash imkonini beradi.

- Ijodkorlikni rag'batlantirish

Tanlanadigan masalalar o'quvchilarni ijodkorlikka undashi va yangi yechimlarni izlashga imkon berishi kerak. Bu, o'z navbatida, o'quvchilarning mustaqil fikrlash qobiliyatini rivojlantiradi.

Misol: "Sizda 10 ta rangli to'p bor. Agar siz ularni qanday qilib eng ko'p rangli to'pni olish yo'lida tartibga solishingiz mumkin?" Ushbu savol o'quvchilarni ijodiy yondashuvlarga undaydi.

- Interaktiv va guruhda ishlashga imkon beruvchi masalalar

o'quvchilarni jalb qiladigan va guruhda yoki juftlikda ishlashga imkon beradigan masalalar tanlanishi kerak. Bunday masalalar o'zaro hamkorlik va fikr almashish orqali ta'lim jarayonini boyitadi.

Misol: "Agar sizda 20 ta shokolad bo'lsa va siz ularni 4 do'stingiz bilan teng taqsimlasangiz, har biringizga qancha shokolad to'g'ri keladi?" Bu masala o'quvchilarni birgalikda ishlashga undaydi.

Demak, qiziqarli matematik masalalarni tanlash jarayoni o'quvchilarning qiziqishini oshirish, mantiqiy fikrlash va muammolarni hal qilish ko'nikmalarini rivojlantirishda muhim ahamiyatga ega. o'quvchilarning qiziqishlari, amaliyotga oid vaziyatlar, ijodkorlikni rag'batlantirish va interaktiv yondashuvlar orqali matematikani o'rganishni yanada qiziqarli va samarali qilish mumkin. Bunday yondashuvlar nafaqat matematikani o'rganishni qiziqarli qiladi, balki o'quvchilarning bilimlarini mustahkamlashga yordam beradi.

o'quvchilar bilan ishlash metodlari: Masalalar bilan tanishtirish va ularni yechishga jalb qilish usullari. Matematika ta'limida o'quvchilarni masalalar bilan tanishtirish va ularni yechishga jalb qilish muhim vazifalardan biridir. Bu jarayonda turli metod va usullarni qo'llash o'quvchilarning qiziqishini oshirish, fikrlash

qobiliyatini rivojlantirish va muammolarni hal qilish ko'nikmalarini shakllantirishda samarali bo'ladi. Quyida ushbu jarayonda foydalanish mumkin bo'lgan ba'zi metodlar va ularning afzalliklari keltirilgan.

- Mashg'ulotlar — o'quvchilarga matematik masalalarni yechishda amaliy tajriba berishning samarali usulidir. Ular o'quvchilarning faol ishtirokini ta'minlaydi va mustaqil fikrlashga undaydi. Mashg'ulotlar davomida o'quvchilar turli masalalarni yechish orqali bilimlarini mustahkamlash imkoniyatiga ega bo'lishadi.

Afzalliklari:

- * o'quvchilar faol ishtirok etadilar.
- * Muammolarni hal qilish jarayonida tajriba orttiradilar.
- * o'z fikrlarini ifodalash va baham ko'rish imkoniyatiga ega bo'lishadi.

- o'yinlar — o'quvchilarni masalalar bilan tanishtirish va ularni yechishga jalb qilishning qiziqarli va interaktiv usulidir. Matematik o'yinlar o'quvchilarga raqobat ruhini oshirish, hamda matematikani o'rganishni qiziqarli qilishga yordam beradi. Bu usul, shuningdek, guruhda ishlash ko'nikmalarini rivojlantiradi.

Misollar:

* "Matematik bingo": o'quvchilarga masalalar beriladi, ularning javoblari bingo kartasida joylashgan. To'g'ri javoblarni topgan o'quvchi g'olib bo'ladi.

* "Masala yutqazish": o'quvchilar juftliklarda ishlaydilar, har bir to'g'ri javob uchun ball to'playdilar.

Afzalliklari:

- * o'yinlar orqali o'quvchilar qiziqish va motivatsiya hosil qiladilar.
- * Stress darajasi kamayadi, bu esa o'qish jarayonini yengillashtiradi.
- * Guruhda ishlash ko'nikmalari rivojlanadi.

- Guruh ishlari — o'quvchilarni bir-biriga yordam berishga undaydigan va hamkorlikda muammolarni hal qilishga imkon beruvchi metoddir. o'quvchilar guruhlariga bo'lingan holda masalalarni yechishadi, bu esa ularning ijtimoiy ko'nikmalarini rivojlantiradi.

Afzalliklari:

- * o'quvchilar bir-biridan o'rganadilar va fikr almashadilar.
- * Boshqalar bilan hamkorlikda ishlash ko'nikmalari rivojlanadi.
- * Muammolarni turli yondashuvlar bilan hal qilish imkoniyati paydo bo'ladi.

- Masala muhokamalari — o'quvchilarga berilgan masalalarni birgalikda muhokama qilish va ularga turli yondashuvlarni ko'rib chiqish imkoniyatini beradi. Bu metod o'quvchilarning fikrlarini ifodalash va mantiqiy fikrlash ko'nikmalarini rivojlantirishga yordam beradi.

Afzalliklari:

- * o'quvchilar o'z fikrlarini erkin ifodalaydilar.

- * Turli yondashuvlar orqali muammoni hal qilish imkoniyati yaratiladi.
- * o‘qituvchi va o‘quvchilar o‘rtasida munosabatlar mustahkamlanadi.

Ushbu fikrlar yakuni sifatida shuni aytish mumkinki, o‘quvchilarni masalalar bilan tanishtirish va ularni yechishga jalb qilishda turli metod va usullarni qo‘llash juda muhimdir. Mashg‘ulotlar, o‘yinlar, guruh ishlari va masala muhokamalari orqali o‘quvchilar nafaqat matematikani o‘rganadilar, balki ijodiy fikrlash, hamkorlik va mantiqiy fikrlash ko‘nikmalarini ham rivojlantiradilar. Bu yondashuvlar ta’lim jarayonini yanada qiziqarli va samarali qiladi, shuningdek, o‘quvchilarning bilimlarini mustahkamlashga yordam beradi.

Qiziqarli masalalarni umumta’lim maktablarida qo‘llash bo‘yicha tavsiyalar va kelajakdagi tadqiqotlar uchun yo‘nalishlar. Umumta’lim maktablarida qiziqarli masalalarni qo‘llash ta’lim jarayonini yanada samarali va qiziqarli qilishda muhim rol o‘ynaydi. o‘quvchilarni matematikaga qiziqtirish, ularning ijodiy fikrlash qobiliyatini rivojlantirish va muammolarni hal qilish ko‘nikmalarini oshirish maqsadida, quyidagi tavsiyalarni keltirish mumkin:

- Masalalarni tanlashda diversifikatsiya: o‘quvchilarning turli darajadagi qobiliyatlarini hisobga olgan holda, masalalarni tanlashda xilma-xillikni ta’minlash kerak. Qiziqarli va ijodiy masalalar o‘quvchilarning motivatsiyasini oshiradi va ularni faol ishtirok etishga undaydi.

- Interaktiv yondashuvlar: Masalalarni yechishda interaktiv metodlarni qo‘llash, masalan, guruh ishlari, o‘yinlar va muhokamalar orqali o‘quvchilarni jalb etish. Bu usullar o‘quvchilarning bir-biridan o‘rganishiga, fikr almashishiga va hamkorlikda ishlashiga yordam beradi.

Interaktiv metodlarga quyidagini namuna qilib keltirishimiz mumkin:

3. “JUFTLIKDA ISHLASH” METODI

1. Biror mavzu bo‘yicha yonma-yon o‘tirgan o‘quvchilarga biror topshiriq (yoki alohida-alohida topshiriqlar) yoki berish va ularni birgalikda topshiriqda keltirilgan muammo (masala) yechimini topishga chorlash, yechimlarni eshitish va baholash.
2. Ba’zi hollarda o‘quvchilar bir-birlariga navbatma-navbat savol (masala) bilan yuzlanishlari ham mumkin. Bunday holda savol javobi (masala yechimi) savol (masala) bergan o‘quvchi tomonidan tinglanishi (tekshirilishi) va baholanishi lozim bo‘ladi.
3. Juftlikda ishlash mavzusini tanlayotganda alohida ehtiyot bo‘lish zarur. Bu mavzu ko‘pchilik tomonidan o‘zlashtirilgan bo‘lishi lozim, aks holda juftlarda ish ketmasligi mumkin.

NAMUNA:

A) Har bir o‘quvchi 1 minut davomida “O‘nli kasrlarni 10, 100, 1000 va hokazo sonlarga bo‘lish” mavzusiga oid 3 ta misolni tuzsin va o‘z partadoshi bilan almashsin. 3 minutdan keyin misollarga javobni qaytarib olsin va javoblarni 1 minut ichida tekshirib, baholasin.



- Kontekstual masalalar: o'quvchilarga hayotiy vaziyatlarga asoslangan masalalarni taklif etish, ularning matematik bilimlarini amaliyotda qo'llay olish qobiliyatini rivojlantiradi. Bu yondashuv o'quvchilarning matematikani real hayot bilan bog'lashlariga yordam beradi.

- o'qituvchilarni tayyorlash: o'qituvchilarni qiziqarli masalalarni yaratish va qo'llash bo'yicha malaka oshirish dasturlarini tashkil etish. o'qituvchilar yangi metodlar va yondashuvlarni o'zlashtirib, darslarda samarali qo'llay olishlari kerak.

- Tadqiqotlar va tajribalar: Kelajakdagi tadqiqotlar uchun yo'nalish sifatida, qiziqarli masalalarni qo'llashning ta'sirini o'rganish, o'quvchilarning motivatsiyasi, qobiliyatlari va natijalariga bo'lgan ta'sirini tahlil qilish zarur. Tadqiqotlar natijalari ta'lim jarayonini takomillashtirishda muhim manba bo'ladi.

Alhosil, qiziqarli masalalarni umumta'lim maktablarida qo'llash — bu o'quvchilarning matematikaga bo'lgan qiziqishini oshirish, ijodiy fikrlash ko'nikmalarini rivojlantirish va muammolarni hal qilish qobiliyatlarini mustahkamlash uchun samarali usuldir. Yuqoridagi tavsiyalar va kelajakdagi tadqiqot yo'nalishlari orqali ta'lim jarayonini yanada takomillashtirish va o'quvchilarning muvaffaqiyatini oshirish mumkin.

Xulosa

Ushbu maqolada umumta'lim maktablarida qiziqarli masalalarni qo'llashning ahamiyati va samaradorligi tahlil qilindi. Olingan natijalarga ko'ra, qiziqarli masalalar o'quvchilarning matematikaga bo'lgan qiziqishini oshirishda, ijodiy fikrlash ko'nikmalarini rivojlantirishda va muammolarni hal qilish qobiliyatlarini mustahkamlashda muhim rol o'ynaydi.

Shuningdek, masalalarni tanlashda xilma-xillik, interaktiv yondashuvlar va hayotiy vaziyatlarga asoslangan kontekstual masalalar taqdim etish o'quvchilarning motivatsiyasini oshiradi. o'qituvchilarni tayyorlash va ularning malakasini oshirish ham ta'lim jarayonining samaradorligini yanada kuchaytiradi.

Kelajakdagi tadqiqotlar esa qiziqarli masalalarni qo'llashning ta'sirini o'rganishga va o'quvchilarning muvaffaqiyatiga bo'lgan ta'sirini tahlil qilishga qaratilishi lozim. Umuman olganda, qiziqarli masalalarni ta'lim jarayoniga joriy etish, o'quvchilarning bilim olish jarayonini yanada samarali va qiziqarli qilish imkonini beradi.

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KONSTITUTSIYA- ERKIN VA FAROVON HAYOT GAROVI

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Annotatsiya: Ushbu maqolada O'zbekiston Respublikasining davlat konstitutsiyasi, fuqarolarning konstitutsiya oldidagi huquq va majburiyatlari, qonun oldidagi vakolatlari, O'zbekiston Respublikasida davlat tuzilishi, davlat boshqaruv shakli to'g'risida so'z yuritilgan. Shuningdek, maqolada konstitutsiyaning hayotimizda tutgan muhim o'rni haqida alohida to'xtalib o'tilgan.

Kalit so'zlar: konstitutsiya, fuqaro, davlat, qonun, modda, Oliy Majlis, Senat, huquq, deklaratsiya, vakolat, burch, himoya.

Annotation: This article talks about the state constitution of the Republic of Uzbekistan, the powers and obligations of citizens before the constitution the structure of state in the Republic of Uzbekistan, the form of the state administration. Also, the important role of the constitution in our life is discussed in this article.

Keywords: constitution, citizen, state, law, substance, senate, right, declaration, authority, commitment, defence.

Аннотация: В данной статье говорится о государственной конституции Республики Узбекистан, полномочиях и обязанностях граждан перед конституцией, устройстве государства в Республике Узбекистан, форме государственного управления. И о важной роли конституции в нашей жизни также говорится в статье.

Ключевые слова: конституция, гражданин, состояние, закон, вещество, Верховное собрание, сенат, верно, декларация, власть, долг, защита.

Hozirgi kunda hayotimizni konstitutsiyasiz tasavvur qila olmaymiz. Inson manfaatlarini har tomonlama ta'minlash masalasi konstitutsiyamizda asosiy masala hisoblanadi. Konstitutsiya – davlatning asosiy qonuni bo'lib, eng yuqori yuridik kuchga ega bo'lgan hujjatdir. Konstitutsiya – davlat tuzilishi, davlat boshqaruvi shakli, shaxsning huquq erkinlik va burchlari, davlat organlarini tuzish tartibi, ularning vakolatlari belgilaydi. Konstitutsiya meyorlari bilan jamiyatdagi eng muhim ijtimoiy munosabatlar mustahkamlanadi. Konstitutsiya hayotning mazmunini aniqlashtiruvchi, hayotning u yoki bu sohasida insonlar yurish-turishi va muomilasi qoidalarini belgilovchi, inson huquqlarini buzganlik uchun jazolarni nazarda tutuvchi boshqa qonunchilik hujjatlari yaratishga asos bo'lib qoluvchi muhim hujjat

hisoblanadi. Konstitutsiya moddolari asosida qonunlar qabul qilinadi. Qabul qilingan qonunlar davlat va jamiyat hayotida vujudga keladigan ijtimoiy munosabatlarni tartibga soladi. Qonunlardan birortasi ham Konstitutsiyaga zid bo'lmashligi shart, chunki faqatgina ushbu hujjat oliy yuridik kuchga egadir. Qonun konstitutsiya mazmunidan kelib chiqadi. Shuning uchun ham iqtisodiyot va siyosatdagi o'zgarishlar natijasida qonunlar ham o'zgarishi mumkin. Qonun – bu davlat tomonidan o'rnatilgan, odamlar o'rtasidagi eng muhim munosabatlarni tartibga soluvchi majburiy qoidalardir. Bu kabi huquqiy normalarga rioya etish mamlakat hududida yashab turganlarning barchasi uchun majburiydir. Qonunlarning barchasi birgalikda mamlakat qonun hujjatlari deb ataladi. 1

Oliy Majlis - qonun chiqaruvchi oliy organ bo'lib, davlatimiz hayoti uchun qonunlarni yaratadi. Oliy Majlis Qonunchilik palatasi deputatlari o'z saylovchilarining manfaatlarini ifoda etadi va mamlakat fuqarolari nomidan qonunlarni qabul qiladi. O'zbekiston Respublikasi Oliy Majlisi – Qonunchilik palatasi (quyi palata) va Senat (yuqori palata) dan tashkil topgan. Deputatlar 5 yil muddatga saylanadi. Oliy majlis qonunchilik palatasining katta zalini davlatimiz ramzlari bezatib turadi. Qonun loyihasi, basharti uning qabul qilinishiga Oliy Majlis Qonunchilik palatasi deputatlari ovoz bersa, qabul qilinadi. Qonun, Oliy majlis Senati tomonidan ma'qullangandan va unga president imzo chekkangan so'ng kuchga kiradi., ya'ni hamma tomonidan ijro etilishi majburiy tus oladi. O'zbekiston Respublikasida qonun chiqqunicha, uning qabul qilingunicha mana shunday bosqichlardan o'tadi. Har tomonlama ma'nfaatligi tekshirilib so'ng kuchga kiradi.

Odamlar o'z haq-huquqlarini tan olishga, ularni tushunib yetishga birdaniga erishmaganlar. Manbaalarda yozilishicha, hatto qadimgi zamonlarning eng ajoyib faylasuflari ham odamlar teng bo'la olmaydi, deb hisoblashgan. Quldorlik tuzumida quldorlar qul sifatida odamlarni sotishgan. Xo'jayin o'z qulini nafaqat jismonan jazolashga, uni hayotdan mahrum etishga ham haqli bo'lgan, negaki qul ya'ni inson zodagon xo'jayinning mulki hisoblangan. Faqatgina O'rta asrlardan keying Ma'rifatchilik davriga kelib, odamlar inson hayoti qiymatini, uning qimmatli ekanligini anglab yeta boshladilar. Hamda tenglik va ideallari uchun kurashish yo'liga kirdilar. Shunday qilib, shaxsiy va siyosiy huquqlar insonning birlamchi huquqlariga aylandi, shu boisdan ularni huquqlarning birinchi avlodi deb atashdi. Bu huquqlar har bir inson shaxsiy erkinliklari va hayotiga shuningdek, fuqarolarning jamiyat hayotidagi ishtirokiga daxldordir. 2 Insonning shaxsiy ya'ni tabiiy huquqlari unga tug'ulganidanoq taalluqli bo'ladi. Bular – yashash huquqi, hurmat ko'rish huquqi, bir joydan ikkinchi joyga ko'chish huquqi, shaxsi, turar joyi daxlsizligi huquqi, yozishmalar va telefonda so'zlashuvlarni sir saqlash huquqi, vijdon va diniy e'tiqod erkinligi, fikr va so'z erkinligi, adolatli sudlov huquqi kabilarni o'z ichiga oladi. 3

Biz turli oilalarda dunyoga kelganmiz, qobiliyatlarimiz ham turlicha, tabiat bizga o'ziga xos tashqi qiyofa ato etgan. Biz, shuningdek, bir- birimizdan fe'l-atvorimiz, odatlarimiz va qiziqishlarimiz bilan ham farqlanamiz, lekin qonun oldida barchamiz tengmiz. Hech kim bizni huquqlarimizdan mahrum eta olmaydi. Boshqa insonlar bilan tengligimiz davlat huquq va erkinliklarni amalga oshirish uchun hammaga teng imkoniyatlar ta'minlaganligida namoyon bo'ladi. Ana shu imkoniyatlardan qay yo'sinda foydalanish esa o'zimizga bog'liqdir. Aynan insonlarning teng- huquqliligi prinsipi – inson huquqlari umumjahon deklaratsiyasining bosh g'oyasidir.

Inson erkinlik va shaxsiy daxlsizlik huquqiga tug'ulgan kundan boshlab ega bo'ladi. O'zbekiston Respublikasining Konstitutsiyasida har kim erkinlik va shaxsiy daxlsizlik huquqiga ega ekanligi e'lon qilingan. Bu, masalan, qonuniy asoslarsiz qamoqqa olish va qamoqda saqlashga hech kim haqli emasligini anglatadi. Qonun bilan har birimizga o'zimizni qanoatlantirgan va shaxsiy erkinliklarimizni cheklab qo'ymaydigan xatti- harakatlar sodir etish huquqi berilgan. Biroq shaxs erkinligi umumiy qabul qilingan yurish – turish normalari doirasida va qonun asosida amalga oshirilishi kerak.

Mustaqil O'zbekistonda tinch- totuv, farovon hayot kechirishimiz uchun Konstitutsiyamizda kerakli qonunlar belgilab qo'yilgan. Muhtaram birinchi prezidentimiz Islom Abdug'aniyevich Karimovning mustaqillikka erishganimizdan so'ng, birinchi navbatda inson huquqlarini himoya qilish maqsadida Konstitutsiya kitobini yozishni vazifa qilib topshirgan. Shuningdek, uni nuqsonsiz yozilganligini shaxsan o'zi tekshirgan. Qonunlar inson hayoti himoyasida ekanligi har birimizning baxtimizdir.

Konstitutsiyamizda insonning yashash huquqini himoya qilishda jinoiy qonunchilik alohida o'rin egallaydi. Inson o'limiga olib keluvchi har qanday harakat jinoiy qonunchilikda jinoyat deb tan olingan. Shunday qilib, davlat mamlakat aholisining o'z hayoti, farzandlari hamda qarindoshlari hayoti borasida xotirjam bo'lishi haqida g'amxo'rlik qilishi shart. Yashash huquqini ta'minlash – odamlar avariylar, kasalliklar, shuningdek, jinoyatchilar dastidan halok bo'lmasliklarining oldini olish yo'lida barcha ishlarni amalga oshirish demakdir.⁴

Yashash huquqini ta'minlash – birinchi navbatda, davlat bola sog'lom tug'ilishi va rivojlanishi uchun, uning hayotiga biron-bir xavf- xatar tahdid solmasligi uchun barcha chora – tadbirlarni ko'rish majburiyatini zimmasiga oladi deganidir. Ko'ryapmizki, davlatimizda inson haq-huquqlarini ta'minlash maqsadida to bola tushilishidan avval chora – tadbirlar ko'riladi. Bunday farovon va tinch hayotda yashashimizni ta'minlab berish oson kechmaydi.

Biz shunday farovon mustaqil davlarda yashayotganimizdan faxrlanishimiz, shukr keltirishimiz kerak. Shunday rivojlangan dunyoda urush olib borilayotgan, inson ma'nfaatlari toptalayotgan, zo'ravonlik kuchaygan davlatlar ham mavjud. Bu davlatlarda inson huquqlari himoyalanganligi uchun shunday holatlar kuzatilyapti. Shuning uchun ham "Konstitutsiya – farovon hayot garovi" shiorida juda ham to'g'ri fikr bayon qilinganligini anglashimiz kerak.

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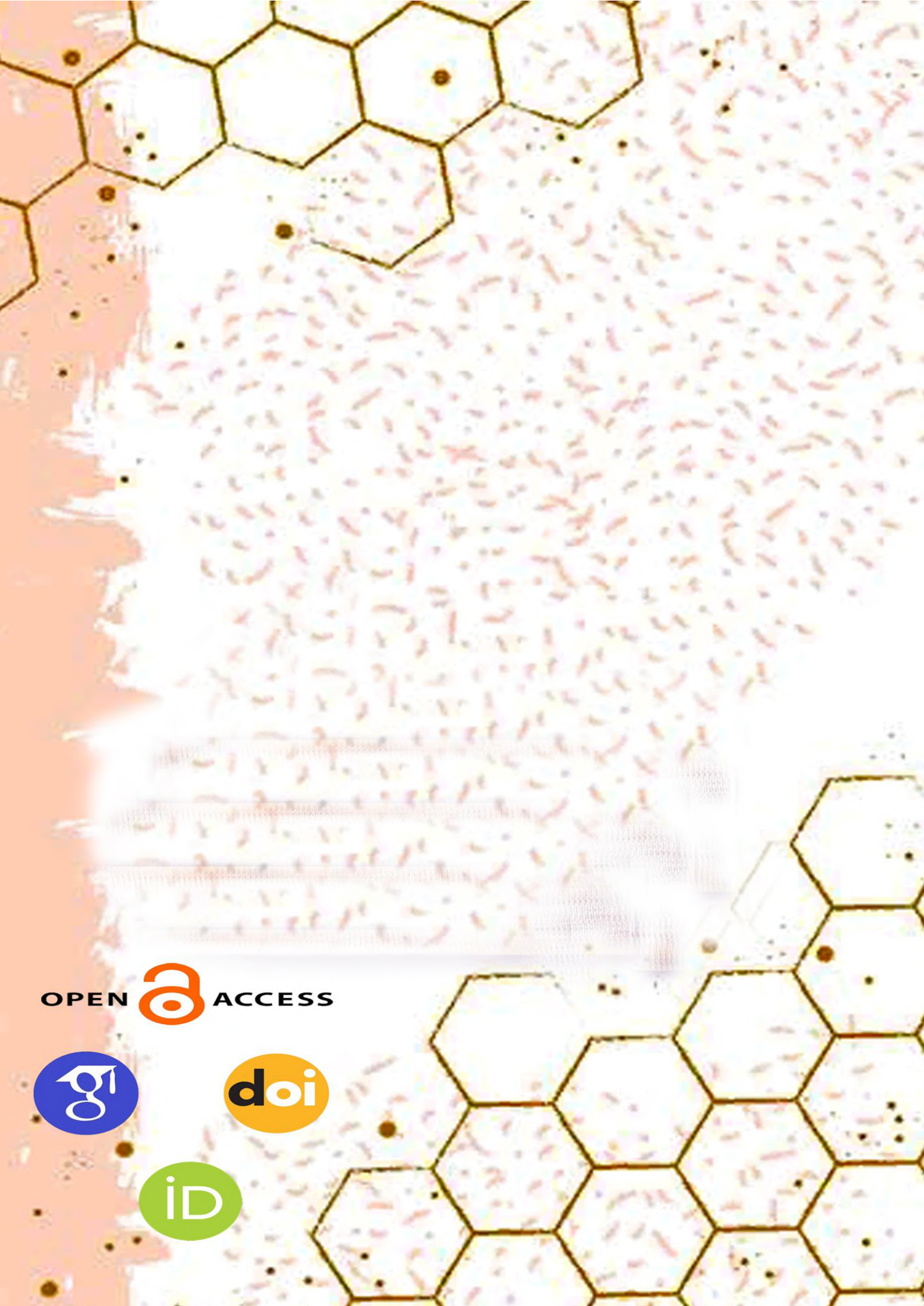
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