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TO‘QIMACHILIK SANOATI KORXONALARI UCHUN SOLIQ SIYOSATI: BARQAROR ISHLAB CHIQARISH VA AYLANMA IQTISODIYOTNI QO‘LLAB-QUVVATLASH MEXANIZMLARI

Muxtorov Muhammadyusuf Anvarovich
Toshkent to’qimachilik va yengil sanoat instituti

ANNOTATSIYA.

Maqolada O‘zbekiston Respublikasida to‘qimachilik va tikuv-trikotaj sanoati korxonalari uchun amal qiluvchi soliq siyosati, jumladan foyda solig‘i, ijtimoiy soliq, mol-mulk va yer solig‘i bo‘yicha imtiyozlar Soliq kodeksi va tegishli Prezident qarorlari asosida tahlil qilinadi. Ushbu chora-tadbirlarning tarmoqda barqaror ishlab chiqarish va aylanma iqtisodiyot tamoyillarini joriy etishga ta’siri ko‘rib chiqiladi.

Kalit so‘zlar: to‘qimachilik sanoati, soliq imtiyozlari, ijtimoiy soliq, aylanma iqtisodiyot, barqaror ishlab chiqarish.

Аннотация.

В статье анализируется действующая налоговая политика в отношении предприятий текстильной и швейно-трикотажной промышленности Республики Узбекистан, включая льготы по налогу на прибыль, социальному налогу, налогу на имущество и землю, на основе Налогового кодекса и соответствующих постановлений Президента. Рассматривается влияние данных мер на внедрение принципов устойчивого производства и циркулярной экономики в отрасли.

Ключевые слова: текстильная промышленность, налоговые льготы, социальный налог, циркулярная экономика, устойчивое производство.

ABSTRACT.

This article analyzes the current tax policy applied to textile and knitwear enterprises in the Republic of Uzbekistan, including profit tax, social tax, property and land tax benefits, based on the Tax Code and relevant Presidential resolutions. The impact of these measures on the implementation of sustainable production and circular economy principles in the industry is examined.

Keywords: textile industry, tax benefits, social tax, circular economy, sustainable production.

Kirish

To‘qimachilik va tikuv-trikotaj sanoati O‘zbekiston iqtisodiyotining eksportga yo‘naltirilgan ustuvor tarmoqlaridan

biri hisoblanadi. Tarmoqni rivojlantirish strategiyasi ip-kalavani qayta ishlash darajasini 2027-yil yakunigacha bosqichma-bosqich 100 foizga yetkazishni, mamlakatni mintaqaviy “to‘qimachilik xabi”ga aylantirishni va xalqaro darajada tan olingan milliy brendlar yaratishni nazarda tutadi. Ushbu maqsadlarga erishishning muhim vositalaridan biri — davlatning maqsadli soliq siyosati bo‘lib, u orqali korxonalarning moliyaviy yukini kamaytirish, xomashyoni chuqur qayta ishlashga investitsiyalarni rag‘batlantirish hamda aylanma iqtisodiyot tamoyillarini joriy etish ta’minlanadi.

Tadqiqot natijalari va muhokama

Tarmoqqa yo‘naltirilgan soliq imtiyozlarining umumiy huquqiy asosi Soliq kodeksining 75-moddasida mustahkamlangan. 2025-yil 25-dekabrdagi O‘RQ-1108-son Qonun bilan kiritilgan tahrirga ko‘ra, imtiyozlar Prezident qarorlari bilan faqat belgilangan stavkani ko‘pi bilan 50 foizga kamaytirish tarzida va ko‘pi bilan uch yil muddatga beriladi (75-modda, beshinchi qism). Foyda solig‘i bo‘yicha imtiyozlar esa faqat tezlashtirilgan amortizatsiya qilish huquqi shaklida, uch yildan oshmagan muddatga taqdim etiladi (75-modda, oltinchi qism) .

Ushbu umumiy chegaralar doirasida tikuv-trikotaj, poyabzal va teri-charm sanoati korxonalari uchun 2025-yil 1-yanvardan 2028-yil 1-yanvargacha foyda solig‘i stavkasi 2 foiz, ijtimoiy soliq stavkasi esa 1 foiz etib belgilangan . Paxta-to‘qimachilik klasterlari va to‘qimachilik zanjiridagi barcha korxonalar uchun 1 foizlik ijtimoiy soliq stavkasi 2025-yil 1-sentabrdan joriy etilib, keyinchalik 2028-yil 1-sentabrgacha uzaytirilgan, bunda realizatsiyada to‘qimachilik ulushiga qo‘yiladigan talab 90 foizdan 70 foizga tushirilgan . Imtiyozlardan foydalanish uchun korxona daromadining kamida 70 foizi asosiy faoliyat turidan olinishi va xodimlarning eng kam ish haqi mehnatga haq to‘lashning eng kam miqdoridan (MHTEKM) kamida ikki barobar yuqori bo‘lishi shart qilib qo‘yilgan .

Barqaror ishlab chiqarish va aylanma iqtisodiyot nuqtai nazaridan alohida ahamiyatga ega norma — Soliq kodeksiga 2020-yildan kiritilgan qo‘shimcha bo‘lib, unga ko‘ra to‘qimachilik, tikuv-trikotaj, charm-poyabzal va mo‘ynachilik korxonalarining foyda solig‘i bo‘yicha soliqqa tortiladigan bazasi yetti yil davomida zamonaviy tozalash va kanalizatsiya inshootlarini qurish xarajatlari summasiga kamaytiriladi . Bu mexanizm korxonalarni ekologik infratuzilmaga investitsiya kiritishga, ya’ni ishlab chiqarish jarayonidagi resurslardan qayta foydalanish va chiqindilarni kamaytirishga rag‘batlantiradi, bu esa aylanma iqtisodiyotning asosiy tamoyillaridan biridir.

Mol-mulk, yer va suv resurslaridan foydalanganlik uchun soliq bo‘yicha ham qator yengilliklar mavjud: 2026-yilgacha

to‘qimachilik sanoat zonalari direksiyalari va ularda tashkil etilgan korxonalar ushbu soliqlardan to‘liq ozod etilgan. Shu bilan birga, 2026-yildan boshlab mazkur imtiyozlardan foydalanish Soliq kodeksi 75-moddasining o‘n to‘rtinchi qismida belgilangan qo‘shimcha shartlarga — jami daromadning imtiyoz summasidan oshishi hamda kamida uch nafar xodim ishlashi va ularning ish haqi MHTEKMning ikki barobaridan kam bo‘lmasligiga — bog‘liq qilib qo‘yilgan. Bundan tashqari, O‘zbekistonda ishlab chiqarilmaydigan aralash mato, gazlama, charm va ipak sanoati uchun zarur xomashyolar 2025-yil 1-sentabrdan uch yil muddatga bojxona bojidan ozod etilgan, bu esa import qilinadigan resurslar hisobiga ishlab chiqarish zanjirini uzluksiz saqlashga xizmat qiladi.

Xodimlarga oid alohida norma sifatida Soliq kodeksining 168-moddasi ikkinchi qismini keltirish mumkin: to‘qimachilik va tikuv-trikotaj, charm-poyabzal sohalari korxonalarida ishlayotgan xorijiy mutaxassislar jismoniy shaxslardan olinadigan daromad solig‘ini belgilangan stavkadan 50 foiz miqdorida to‘laydi . Bu norma xalqaro tajriba va texnologiyalarni jalb qilishga, natijada ishlab chiqarish samaradorligi va sifat standartlarini oshirishga ko‘maklashadi.

Xulosa

O‘tkazilgan tahlil shuni ko‘rsatadiki, to‘qimachilik sanoati uchun soliq siyosati ko‘p qatlamli tizimdan iborat: Soliq kodeksi 75-moddasidagi umumiy chegaralar, shu asosda beriladigan aniq tarmoq stavkalari (2% foyda solig‘i, 1% ijtimoiy soliq), mol-mulk va bojxona solig‘i yengilliklari hamda ekologik infratuzilmaga yo‘naltirilgan chegirmalar. Ushbu mexanizmlar korxonalarni resurslardan oqilona foydalanish va tozalash inshootlariga investitsiya kiritishga undash orqali aylanma iqtisodiyot tamoyillarini joriy etishga bevosita hissa qo‘shadi.

Foydalanilgan adabiyotlar

1. O‘zbekiston Respublikasining soliq kodeksi(lex.uz).
2. O‘zbekiston Respublikasining Prezidentining farmoni.
3. O‘zbekiston Respublikasining 2025-yil 25-dekabrdagi O‘RQ-1108-son Qonuni. Soliq va budjet siyosatining 2026-yilga mo‘ljallangan asosiy yo‘nalishlari qabul qilinganligi munosabati bilan O‘zbekiston Respublikasining ayrim qonun hujjatlariga o‘zgartirish va qo‘shimchalar kiritish to‘g‘risida. — lex.uz/docs/-7944527.

REVIEW OF OUTRIGGER SYSTEMS AND THEIR STRUCTURAL PERFORMANCE IN TALL BUILDINGS

Nurafzal Qaytmas[1]*,
Assistant Professor PhD
Asadullah Attal [2]
[1*]Scholar of Civil & Structural Engineering PhD Program, Department of Civil and Industrial Construction, Faculty of Construction Engineering, Kabul Polytechnic University (KPU), Kabul, Afghanistan. E-mail: nurafzalqaytmas@gmail.com,
[2]Civil & Industrial Engineering Department, Faculty of Construction Engineering, Kabul Polytechnic University, KPU campus, 5th District, Kabul, Afghanistan. Email: a.attal@kpu.edu.af

ABSTRACT

The Outrigger and Belt-Truss system is considered one of the most efficient and common lateral load-resisting systems in tall and supertall buildings. By creating a rigid connection between the central core and the peripheral columns, this system significantly increases the effective depth of the structure and significantly reduces lateral displacements caused by wind and earthquake. In this article, while comprehensively introducing the components, configurations, and different types of Outrigger systems from various perspectives (such as structural materials, structural response, and connection methods), the structural performance of this system under lateral and gravity loads is investigated in depth. Also, key factors affecting the system's efficiency such as optimal positioning, number of outriggers, relative stiffness of members, and building geometry are described. The advantages and disadvantages of the Outrigger system are discussed in detail, along with solutions to implementation challenges such as differential shortening and occupancy of usable space. Studies show that optimal positioning of the outriggers at levels of about one-third and two-thirds of the height from the top has the greatest effect on reducing drift. Also, the development of damped outrigger systems as a new approach has opened new horizons in controlling dynamic response and reducing design forces. Research results indicate that the use of the outrigger system can reduce lateral drift by up to 60% and at the same time improve the torsional stiffness of the structure. However, the design of this system requires a deep understanding and a performance-based design approach due to its behavioral complexities and lack of inclusion in common codes. This article can be used as a comprehensive reference for researchers and designers who are newly familiar with this field.

Keywords: Outrigger system, belt beam, tall buildings, lateral load, stiffness, damping, differential shortening

1. Introduction

Tall buildings are of particular importance due to their vital role as essential structures in modern cities and metropolises and are recognized as a sustainable solution from a social, economic

and environmental perspective. Unlike low-rise buildings, tall buildings are highly complex due to the large number of structural elements and building components. In addition, there are several phenomena that have a much greater impact on tall buildings than on short buildings. In particular, the huge gravity loads in tall buildings lead to the occurrence of undesirable phenomena such as differential axial shortening of columns and cores, and differential settlements of foundations with significant values [1]. Also, the impact of lateral loads caused by earthquakes and wind on tall buildings is much greater than that of short buildings, which presents engineers with serious challenges in ensuring stability and controlling displacements [2]. The rapid evolution of technology in various aspects such as building materials, damping systems, construction technologies and the development of complex structural analysis and design software have made it possible to construct tall buildings in many countries, especially in emerging economies. The scarcity of land in cities and the increase in urbanization rates in recent decades have made tall buildings a suitable option to solve this problem. Also, the competition to build the tallest and most iconic building in the world, region, country or city has become another incentive for the development of tall buildings with complex shapes such as torsional, sloping and aerodynamic [1]. From an environmental perspective, dense urban areas with tall buildings are preferable due to their efficiency in land and energy use. As the height of buildings increases, relying solely on conventional lateral load-resisting systems such as moment resistance frames and shear walls is not an economical solution [3]. Also, in the United States, structural systems such as the tube-frame system, which were considered economically efficient, are no longer widely used due to their vulnerability to progressive collapse [1]. As a result, engineers have developed new systems such as tube, diagrid, and outrigger systems in the last five decades to minimize material consumption while meeting safety, serviceability, and aesthetic criteria [3]. The selection of an appropriate structural system depends strongly on the type of construction materials and the number of storeys of the building, as these factors affect the amount of horizontal load and, consequently, the most appropriate resistant system. The outrigger system is chosen as the main subject of this article due to its high efficiency in tall and supertall buildings and the need to understand this system more deeply by linking previous studies and research.

2. Outrigger and Belt Beam System: Definition and Components

The outrigger and belt-beam system is a hybrid lateral load-resisting system in which the interior and exterior structural systems are connected by rigid horizontal beams called outriggers, and the perimeter columns of the exterior structural system are connected by another rigid horizontal beam called belt-truss [4]. This combination increases the effective depth of the structure when bending as a single one end fixed beam and uses the interior and exterior systems to resist lateral loads in an integrated manner. In fact, the main strategy of this system is to place the floors reinforced with outriggers and belt-beam at appropriate levels to control floor drift. This system has been

widely used in tall buildings around the world. For example, in China, most tall buildings, both completed and under construction, use outriggers and belt-beam in their structural systems [1]. The main components of this system include four sections, which are introduced in detail below:

2.1. Interior Structural System

The internal structural system, also known as the central core, can be implemented in many ways. This core can be a Steel Braced Core in which diagonal braces are used to provide hardness and strength. It can also be a concrete core, which is very common due to its high hardness and integrated behavior [6]. In addition, the composite core, which is a combination of steel and concrete, is also used in very tall buildings [1]. The central core is responsible for resisting lateral loads and acts as a vertical one end fixed beam. The choice of core type depends on factors such as building height, type of dominant lateral loads and architectural considerations. In reinforcement concrete buildings, the core is usually implemented as concrete shear walls around elevators and facilities, while in steel buildings, the core can be designed as a steel frame with diagonal braces [6].

2.2. Exterior Structural System

The exterior structural system consists of the building's perimeter columns, which can be a Frame Tube System, a Moment-Resisting Frame, or a Mega-Frame [1]. In a tube frame system, closely spaced perimeter columns and deep belt beams create a rigid perimeter tube that acts like a hollow beam. In a flexural frame, the beam-column connections are designed to be rigid to withstand the bending moment. Mega-frames also consist of very large, widely spaced columns connected by massive belt beams [6]. The exterior system plays an important role in cooperating with the central core to resist lateral loads and by creating a large lever arm, increases the effective depth of the structure.

2.3. Outriggers

Outriggers are horizontal rigid connections that connect the internal and external structural systems [1]. These elements can be implemented in various forms, including deep concrete walls, steel trusses with different topologies, deep beams, or a combination of these (Hybrid) [6]. Outriggers are usually one or more stories high and are located on utility floors or shelters so as not to interfere with the useful space of the building. The main function of outriggers is to transfer forces from the central core to the peripheral columns and, by creating a tension-compression couple, reduce the overturning moment of the core [1]. The stiffness of the outriggers plays a key role in the efficiency of the system, and the stiffer the outriggers, the more effective the force transfer and drift reduction will be. However, in dampered systems, the outriggers are connected to the perimeter columns through dampers instead of being rigidly connected to increase the damping of the structure [7].

2.4. Perimeter Belt-Truss

A perimeter belt-truss is a connection that connects all or part of the perimeter columns to each other and can be implemented as a wall, truss, or deep beam. The main function of

the belt beam is to evenly distribute the axial forces caused by the action of the outriggers between the perimeter columns. This element prevents the concentration of force in the columns adjacent to the outriggers and contributes to the resistance of all perimeter columns to the lateral load. Belt beams also reduce the shear lag effects in tubular systems, making the stress distribution in the columns more uniform [1]. In virtual outrigger systems, belt beams play a fundamental role because they act as the main elements engaging the perimeter columns and transfer the force from the core to the columns through the floor diaphragms [8].

3. Structural Performance of Outrigger System

The structural performance of the Outrigger system is based on a clever physical mechanism, which is discussed in detail in this section. A proper understanding of this mechanism is essential for the optimal and efficient design of this system.

3.1. Performance under Lateral Loads

The mechanism of performance of the Outrigger system under lateral loads is based on the creation of a tension-compression couple in the peripheral columns [1]. When a lateral load caused by wind or earthquake is applied to the building, the central core, which acts as a vertical one end fixed beam, tends to bend and rotate [5]. This rotation causes the outriggers, which act as lever arms, to transmit their motion to the peripheral columns. As a result, the columns located on the windward side are subjected to a tension force and the columns located on the leeward side are subjected to a compression force. These axial forces applied at the ends of the outriggers create a restoring moment in the opposite direction of the overturning moment [1]. In other words, the outrigger system uses the large spacing of the peripheral columns to increase the arm of resistance to the overturning moment, which makes it a very optimal option. This process significantly reduces the lateral displacement, reduces the bending moment at the base of the core (base moment), and increases the overall stiffness of the structure [5]. In fact, by introducing compression in the windbreak columns and tension in the windbreak columns, the effective depth of the structure increases when bending as a single one end fixed beam. This increase in effective depth is equivalent to an increase in the bending stiffness of the structure and leads to a significant reduction in inter-story drift [9]. Figure 1 shows a schematic view of the performance of the Outrigger system under lateral load, in which the change in the direction of the anchor and the creation of a tension-compression couple in the peripheral columns are clearly visible [1].

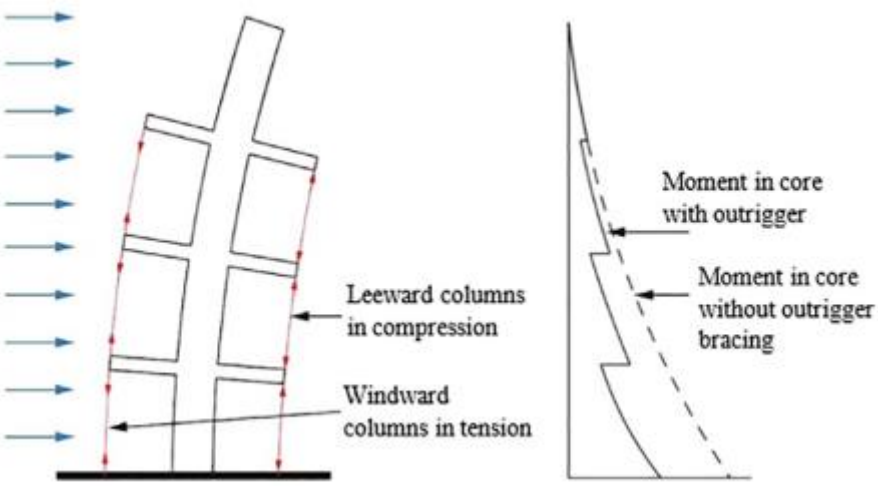


Figure 1: Performance of Outrigger System under Lateral Load [1]

3.2. Performance under Gravity Loads

Although the main function of the outrigger system is to increase lateral stiffness, gravity forces can also be transmitted through the outriggers due to phenomena associated with tall buildings such as differential axial shortening and foundation dishing [1]. This issue requires careful investigation.

3.2.1. Differential Axial Shortening

In tall buildings, small differences in strain between columns and core, due to various causes such as time-dependent deformations (elastic deformation, creep, shrinkage, and thermal deformation) and other factors, accumulate along the height of the building and lead to significant differences in axial shortening. These differences can generate large forces in outrigger members. For example, if the outriggers are displaced due to differential movements, the resulting strains can generate large forces within the outriggers and transfer part of the gravity loads from the columns to the core or from the core to the columns through the outriggers. Also, the belt beams connecting adjacent columns experience large forces in the event of differential displacement and transfer a portion of the gravity loads between adjacent columns. These transferred forces, known as lock-in forces, can be as large as those due to lateral loads and, if not properly managed, can be very costly to design [1].

3.2.2. Foundation Dishing

Foundation dishing is a type of differential settlement that occurs due to various causes such as load concentration under the central core of a tall building. This phenomenon can lead to a vertical height difference between the peripheral columns and the core, which in turn creates large forces within the outriggers and transfers part of the gravity loads from the core to the columns through the outriggers [1]. This phenomenon is especially important in buildings built on soft and compact soils and should be considered in design and construction.

3.2.3. Sudden Loss of Member or Connection Capacity

Another source of gravity force transfer by outriggers is the sudden loss of connection capacity or a local member. In such situations, outriggers can provide an alternative load path to prevent progressive collapse. For example, in the event of a

failure of a peripheral column, the upper story loads from the failed column can be suspended by adjacent columns and transferred to the healthy adjacent columns through belt beams. In the event of a failure of a core column, outriggers can also share the loads with the peripheral members. This feature makes the Outrigger system a suitable option for resisting sudden loads and bursts [1].

4. Types of Outrigger Systems

Outrigger systems can be categorized from different perspectives. These categories help designers select the appropriate type of system based on the project needs.

4.1. From a structural materials perspective

From a structural materials perspective, there are three main types of outriggers, each with its own advantages and disadvantages.

Steel Outriggers: These types of outriggers are widely used in many tall buildings; as most tall buildings have either a steel or composite structural system. In conventional design, steel outriggers are designed as trusses with a height of one story. The main advantage of this type is high ductility and relatively good speed of execution, but their stiffness is lower than that of concrete outriggers [6].

Concrete Outriggers: The advantage of this type compared to steel outriggers is lower cost and very high stiffness. In the case of wind load, where the Outrigger system requires high stiffness, concrete walls or deep concrete beams can easily provide this stiffness. These types of outriggers are more common in concrete structures than in steel structures. However, they are less ductile than the steel type [6].

Hybrid or Composite Outriggers: These types of outriggers combine the advantages of both steel and concrete and avoid their disadvantages. Pure concrete outriggers are very rigid, but at the same time brittle. Steel outriggers are also not as rigid as concrete outriggers, but have a more ductile behavior. Hybrid and composite outriggers are constructed either by combining a steel truss with a reinforced concrete wall (such as the hybrid steel-concrete outriggers used in the Raffles City towers in Chongqing), or by embedding a thin steel core in the concrete cover to form the diagonal members of the outrigger truss (such as the buckling-resistant braces BRBs) [6].

4.2. From a response (behavior) perspective

From a structural behavior and response perspective, outrigger systems are divided into four main categories, each designed for specific loading conditions.

Rigid Outrigger (traditional): This type of outrigger is designed as a linear elastic system with high stiffness under wind and sometimes earthquake loads. The rigid outrigger is subjected to maximum forces when the structure is experiencing maximum lateral displacements. This type is considered the most common and traditional type of outrigger system and its main purpose is to increase stiffness and reduce drift [6].

Flexible Outrigger: In this type, the stiffness of the outriggers is adjusted to reduce the adverse effects of gravity

force transfer due to differential shortening, while providing benefits in drift control and overturning moment. Flexible outriggers have been used in buildings such as the China World Tower in Beijing and the Petronas Twin Towers in Kuala Lumpur, where Vierendeel trusses are designed to provide sufficient stiffness in the outriggers to aid the overall behavior of the structure, but to prevent excessive gravity force transfer due to long-term differential shortening [6].

Damped Outrigger: In this type, the leverage of rigid outriggers extending outward from the building core is used to actuate nonlinear dampers. The additional or supplementary damping provided by this system can reduce the dynamic response of tall buildings (forces, deformations, accelerations, etc.) to crosswinds and earthquakes. Especially in conditions of vortex-induced oscillations in the wind, damper outriggers are a cost-effective solution to improve occupant comfort compared to other solutions such as modifying the shape of the building or changing the dynamic properties of the structure [7]. The dampers driven by the outriggers can be of different types: viscous dampers, viscoelastic dampers, magneto-rheological dampers (MR dampers) and friction dampers [6]. Figure 2 illustrates the concept of a damper outrigger system.

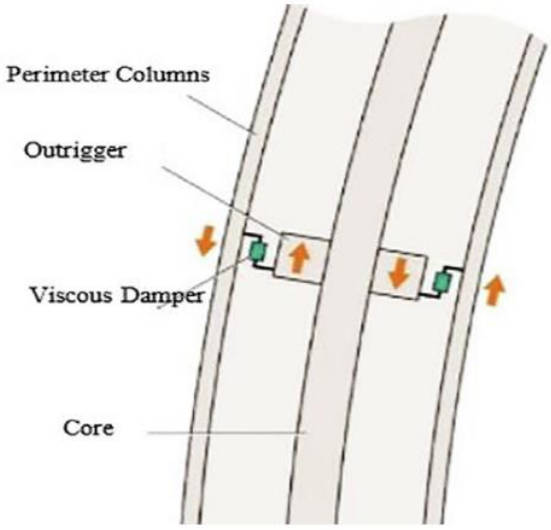


Figure 2: Concept of the Damped Outrigger System [1]

Yielding Outrigger: In this type of outrigger, yielding materials are used to limit the maximum forces in the connections and members while absorbing seismic energy and maintaining resistance to collapse. This is because traditional outriggers, which are designed for strength and stiffness under wind loads, can generate large forces during seismic events that have the potential to damage the columns, core, outrigger members, or connections. Buckling Restrained Braces (BRBs) and Structural Fused Concrete Outrigger Systems are two types of yielding outriggers. In BRBs, the advantages of further linear-elastic behavior under wind conditions and stable hysteresis behavior under seismic loading conditions, along with the reliability in determining the maximum forces required at connections and adjacent members, are significant [6].

4.3. From the perspective of the way the internal and external system is connected

From the perspective of the way the internal and external system is connected, there are two main types of outriggers that differ fundamentally in the path of force transmission.

Direct Outrigger (Conventional Outrigger): In this type, the core of the building is directly connected to the peripheral columns by rigid outriggers (trusses or walls). The peripheral columns are also connected to each other by belt beams. This ensures a direct load transmission path from the core to the peripheral columns through the outriggers and increases the efficiency of the system. This type is the most common and traditional type of outrigger system [6].

Indirect Outrigger (Virtual Outrigger): This type was proposed by Nair in 1998 and is also known as the Belt-Truss System. This system offers similar behavior to the direct system, but without direct connections between the core walls and the perimeter columns in the vertical plane. Instead, the belt beams are completely located around the perimeter of the building and engage the perimeter columns. In this type, the diaphragm strength and stiffness are essential and critical factors for the successful performance of the system and are considered key elements in the load paths. If the diaphragm is not sufficiently stiff, the virtual outrigger system will be less effective. In conditions where the diaphragm has very low stiffness, the perimeter frame and core respond to lateral loads as separate systems, not as a single system. Virtual outrigger is considered the most cost-effective type of outrigger and is used in tall structures due to its numerous advantages over the conventional type, including the additional free space resulting from the elimination of outriggers as well as the prevention of the transmission of gravity forces due to differential shortening [8]. Figure 3 shows a schematic view of the virtual outrigger system.

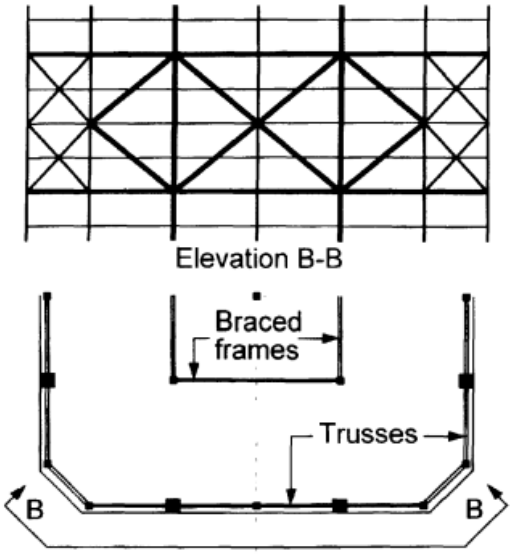


Figure 3: Virtual outrigger system or wall-belt system [8]

5. Factors Affecting Outrigger System Performance

Outrigger system performance is affected by several factors that need to be understood for optimal and efficient system design. In this section, the most important of these factors are discussed.

Outrigger Locations and Numbers: Finding the optimal alignment for outrigger installation is of great importance and is considered one of the most complex issues in the design of this system [9]. Based on extensive research, for a single-outrigger system, the optimal location is about 0.455 of the building height from the top (or about half the height from the bottom), and for two-outrigger systems, the optimal locations are about one-third and two-thirds of the height from the top [10]. Increasing the number of outriggers significantly reduces the total volume of sections required to meet the allowable displacement criterion, although optimization of their number and location is necessary. However, in most cases, except in very tall buildings, it is not practical to use more than four levels of outriggers, as the improvement in structural performance will be negligible compared to the cost and time of construction. The space available in utility and shelter floors is usually a natural location for outriggers, but if this is not possible, multi-level outriggers or a virtual outrigger system can be used [1].

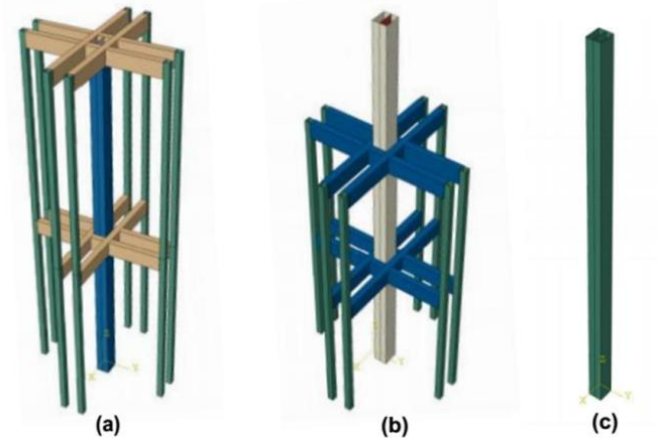


Figure 4: The 3D models of the two-outrigger structural frame systems; (a) First type models in which, one outrigger is fixed at the top and another located at through the height, (b) Second type models in which, both outriggers are located through the height, (c) a free standing core [12].

Relative Stiffness of Members: The performance of the system is highly dependent on the ratio of the Core Flexural Stiffness, Outrigger Flexural and Shear Stiffness, and Axial Rigidity of Perimeter Columns [1]. The optimal stiffness ratio between the core and perimeter columns is about 3, and increasing the core stiffness alone is not an optimal solution to reduce drift. The stiffness of the belt beams also plays a vital role in the uniform distribution of force between the perimeter columns. In general, the greater the stiffness of the outriggers, the greater the drift reduction, but this relationship is nonlinear and after a certain limit, increasing the stiffness will not have much effect on performance [9]. Also, in virtual outrigger systems, the stiffness of the floor diaphragm is of particular importance [8].

Building Geometry: Complex architectural shapes such as twisted, tilted, and tapered shapes, which have replaced simple

shapes in the design of tall buildings today, affect the overall stiffness of the building. For example, in twisted shapes, the peripheral columns may spiral around the building (Corkscrew Columns), which reduces the lateral stiffness compared to simple shapes. Also, if the columns are set back from the edges of the slab, the depth of the outrigger lever arm is reduced and the efficiency of the system is lower. In general, the effect of the Outrigger system is very significant in buildings with regular geometry, but in complex shapes, its efficiency may decrease and requires a more detailed analysis [1].

Diaphragm Stiffness: Especially in virtual outrigger systems, the stiffness of the floor diaphragm plays a vital role in the transfer of force from the core to the peripheral columns. The floor diaphragms must be sufficiently rigid and resistant to transfer the horizontal forces resulting from the operation of the outriggers to the belt beams and then to the peripheral columns. In the absence of sufficient stiffness, the virtual outrigger system will lose its effectiveness and the core and the peripheral frame will act independently [8]. Therefore, accurate modeling of the diaphragms and consideration of their real stiffness in the analysis is of great importance.

Outrigger System Type: The selection of the appropriate type of outrigger system has a significant impact on the final performance depending on the type of dominant lateral load, architectural program, and other design considerations. For example, a rigid outrigger system is more suitable for areas where wind loads are dominant, while a flexible outrigger system is preferred for seismic areas. A virtual outrigger system is a good option when more free space is required or to prevent the transfer of gravity forces due to differential shortening. A damped outrigger system also provides the best performance for situations where both wind and earthquake loads are important [6].

Gravity Forces Limits: Gravity forces transmitted through the outriggers due to differential shortening can negatively affect the performance of the system [1]. Therefore, determining the allowable limits for these forces and using solutions such as adjustable connections or damping systems to reduce them are considered to be factors affecting the performance of the system [1].

Building Height and Plan Dimensions: Building height, floor-to-floor height, plan dimensions, and the distance between the center of the core and the outriggers all affect the performance of the Outrigger system [1]. As the height increases, the need for more robust systems increases and the optimal positioning of the outriggers also changes. Lateral load patterns (uniform, triangular, parabolic) also affect the optimal position [9].

Table 1 shows examples of tall buildings in the world that have used the Outrigger system, along with their specifications. This table shows the widespread use of this system in world-class projects.

Table 1: Examples of tall buildings with outrigger system [1]

Building Name	Location	Height (m) /	Year Completed	Materials	Number of Levels

		Floors			Outrigger
Burj Khalifa	Dubai, United Arab Emirates	828 / 163	2010	Concrete/Steel	5
Shanghai Tower	Shanghai, China	632 / 128	2015	Composite	8 Levels
Taipei 101	Taipei, Taiwan	508 / 101	2004	Composite	11 Levels
Shanghai World Financial Center	Shanghai, China	492 / 101	2008	Composite	7 Levels
International Commerce Centre (ICC)	Hong Kong, China	484 / 108	2010	Composite	4 Levels

Table 2 shows the optimal positions of the outriggers for systems with different numbers of outriggers.

Table 2: Optimal positions of the outriggers for different numbers of outriggers [10]

Number of Outriggers	Optimal position (from top)	Source
1	0.50H	[10]
2	0.33 H and 0.67 H	[10]
3	0.25 H, 0.50 H and 0.75 H	[10]
4	0.20 H, 0.40 H, 0.60 H and 0.80 H	[10]

Table 3 shows the effect of the relative stiffness of the components on the performance of the outrigger system.

Table 3: Effect of relative stiffness on the performance of the outrigger system [9]

Stiffness parameter	Effect on drift	Effect on core foot anchorage
Increase in core stiffness	Minor decrease	Minor decrease
Increase in outrigger stiffness	Significant decrease	Significant decrease
Increase in peripheral column stiffness	Moderate decrease	Moderate decrease

6. Advantages and Disadvantages of the Outrigger System

Like any other structural system, the Outrigger system has advantages and disadvantages that are essential to understand in

order to make a decision about using this system. In this section, the main advantages and disadvantages of this system are examined along with solutions to overcome the challenges.

6.1. Advantages

The Outrigger system has several advantages, the most important of which are the following:

Lateral Displacement Reduction: The main and most important advantage of this system is the very effective control of drift and displacement of floors [1]. By increasing the effective depth of the structure, the Outrigger system can reduce lateral displacement caused by wind and earthquakes by 50 to 60 percent [11]. This is especially important in tall and highly flexible buildings.

Increased Stiffness and Stability: By creating a resilient system with a very large effective depth, the overall stiffness of the structure is increased [1]. This increased stiffness reduces the period of the structure and improves performance against dynamic loads. The outrigger system also improves the overall stability of the structure by reducing the overturning moment at the base of the core [5].

Architectural Flexibility: Unlike tubular systems that require high-density perimeter columns, the outrigger system provides greater flexibility in facade and plan design [1]. The spacing of perimeter columns in this system is not limited by structural considerations and can easily be coordinated with functional and aesthetic considerations.

Economic Efficiency: By increasing the efficiency of the system, a smaller volume of materials can be used to meet design criteria and a more economical design can be achieved [1]. This saving is especially significant in very tall buildings where material consumption is very high.

Compatibility with Other Systems: The Outrigger system can easily be combined with other structural systems in tall buildings, including the Tube-in-Tube system, the Core System with Mega-Columns, and other systems [1].

Reduction of Uplift Forces in the Foundation: The use of outrigger systems in tall buildings results in a significant reduction in the net uplift and tension forces throughout the foundation and column system and also reduces the shear load of the foundation when using a wide foundation [1].

Increase in Progressive Collapse Resistance: In sudden loading conditions such as blasting, outriggers and belt beams provide alternative load paths to compensate for the sudden loss of local members. The use of belt beams and outriggers increases the redundancy of the structure and improves the resistance of the building to progressive collapse by retaining damaged elements and redistributing loads [1].

Improved Torsional Stiffness: A secondary benefit of this system is the improvement in the torsional stiffness of the structure by belt beams. A single core structure has lower torsional stiffness than a perimeter frame structure because the spacing between the resisting elements is much smaller. Belt beams can force the perimeter columns to act

as the fibers of a perimeter tube, which, although not as stiff as a continuous framed tube, provides significant torsional stiffness [1].

Shear Lag Reduction: In a single or multiple tube composite system such as a tube-in-tube system and a multi-level belt- outrigger system, braces not only increase stiffness but also make the axial stress distribution in the tube columns more uniform, meaning that shear lag effects are reduced [1].

Advantages of Damped Outriggers: Damped outrigger systems have several advantages over conventional outriggers, including: reducing the forces induced in the system components resisting lateral loads, reducing material consumption and construction costs, avoiding the creation of large internal forces due to differential shortening, and the possibility of changing the response of the structure such as lateral displacement and force distribution [7].

6.2. Disadvantages and Solutions

Despite its many advantages, the Outrigger system also comes with challenges that, if not managed properly, can negatively impact project efficiency and execution:

Space Obstruction: The most significant disadvantage of using the Outrigger system is its potential interference with occupied and leasable space. Outriggers typically occupy one or more entire floors, making it difficult to navigate facilities. There are several solutions to minimize this problem: placing outriggers on utility and shelter floors (usually spaced 12 to 15 floors apart), using virtual outriggers that eliminate direct connections, using single-story trusses with inclined members to reduce interference at each floor, and moving and tilting outriggers to coordinate with the functional layout of the floor space [1].

Differential Shortening and Lock-in Forces: Axial shortening of the core and peripheral columns due to creep, shrinkage, elastic deformation, and thermal changes can create large forces in the outriggers. These locking forces can be as large as the forces due to lateral loads and, if not managed, can be very costly to design. Strategies to combat this phenomenon include [1]:

Delaying Final Connection of outriggers: This method, which is delayed until the end of the main construction phase, eliminates approximately 95% of the shortening due to elastic deformation. However, it is not effective in eliminating the effect of shortening due to creep, shrinkage, and thermal changes, and the outrigger system is not active during the construction period.

Use of Adjustable Connections: Such as the Cross-Connected Jack System, which can be adjusted only during construction and eliminates the effects of elastic shortening, or the Shim-Plate Correction Method and Oil-Jack Outrigger Joint System, which can be adjusted during and after construction and eliminates the effects of shortening due to elastic deformation, creep, shrinkage and thermal changes, or the use of a damped outrigger system with viscous dampers that minimize forces due to differential shortening [7].

Increased Shear Force in Core: Although the overturning moment of the core is reduced, the shear force at the outrigger levels may increase and change direction [1]. This should be

considered in the core design and may require reinforcement of the core at these levels.

Weak Stories Formation: outrigger stories create discontinuities in the stiffness distribution along the building height and may lead to the formation of weak stories near the outrigger surfaces under earthquake or wind action, which is prohibited by the codes. However, with a deep understanding of the Outrigger system and the code requirements, this problem can be overcome, because outriggers not only create the opposite situation, but also offer another advantage: a structure with several stories of similar strength and stiffness becomes stiffer and more resistant in several outrigger stories. Performance-Based Analysis can show that the behavior in this system is satisfactory and acceptable [1].

Construction Challenges: The installation of outriggers can delay the construction process, because the speed of core construction in outrigger stories is greatly reduced due to the movement, welding, and installation of outrigger parts. Solutions to this problem include the use of retro-casting, where the core is partially cast in the outrigger layers and then filled with concrete after the outriggers are installed to form a monolithic element. This method maintains the core construction speed as normal [13].

Non-inclusion in codes and need for performance-based design (Code Limitations and Performance-Based Design): Outrigger system is commonly used in buildings that exceed the limitations and regulations of building codes, and the outrigger system itself is not included as an option under the table of earthquake-resistant systems in common codes. To solve this problem, a performance-based design (PBD) approach is recommended instead of prescriptive design so that different criteria can be reflected in the design and the outrigger members can be designed to remain elastic under a base earthquake or to limit the member forces and absorb seismic energy by using structural “fuses” [1].

7. Discussion

The results of several studies show that the use of an outrigger system can significantly reduce the structural period, lateral displacement and floor drift. Research has shown that a single- outrigger system can reduce lateral drift by about 28–40%, and multi-level systems can achieve a reduction of 48–60%, such that a two-outrigger system can reduce drift by 48% and a three- outrigger system by 53% . Also, the optimal positioning of the outriggers plays a key role in the system efficiency. For example, in a 40-story building, the best performance was observed for one outrigger at level 42 (from the top) and for two outriggers at a combination of levels 22 and 42 . Furthermore, it has been found that the optimal position in terms of inter-story drift is lower than the optimal position for top-of-building drift. Also, the use of multiple outriggers not only reduces drift but also significantly reduces the total volume of the required sections, so that the use of two outriggers compared to one outrigger provides a significant reduction in the weight of the structure.

On the other hand, the development of damped outrigger systems, in which viscous dampers or buckling-resistant braces (BRBs) replace rigid connections, has revolutionized the control of dynamic response. These systems improve the seismic response and occupant comfort by increasing the effective damping of the structure by a factor of 5 to 10. Damped outrigger systems avoid the large internal forces caused by differential shortening in traditional outriggers, since the damping force is speed-dependent and generates very little force at very low speeds caused by differential shortening. Damped outrigger systems can also offer several advantages over tunable mass dampers (TMDs), including no need for frequency tuning, less space, and greater reliability against severe seismic events. For example, in a 60-story building, the use of a damped outrigger system has been shown to reduce the overturning moment by 50% .

However, the design of outrigger systems also presents challenges. The most important challenge is the differential shortening and locking forces that can create two to four times the normal stresses in the outriggers. To overcome this challenge, various methods have been proposed, such as delaying the final connection, using adjustable connections (cross jacks, plate-type connectors), and using damping systems. Also, the use of retro-casting in construction has solved the problem of delay in the installation of outriggers. Furthermore, the outrigger system, due to its lack of inclusion in conventional codes, requires a performance-based design approach that can simultaneously consider different criteria.

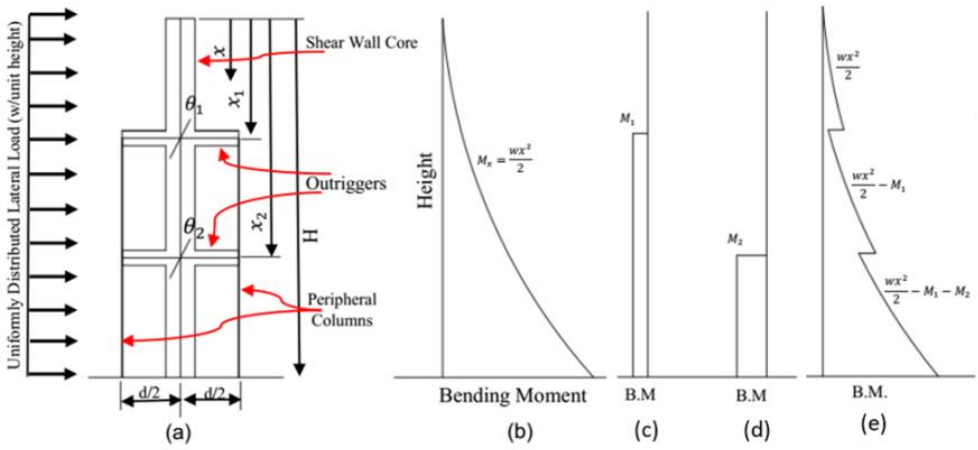


Diagram 1: (a) Two-outrigger analytical model, (b) bending moment diagram under external load, (c) and (d) restoring momemt M1 and M2, (e) reduced bending moment diagram due to outriggers [12].

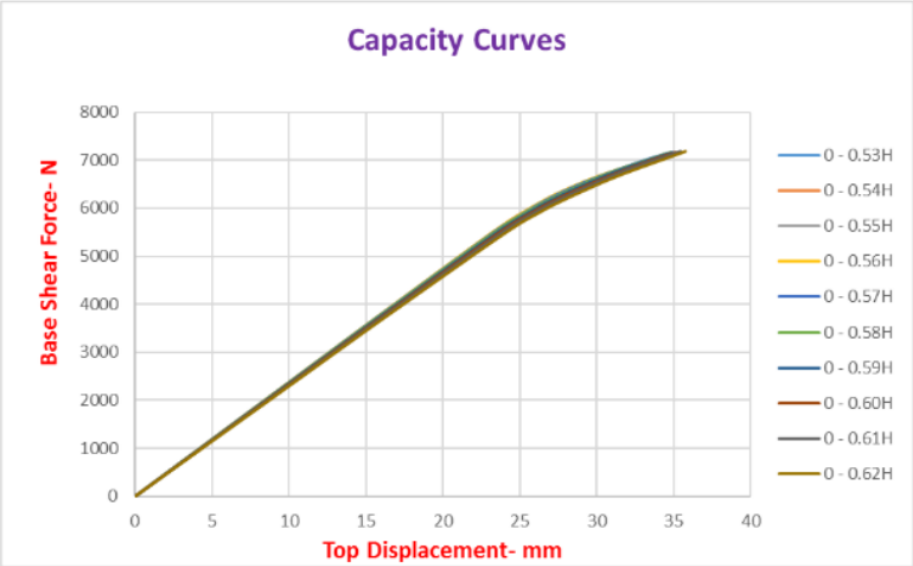


Diagram 2: Type (a)- Similar loading 36KN/m^2[12].

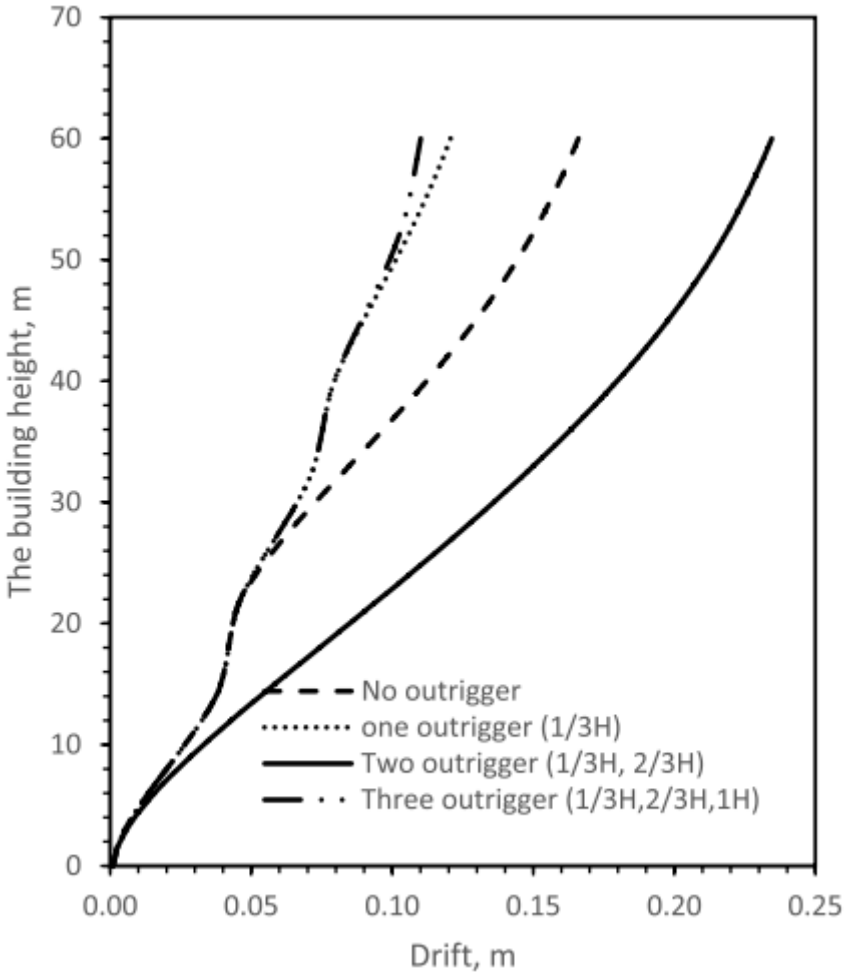


Diagram 3: The effect of the number of outrigger levels on the drift in the case of the clay cohesion Cu 40 KN/m2 [14]

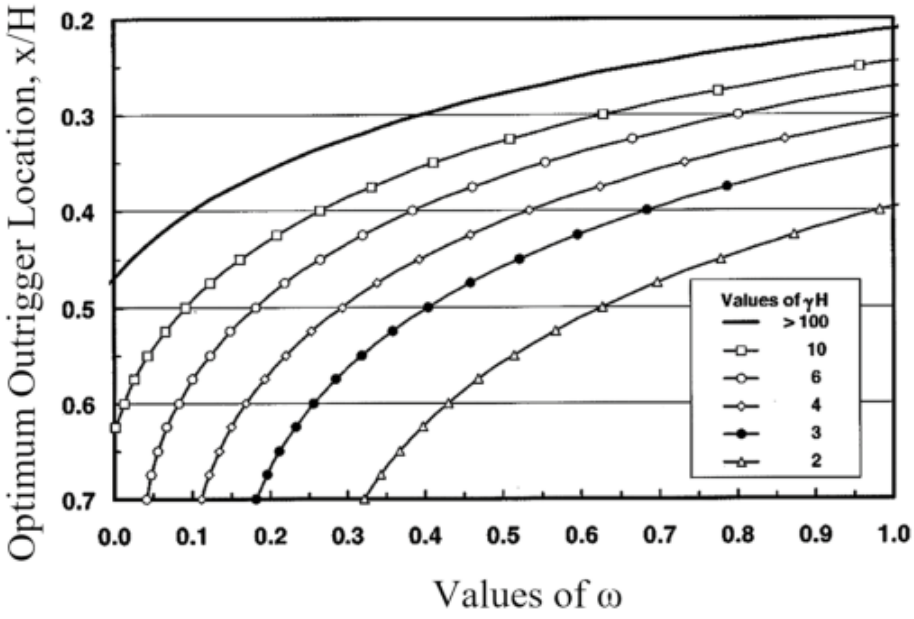


Diagram 4: Optimum location of outrigger [11]

Table 4 shows the results of a numerical study on the optimal positions of Outriggers in buildings of different heights. These results show that the optimal position of Outriggers changes with increasing building height and that in very tall buildings, the use of multiple Outriggers at lower levels is more effective.

Table 4: Optimal positions of Outriggers in buildings of different heights [10]

Load type	Optimal position of second Outrigger (from top)	Optimal position of first Outrigger (from top)	Building height (story)
Wind and earthquake	-	0.50H	50
Wind and earthquake	-	0.48H	60
Wind and earthquake	-	0.45H	70
Wind	0.22H	0.42H	80
Wind	0.20H	0.40H	100

Table 5 provides a comparison between conventional and virtual Outrigger systems from different perspectives.

Table 5: Comparison of conventional and virtual Outrigger systems [8]

Feature	Conventional Outrigger	Virtual Outrigger
Direct connection to the core	Yes	No
Occupancy of usable space	High	Low

Transfer of gravity forces due to differential shortening	Yes	No
Complexity of connections	High	Low
Need for diaphragm stiffness	Low	High
Participation of all peripheral columns	With belt beam	With belt beam

8. Conclusion

Outrigger and belt beam system is considered as one of the most efficient systems to resist lateral loads in tall and supertall buildings. The performance of this system is based on increasing the effective depth of the structure by creating tension-compression coupling in the peripheral columns, which leads to a significant reduction in lateral displacements and overturning moment. Key factors in the optimal design of this system include correct positioning, appropriate number, relative stiffness of members and selection of the appropriate type of system (rigid, flexible, damped or virtual). Despite the many advantages, there are challenges such as differential shortening and occupancy of useful space that can be managed with appropriate implementation and design solutions. Recent advances in the field of damped and intelligent systems have opened new horizons for increasing the efficiency and safety of this system against extreme loads. Due to the complexity of the behavior of this system and its lack of inclusion in common codes, the use of a performance-based design (PBD) approach is recommended for the design of tall buildings with outrigger systems. Also, a deep understanding of the phenomenon of differential shortening and the use of appropriate methods to manage its effects, including the use of adjustable connections and damping systems, are essential to achieve an economical and efficient design. By providing a comprehensive overview of the outrigger system, this article can be used as a valuable reference for researchers and designers who are new to this field, as well as for engineers who are looking to optimize their designs.

REFERENCES

1. W. Alhaddad, Y. Halabi, H. Xu, and H. G. Lei, "A comprehensive introduction to outrigger and belt-truss system in skyscrapers," *Structures*, vol. 27, pp. 989–998, 2020. [DOI: 10.1016/j.istruc.2020.06.028](https://doi.org/10.1016/j.istruc.2020.06.028)

[2] B. S. Smith and A. Coull, *Tall Building Structures: Analysis and Design*. New York, NY, USA: Wiley, 1991.

[3] M. H. Günel and H. E. Ilgin, "A proposal for the classification of structural systems of tall buildings," *Building and Environment*, vol. 42, no. 7, pp. 2667–2675, 2007. [DOI: 10.1016/j.buildenv.2006.07.007](https://doi.org/10.1016/j.buildenv.2006.07.007)

[4] P. S. Kian and F. T. Siahaan, "The use of outrigger and belt truss system for high-rise concrete buildings," *Civil Engineering Dimension*, vol. 3, no. 1, pp. 36–41, 2001.
[5] J. Lee and H. Kim, "Simplified analytical model for outrigger-braced structures considering transverse shear deformation," in *Proceedings of the CTBUH Seoul Conference*, Seoul, 2004, pp. 997–1002.
[6] H. Choi, G. Ho, L. Joseph, and N. Mathias, *Outrigger Design for High-Rise Buildings*, 2nd ed. Chicago, IL, USA: Council on Tall Buildings and Urban Habitat, 2017. [DOI: 10.1201/9781315661971](https://doi.org/10.1201/9781315661971)
[7] R. J. Smith and M. R. Willford, "The damped outrigger concept for tall buildings," *The Structural Design of Tall and Special Buildings*, vol. 16, no. 4, pp. 501–517, 2007. [DOI: 10.1002/tal.413](https://doi.org/10.1002/tal.413)
[8] R. S. Nair, "Belt trusses and basements as 'virtual' outriggers for tall buildings," *Engineering Journal*, vol. 35, no. 4, pp. 140–146, 1998.
[9] J. R. Wu and Q. S. Li, "Structural performance of multi-outrigger-braced tall buildings," *The Structural Design of Tall and Special Buildings*, vol. 12, no. 2, pp. 155–176, 2003. [DOI: 10.1002/tal.219](https://doi.org/10.1002/tal.219)
[10] B. S. Taranath, *Structural Analysis and Design of Tall Buildings*. New York, NY, USA: McGraw-Hill, 1988.
[11] B. G. Kavyashree, S. Patil, and V. S. Rao, "Evolution of outrigger structural system: A state-of-the-art review," *Arabian Journal for Science and Engineering*, vol. 46, no. 11, pp. 10313–10331, 2021. [DOI: 10.1007/s13369-021-06074-9](https://doi.org/10.1007/s13369-021-06074-9)
[12] B. Marabi and A. K. Marsono, "A numerical and analytical study on optimization and efficiency of structural forms by two-outrigger in tall buildings," *Malaysian Journal of Civil Engineering*, vol. 28, no. Special Issue 3, pp. 163–179, 2016.
[13] G. W. M. Ho, "The evolution of outrigger system in tall buildings," *International Journal of High-Rise Buildings*, vol. 5, no. 1, pp. 21–30, 2016.
[14] Azzam, W., Eltaly, B., Elsobky, A., & El-shenrawy, T. (2026). Geotechnical impact of outrigger-induced lateral response in tall buildings: a numerical study. Water Science, 40(1), 36.

NAVIGATING GLOBAL TRADE DYNAMICS: RESILIENCE, DIGITALIZATION, AND SUSTAINABLE SUPPLY CHAINS

Kamilova Zulfira Abdujabbarovna
Teacher of Chirchik state pedagogical university

Abstract

This paper examines the contemporary structural shifts in international trade driven by geopolitical turbulence, rapid technological advancements, and heightened environmental imperatives. It analyzes the transition from hyper-globalization toward regionalization, 'nearshoring', and resilient supply chain architecture. Special attention is devoted to the transformative impact of digital technologies, including artificial intelligence and distributed ledger tech, on reducing friction and enhancing traceability in cross-border commerce. Drawing upon recent empirical data and theoretical frameworks, the study outlines strategic policy recommendations and articulates an authorial vision for the evolution of global trade networks through 2030.

Keywords: international trade, global supply chains, digitalization, sustainability, nearshoring, trade policy, protectionism, economic resilience.

1. Introduction

International trade has long served as the fundamental engine of global economic expansion, wealth generation, and international integration. Over the past three decades, the rapid reduction of tariff barriers, advancements in transportation technology, and the proliferation of multinational enterprises fostered an unprecedented era of hyper-globalization. However, the international trading architecture is currently undergoing a profound paradigm shift. The convergence of geopolitical rivalries, systemic supply chain shocks, persistent inflation, and the imperative to address climate change has challenged traditional paradigms centered exclusively on cost-minimization and efficiency.

Today, nations and corporations are redefining cross-border commerce, placing a premium on supply chain resilience, strategic autonomy, and environmental compliance. Understanding these emerging dynamics is essential for policy architects, business executives, and economists seeking to navigate an increasingly fragmented yet interdependent global market.

2. Relevance of the Topic

The relevance of studying modern international trade patterns lies in the acute necessity to adapt traditional trade

theories and operational models to complex current realities. Recent global crises—including pandemic-induced closures, maritime bottleneck disruptions, and geopolitical conflicts—have exposed the structural vulnerabilities of lean, single-source supply networks. Furthermore, the global drive toward carbon neutrality is forcing a comprehensive realignment of manufacturing locations and trade routes.

Simultaneously, the digital revolution is fundamentally altering how trade is conducted, moving physical documentation to borderless digital platforms. Investigating these intersecting forces provides critical insights for establishing robust trade policies, mitigating systemic macroeconomic risks, and unlocking new avenues for sustainable growth.

3. Object and Subject of Research

The object of this research is the contemporary system of international trade relations, cross-border supply chains, and global economic exchange mechanisms.

The subject of the study encompasses the dynamic structural transformations, digital adaptations, strategic realignments (such as nearshoring and friend-shoring), and regulatory mechanisms governing modern international commerce.

4. Research Objectives

To address the primary research focus, this study establishes the following structured objectives:

Examine Structural Trends: Analyze the transition from classical hyper-globalization toward regional trade blocs, nearshoring, and supply chain diversification.

Evaluate Technological Impact: Investigate how digital innovations—specifically artificial intelligence, smart contracts, and paperless customs—mitigate trade friction and enhance administrative efficiency.

Assess Sustainability Imperatives: Assess the operational and economic implications of environmental regulations, such as carbon border adjustment mechanisms, on international goods trade.

Identify Protectionist Pressures: Evaluate the resurgence of industrial policy, strategic tariffs, and non-tariff barriers in shaping current bilateral trade flows.

Synthesize Strategic Solutions: Develop actionable strategic recommendations for businesses and policymakers to build flexible, sustainable, and shock-resistant trade infrastructure.

5. Main Findings and Empirical Analysis

5.1. The Shift Toward Supply Chain Resilience

Empirical evidence indicates a decisive shift from 'Just-In-Time' inventory strategies to 'Just-In-Case' risk management models. Multinational corporations are actively diversifying their supplier

networks away from single-source dependencies. Strategies such as 'China Plus One', nearshoring, and friend-shoring have gained substantial traction, re-routing investment flows toward regions characterized by geographical proximity and geopolitical alignment.

5.2. Digital Transformation as a Friction Reducer

Digitalization has emerged as a cornerstone of modern trade efficiency. The implementation of electronic trade documents, AI-driven predictive logistics, and blockchain-based supply chain tracking has significantly lowered administrative compliance costs. Automated border management and smart customs procedures reduce clearance timelines from days to hours, empowering small and medium-sized enterprises (SMEs) to participate directly in global value chains.

5.3. Decarbonization and Green Trade Standards

Environmental standards are rapidly evolving from voluntary corporate social responsibility measures into binding international trade requirements. The integration of environmental metrics into trade agreements and the introduction of carbon border adjustments require exporters to verify the full lifecycle emissions of their products. Consequently, green compliance is becoming a key determinant of competitive advantage in international markets.

Table 1. Structural Transformations in Global Trade Architecture

Dimension	Traditional Trade Model	Emerging Modern Paradigm
Supply Chain Logic	Cost optimization; lean 'Just-In-Time'; single-source efficiency.	Risk resilience; 'Just-In-Case'; multi-sourcing, nearshoring, friend-shoring.
Technology & Ops	Paper-heavy documentation; fragmented logistics tracking.	End-to-end digital platforms; AI analytics; paperless customs & smart contracts.
Regulatory Focus	Multilateral tariff reductions; traditional trade liberalization.	Regional trade agreements; carbon transparency; industrial safety & strategic autonomy.

6. Author's Position and Conceptual View

In the author's view, global trade is not entering a phase of permanent deglobalization, but rather undergoing a essential re-balancing. The narrative suggesting a complete collapse of global interdependence oversimplifies the economic reality. Instead, what we are witnessing is the emergence of 'Regulated Multipolar Trade'—a

system where regional clusters deepen their integration while maintaining selective global linkages.

Furthermore, the author contends that true supply chain resilience cannot be achieved solely through domestic protectionism or defensive tariffs. Protectionist measures ultimately inflate consumer prices and stifle technological innovation. The sustainable solution lies in building 'smart agility'—combining advanced digital infrastructure with diversified international partnerships. Sustainable global trade in the 21st century must balance national strategic security with the economic benefits of open market access.

7. Conclusion

The landscape of international trade is experiencing a historical transformation. The convergence of geopolitics, digital automation, and environmental priorities has fundamentally reshaped market dynamics. While traditional trade frameworks prioritized cost above all else, the future belongs to trade models built on agility, transparency, and sustainability.

To thrive in this evolving ecosystem, countries and commercial entities must proactively adopt digital standards, invest in eco-friendly logisitics, and build flexible supply networks. Ultimately, international trade will remain a indispensable catalyst for global prosperity, provided that governance frameworks adapt swiftly to new economic realities.

REFERENCES

1.Baldwin, R. (2016). The Great Convergence: Information Technology and the New Globalization. Harvard University Press.

2.Bown, C. P. (2021). The US–China Trade War and Phase One Agreement. Journal of Policy Modeling, 43(4), 805-843.

3.Hoekman, B., & Mavroidis, P. C. (2020). To Revitalize the WTO, Support Multilateralizing Bilateral Initiatives. Trade, Law and Development, 12(1), 1-28.

4.OECD. (2023). Digitalizing International Trade: Policy Options and Practical Frameworks. OECD Publishing, Paris.

5.UNCTAD. (2024). Global Trade Update: Shifts in Supply Chains and Environmental Policy. United Nations Conference on Trade and Development.

6.World Bank. (2022). World Development Report 2022: Finance for an Equitable Recovery. Washington, DC: World Bank.

7.World Trade Organization (WTO). (2023). World Trade Report 2023: Reglobalization for a Secure, Inclusive and Sustainable Future. Geneva: WTO.

NODIRA - QO‘QON ADABIY MUHITINING ZABARDAST VAKILASI

Nasriyeva Dilbar Muhiddinovna
Chirchiq davlat pedagogika
universiteti akademik litseyi ona tili va adabiyot fani o‘qituvchisi
(dilbarnasriyea1@gmail.com)

ANNOTATSIYA:

Ushbu maqolada Qo‘qon adabiy muhitining rivojlanishida muhim hissa qo‘shgan, sermahsul shoira, ilm va fan homiysi Mohlaroyim Nodiraning hayoti va ijodi, uning adabiy merosi haqida atroflicha fikr yuritilgan. Nodiraning Qo‘qon adabiy muhitining rivojlanishidagi o’rni, shoiraning ilm-fan homiysi sifatidagi tashabbuskorligi yuzasidan ma’lumotlar keltirilgan. Uning Amiriy vafotidan keyin davlat ishlari bilan ham shug‘ullanganligi , ko‘plab maktab, madrasalar qurlishida bosh-qosh bo‘lganligi haqidagi fikrlar ushbu aks ettirilgan. Qolaversa, Nodiraning betakror ijodiy merosi-devonlarining til xususiyati,yuksak badiiy mahorati haqida fikr boradi.

Kalit so’zlar: Qo‘qon adabiy muhiti, Mohlaroyim, Nodira, devon, g‘azal, hayot, madaniyat, ijtimoiy-siyosiy, adabiyot, fors-tojik, zullisonayn, shoira,devon.

ANNOTATION:

This article examines the literary environment of the Kokand Khanate, which played an important role in the development of the literary and cultural life of the region, as well as the life and creative legacy of the renowned poetess, scholar, and patron of science and education Mohlaroyim Nodira. Particular attention is paid to Nodira’s role in the development of the Kokand literary environment and her activities as a patron of science and education. Information is also provided about her patronage of Amiriy, her involvement in state affairs, and her views on the construction of numerous schools and madrasas after the reconstruction of the country. Furthermore, the article discusses the distinctive features and high artistic value of Nodira’s rich literary heritage.

Keywords: Kokand litetary environment, Mohlaroyim, Nodira, divan, ghazel, life and culture, socio-political, literature, Persian-tajik, bilingual(zullisonayn), poetess, divan.

XVIII asrning oxiri XIX asrning boshlari turkiy adabiyotda iste’dodli,xalq dardini kuylovchi ijodkorlar avlodi bo‘y cho‘zgan davr hisoblanadi.Bu davrda serqirra va jo‘shqin madaniy hayot

markazi sifatida millat tarixida chuqur iz qoldirgan Qo‘qon adabiy muhiti yuzaga keldi va shakllandi. Mazkur muhitning paydo bo‘lishi va taraqqiyoti Muhammadniyoz Nishotiy, Muhammadsharif Gulxaniy, shoh va shoir Amiriy kabi bir qator iste’dodli ijodkorlar avlodi nomi bilan bevosita bog‘liqdir. Bular qatorida mashhur o‘zbek shoiralari Uvaysiy, Nodira, Dilshodi Barno, Mahzuna va Anbar otinlarning adabiyot maydoniga kelishi favqulodda ijobiy jarayon edi. Bu jarayon ayol-qizlarning jamiyatda o‘z erkiga,o‘rniga va faol ijtimoiy-siyosiy mavqega egalik tuyg‘usi bilan hamaohanglik baxsh etadi, go‘yo. Shuning uchun ham VIII asrning ikkinchi yarmi XIX asrning boshlarida o‘zbek ayol shoiralarning o‘rni xalqning ijtimoiy va madaniy hayoti uchun muhim hisoblangan .

O‘zbek adabiyotida o‘z ovozi va o‘rniga ega bo’lgan, Qo‘qon adabiy muhitining rivojlanishi,qolaversa ,ayol ijodkorlarning adabiyot sahnasiga kirib kelishida samarali xizmat qilgan ,ilm va fan homiysi Nodirabegimdir. Nodira uning adabiy taxallusi bo‘lib, 1792 yil Andijonda tavallud topgan.Shoira Nodiradan tashqari Komila, Maknuna kabi taxalluslar bilan ham ijod qilgan..Otasi Andijon shahar hokimi Rahmonqulibiy o‘zbeklarning ming urug‘idan bo’lib,Farg‘ona hukmdori Olimxonning tog ‘asi hisoblanadi. Onasi Oyshabegim esa davrining ziyoli, savodxon ayoli bo‘lgan, Mohlaroyimning tarbiyasi , xat-savod chiqarishi bilan bevosita shug’ullangan.

Shoira bir g‘azalida :

Siyohat xonadoni , shohi Bobur nasli pokimen,

Xudoyo, rahmat ayla barcha ajdodi izomimni-deydi .

Bundan shu narsa aniq bo’ladiki, Nodiraning ota -onasi Zahiriddin Muhammad Bobur, ya’ni Sohibqiron Amir Temur xonadoniga mansubdir.

Bo‘lg’usi shoira zamona xoni oilasiga yaqin qarindosh bo‘lgan xonadonda voyaga yetdi. 1807-yili Mohlaroyim Nodira Farg‘ona hukmdori Olimxonning ukasi Umarxonga turmushga chiqadi. Umarxon Marg‘ilon begi lavozimiga tayinlanadi va oilasini ham shu shaharga olib ketadi. Ularning Muhammadalixon, Sulton Mahmudxon ismli farzandlari bo‘lgan. 1810 -yilda Olimxon qatl etiladi va Umarxon Qo‘qon taxtini egallaydi. Oilasi bilan Qo‘qonga ko‘chib ketadi. Nodiraning bundan keyingi hayoti bevosita saroy bilan bog‘liq bo’ldi. Bu uning ijod bilan muntazam shug‘ullanish ,o‘z ustida ishlash , o‘zidan oldin o‘tgan turkiy va forsiy ijodkorlar an’anasini davom ettirish va ayniqsa, ilm-fanga homiylik qilish uchun qulay sharoit edi. Bundan tashqari Qo‘qon xoni Amir Umarxon ham o‘z davrining iste’dodli shoirlaridan bo‘lib, „Amiriy ‘’taxallusi bilan ijod qilgan. Nodirani har tomonlama qo‘llab-quvvatlagan.Aytish mumkinki, Qo‘qon xonligida ajoyib adabiy muhit hukm surar edi.

1822-yilda Umarxon vafot etadi. Nodira mamlakat ishlari bilan shug‘ullanishga majbur bo‘ladi.U bir necha yillar mamlakatda yuz berib turgan siyosiy-ijtimoiy voqealarni kuzatib, davlat va xalq manfaatlariga qaratilgan turli tadbirlarda ishtirok etadi. Bu davrda Qo‘qon xonligi hududida shahar va qishloqlar obodligiga e’tibor qaratiladi. Masjid va madrasalar,kutubxonalar, karvonsaroy va bozorlar ko‘payadi. Olimlarning fikricha, Amiriy boshchiligidagi Qo‘qon adabiy muhitining taraqqiy etishida uning umr yo‘ldoshi, lirik shoira Nodiraning ham o‘rni beqiyos.

Nodira Umarxon vafotidan keyin ko‘p g‘am, kulfat-u hijron , azob-uqubatlarni boshidan kechiradi. Bu ham yetmaganidek, 1842-yilda Buxoro amiri Nasrulloxon Qo‘qon xonligiga lashkar tortib keladi. Qo‘qonni bosib oladi. Nodiraning o‘zi ham, o‘g’illari-Muhammadalixon va Sulton Mahmudxon ham , hatto, beshikdagi nevarasigacha Nasrulloxon buyrug’i bilan qatl ettiriladi.

Nodira zabardast zullisonayn shoira bo‘lib, fors va tojik tillarida samarali ijod qilgan. Shoiraning o‘zbek va fors-tojik tillarida bitilgn devonlari , shoira she’rlari bitilgan bayozlar bizgacha yetib kelgan. Uning adabiy merosi adabiyotimizning go‘zal sahifalarini tashkil etadi. Qolaversa, Dilshodi Barno, Nodim, Anbar otin, Homidiy,Furqat kabi ijodkorlarga Nodiraning ta’siri kuchli bo‘lgan. Nodim, Roje’ Zaliliy va Xodimiy kabi shoirlar Nodira g’azallariga taxmis bog‘laganlar.

Nodira ijodi haqida so‘zlar ekanmiz, yana bir nozik jihatni esdan chiqarmaslik kerak. Yor timsolida Alloh ko’zda tutilishi, bu mumtoz adabiyotda an’anaviy bir hodisa ekanini bilamiz. Chunki Alloh-husn shohi, go‘zallikning oliy namunasi. Biroq Nodira fikricha, odam muhabbat ixtiyor etgandagina chinakam komil inson bo‘la oladi. Uningcha, insonning insonga bo‘lgan muhabbati , ya’ni ishqi majoziy ramziy ma’noga ega. U- ishqi ilohiyning ramzi, chunki insoniy ishqni ulug’lashdan maqsad ham ilohiy ishqni tarannum etishdir. Bu borada Nodira ijodi talablarga to‘la javob beradi. Uning „Eshit” radifli g‘azalida bir yo‘la ham Amir Umarxonga, ham Yaratganga ishorani anglash mumkin. Bu g‘azal matlasidayoq ko‘zga tashlanadi:

Doda keldim , ey salotin sarvari , dodim eshit,
Sen shah-u , men benavo, lutf ayla,faryodim eshit.

Bu ta’riflarni („salotin sarvari’’, „shah’’) Xudoga qaratilgan deb hisoblasa ham bo’ladi, yoki Amir Umarxonga nisbatan deb qarash ham mumkin. G‘azal qofiyasida ifodalangan „sarvi ozodim’’, sarvinozim’’, „parizodim’’ kabi undalmalarni ham xuddi shunday ikki obyektga qaratilgan holda tushunish mumkin.

Kelki,bir soat ko‘rmoq uchun mushtoqmen,
Telba bo‘ldim sendin ayru,ey parizodim eshit,-

baytida esa shoira she’rni yanada hayotiyroq qilib , uning insoniy muhabbatga daxldor ekanligini kuchaytiradi. Lirik

qahramon gapni to‘gridan to‘g’ri yorga murojaaat qilish bilan boshlaydi. Ammo g‘azalning hech bir baytida „yor’’so’zi ishlatilmaydi. Bundan tashqari qahramon yorni „shah’’ga,o’zini esa „benavo’’ga qiyoslaydi. Shundan ham bilish mumkinki, g’azal zimdan Umarxonga bag‘ishlangan.

Nodiradan xalqimizga ikki devon qoldi. Uning turkiy devonida 189 ta g‘azal mavjud. Ularning ayrimlari tojikcha. Forsiy tilda yozilgan she’rlari esa „Devoni Maknuna’’da jamlangan. Mumtoz adabiyotda sohibi devon bo‘lish katta sharaf hisoblanardi. Chunki devon tuzish uchun shoir arab alifbosidagi barcha harflar bilan tugaydigan g’azallar yozgan bo‘lishi kerak edi. Nodira shunday yetuk ijodkorki, ikki tilda ham shunday yuksak darajaga erishgan.Shuning uchun ham shoiraning she’riyat ixlosmandlari orasida shuhrati nihoyatda baland edi. Xalq , muxlislari uni e’zozlab, „Nodirayi davron’’ deya ta’rif berdi. Uning o‘zi faxr bilan shunday degan edi:

Nodira, har so‘zki insho ayladim,

Aydi anga ahli davron „Marhabo!’’…

Sevimli shoiramiz nafaqat o‘zbek adabiyoti, balki o‘zbek tili tarixiy taraqqiyotida ham muhim o‘rin egallagan ijodkor. U o‘z davrida ayollar uchun ko‘plab maktablarning shakllanishiga sababchi bo’lgan. Ularning faoliyatiga homiylik qilgan, qo‘llab-quvvatlagan. . „Tarixi muhojiron’’asarining xabar berishicha, Uvaysiy, Anbar Otin. Dilshod Barno va Nodira kabi shoiralar ayollarning xat-savod chiqarishi ,jamiyatning faol a’zosi bo‘lishlari uchun maktablar ochib, o‘zlari maktabdorlik qilganlar, minglab shogirdlar yetishtirishgan. Ayol-qizlarga riyoziyot, musiqa va adabiyotdan saboq berganlar.

Nodira o‘z asarlarida xalqning urf-odatlari, an’analari, orzu-umidlarini ifodalagan. Ayniqsa, o‘zbek tilining betakror poetik imkoniyatlarini namoyon etib, yangi uslubiy yo‘nalishlarni rivojlantirgan. Uning asarlari ko‘plab avlodlar uchun ilhom manbai bo’lib xizmat qilgan.

Mohlaroyim Nodira so‘zning qudrati, uning jilosini chuqur his etib, so’zning turli ma’no qirralari , yoki ma’nodoshligidan foydalanib, go’zal satrlar bitadi. O‘z ijodi orqali so‘zning sehrli kuch ekanligini anglata oladi. Shoira lirikasi bilan yaqindan tanishgan har bir kitobxon buni anglashi , sezishi qiyin emas. Uning she’rlarida o‘zbek tilining lisoniy boyligini haqiqiy ma’noda ko‘rsata olgan desak, mubolag‘a bo‘lmaydi.

Muxtasar qilib aytganda, Nodira o‘z zamonasining yorqin ovozi, ilm-ma’rifat kuychisi hisoblangan. Uning hayoti va ijodi bugungi kun, kelajak avlod uchun ham o‘z ahamiyatini saqlab qolgan.

Foydalanilgan adabiyotlar:

1. Laziz Qayumov .Qo‘qon fozillari.-Qo‘qon.2006

2. Mahbuba Qodirova .She’riyat va muhabbat malikasi;Risolasi.1998
3. Qo‘qon adabiy muhiti ijodkorlari antologiyasi.Toshkent,2022
4. Malikaxon Nuritdinova .„Nodira ijodining o‘rganilish tarixidan’’ O‘zbekiston Milliy axborot agentligi.2024
5. „Ziyonet.com ‘’sayti ma’lumotlari

THE ROLE OF ARTIFICIAL INTELLIGENCE IN ENHANCING ENGLISH LANGUAGE LEARNING

Yuldasheva Surayyo Tursunovna
Lead English Teacher at the Academic Lyceum of Chirchik State Pedagogical University

ANNOTATION

This paper examines the transformative impact of artificial intelligence (AI) technologies on modern methodologies for teaching and learning English as a foreign language. It analyzes intelligent adaptive systems, conversational agents, and neural network tools that promote personalized learning trajectories, enhance linguistic competencies, and foster communicative confidence in speaking, listening, reading, and writing. Special attention is paid to integrating AI into traditional pedagogy and evaluating its educational effectiveness.

Keywords: artificial intelligence, English language learning, neural networks, personalized education, adaptive learning, language competencies, EdTech, applied linguistics.

Introduction.

The rapid advancement of digital technologies and the widespread deployment of artificial intelligence (AI) are fundamentally redefining the landscape of contemporary higher and secondary education. Foreign language instruction, particularly English language learning as the global medium of academic, scientific, and professional discourse, is undergoing a profound digital transformation. Traditional instructional paradigms, long centered around static printed textbooks and teacher-led classroom instruction, are increasingly augmented by intelligent algorithms capable of responding dynamically to individual learner needs.

Artificial intelligence offers unprecedented possibilities for creating immersive, highly interactive linguistic environments. Through Large Language Models (LLMs), natural language processing tools, and voice recognition software, students gain instant access to contextual practice, customized feedback, and rich authentic materials. These advancements unlock new frontiers for mastering complex grammar patterns, expanding specialized vocabulary, and perfecting pronunciation.

The relevance of this study stems from the urgent necessity to modernize language education in alignment with accelerated global digitalization. Attaining high-level proficiency in English

(B2–C1 and beyond) is a critical requirement for academic mobility and professional advancement. However, traditional classroom models often encounter systemic challenges:

Limited opportunities for individualized instructor feedback in large student cohorts;

Insufficient conversational practice (Speaking) due to class time constraints;

Delayed evaluations of complex written assignments (Writing);

Difficulties in accommodating varying learning paces and cognitive preferences among students.

Object of Research

The object of this research is the process of English language learning within modern digital educational environments enabled by artificial intelligence tools. The subject of research comprises the methodological frameworks, algorithmic mechanisms, and instructional strategies required to effectively integrate AI tools—such as conversational chatbots, automated writing evaluation platforms, and speech recognition applications—into language curricula.

To achieve the primary objective of evaluating AI's role in language acquisition, the following specific tasks were defined:

1.Analyze state-of-the-art AI technologies currently implemented in educational technology (EdTech) and applied linguistics;

2.Identify key functional benefits of AI integration across core language skills (speaking, writing, reading, and listening);

3.Evaluate potential pedagogical limitations, cognitive risks, and ethical considerations associated with AI reliance;

4.Formulate practical recommendations for educators on combining traditional teaching methodologies with emerging AI tools.

Based on comprehensive analytical evaluation, the following key findings emerged regarding AI integration in English language learning: Personalized Learning Trajectories: AI-powered adaptive platforms dynamically monitor learner progress, diagnose persistent error patterns, and tailor exercises accordingly. Utilizing Spaced Repetition Algorithms (SRS), these systems optimize vocabulary retention and structural grammar mastery by adjusting task difficulty in real time. Accelerated Skill Acquisition in Speaking and Writing: Conversational AI chatbots create low-anxiety environments where students practice spoken English without fear of negative judgment. Voice recognition software provides real-time phonetic analysis, while automated grammar checkers deliver granular feedback on syntax, tone, and coherence in written compositions.

Optimization of Educator Workload: Rather than replacing human teachers, AI operates as an efficient instructional assistant. By automating routine administrative tasks and basic diagnostic grading, educators can allocate more time to mentoring, facilitating critical discussion, and fostering communicative competence.

Conclusion

Artificial intelligence represents a transformative paradigm shift in English language education. By offering continuous personalization, real-time diagnostic feedback, and accessible conversational practice, AI significantly increases learner engagement and reduces communicative anxiety.

Future progress in language pedagogy relies on a balanced synthesis between cutting-edge AI technologies and proven human-centered teaching principles. Strategic adoption of these innovations will empower educational institutions to prepare highly proficient, globally competitive communicators.

List of References / Bibliography

1. Azimov, E. G., & Shchukin, A. N. (2019). New Dictionary of Methodological Terms and Concepts (Theory and Practice of Language Teaching). Moscow: IKAR.

2. Bogatyreva, M. A. (2022). The Use of Artificial Intelligence in Teaching Foreign Languages at Universities. Teacher XXI Century, (3), 145–156.

3.Godwin-Jones, R. (2021). Partnering with AI: Intelligent Assistive Technology in Second Language Acquisition. Language Learning & Technology, 25(2), 8–26.

4.Holmes, W., Bialik, M., & Fadel, C. (2019). Artificial Intelligence in Education: Promises and Implications for Teaching and Learning. Boston: Center for Curriculum Redesign.

5.Luckin, R., Holmes, W., & Forcier, L. B. (2016). Intelligence Unleashed: An Argument for AI in Education. London: Pearson Education. Russell, S., & Norvig, P. (2020). Artificial Intelligence: A Modern Approach (4th ed.). Pearson.

М. А. ШОЛОХОВ: РОМАН «ТИХИЙ ДОН» — СУДЬБА ЧЕЛОВЕКА НА ФОНЕ ИСТОРИИ

Анжелика Шамильевна Махмуджонова
Старший преподаватель русского языка и литературы кафедры «Тиллар» Академического лицея ЧГПУ

АННОТАЦИЯ

В статье рассматривается роман-эпопея М. А. Шолохова «Тихий Дон» как масштабное художественное исследование судьбы человека в условиях исторических катаклизмов начала XX века. Особое внимание уделяется взаимосвязи личной и национальной истории, проблеме нравственного выбора человека, изображению мира донского казачества, разрушению традиционного уклада под воздействием Первой мировой войны, революции и Гражданской войны. На материале образа Григория Мелехова анализируется трагическое столкновение личности с исторической эпохой. Показано, что судьба героя раскрывается не только как частная человеческая трагедия, но и как отражение драматической судьбы целого поколения. Исследуется художественная роль образов Дона, земли, дома, семьи и природы в раскрытии авторской концепции истории.

Ключевые слова: М. А. Шолохов, «Тихий Дон», роман-эпопея, Григорий Мелехов, историческая эпоха, донское казачество, судьба человека, война, революция, Гражданская война, нравственный выбор, историческая память.

Annotation.

The article examines Mikhail A. Sholokhov’s epic novel *And Quiet Flows the Don* as a large-scale artistic study of human destiny amid the historical upheavals of the early twentieth century. Particular attention is paid to the interconnection between personal and national history, the problem of moral choice, the portrayal of the world of the Don Cossacks, and the destruction of the traditional way of life under the impact of World War I, the Revolution, and the Civil War. Through an analysis of the character of Grigory Melekhov, the article explores the tragic clash between the individual and the historical era. It demonstrates that the hero’s fate is revealed not merely as a personal human tragedy, but also as a reflection of the dramatic destiny of an entire generation. The study also examines the artistic significance of the images of the Don River, land, home, family, and nature in revealing the author’s concept of history.

Keywords: Mikhail Sholokhov, *And Quiet Flows the Don*, Grigory Melekhov, human destiny, historical upheavals, Don

Cossacks, Russian literature, moral choice, historical era, World War I, Revolution, Civil War, personal and national history.

Введение. Роман-эпопея Михаила Александровича Шолохова «Тихий Дон» занимает особое место в истории русской литературы XX века. Произведение представляет собой масштабную художественную панораму жизни донского казачества в период глубоких общественно-исторических потрясений. В центре повествования находятся не только революция, Первая мировая и Гражданская войны, но прежде всего человек, оказавшийся непосредственным участником исторических событий.

Исследователи неоднократно отмечали, что своеобразие «Тихого Дона» связано с органичным соединением историко-культурного, этнологического и художественно-психологического начал. Такой подход позволяет рассматривать роман как произведение, в котором история страны раскрывается через повседневную жизнь, традиции, семейные отношения и внутренний мир отдельного человека. Актуальность обращения к роману обусловлена тем, что проблема взаимоотношений личности и истории сохраняет универсальное значение. Шолохов показывает, насколько трагическими могут стать последствия исторических перемен для человека, когда привычный мир разрушается, а прежние нравственные ориентиры перестают обеспечивать ощущение устойчивости и безопасности.

Цель настоящей статьи — выявить основные способы художественного изображения судьбы человека на фоне исторических событий в романе М. А. Шолохова «Тихий Дон».

1. История и человек в художественном мире «Тихого Дона»

Одной из важнейших особенностей романа является сочетание масштабности исторического повествования с глубоким психологизмом. Шолохов не ограничивается изображением политических событий. История входит в повседневную жизнь героев, меняет отношения между людьми, разрушает семьи, заставляет человека пересматривать собственные представления о добре, справедливости, долге и Родине.

Замысел произведения первоначально был связан с изображением участия донского казачества в революционных событиях. Однако писатель постепенно расширил художественный масштаб произведения. В результате частная история казачьей семьи превратилась в эпическое повествование о судьбе народа в эпоху исторического перелома. Именно поэтому в романе тесно взаимодействуют два временных измерения — историческое и личное. События

государственного масштаба преломляются через судьбы Григория Мелехова, Аксиньи Астаховой, Натальи, Пантелея Прокофьевича, Ильиничны и других героев.

История в «Тихом Доне» не является абстрактным фоном. Она становится непосредственной силой, воздействующей на человеческую жизнь. Война отрывает мужчин от семьи, революция разрушает прежнюю систему ценностей, Гражданская война раскалывает людей на противоборствующие стороны. Вчерашние соседи и родственники оказываются по разные стороны баррикад. Таким образом, Шолохов показывает историю «снизу» — через судьбу конкретного человека, его дом, семью, любовь, страх, потери и надежды.

2. Мир донского казачества как основа художественного повествования

Особое место в романе занимает изображение традиционной культуры донского казачества. Казачий мир предстает сложной системой ценностей, в которой важную роль играют семья, земля, труд, воинская служба, чувство принадлежности к родной станице и уважение к традиции.

Исследования культурной специфики творчества Шолохова отмечают значимость таких доминант, как казачья служба, отношение к земле и противопоставление «своего» и «чужого». Традиционный уклад в начале романа воспринимается как естественный порядок жизни. Человек ощущает себя частью семьи, рода, станицы, земли. Однако исторические события постепенно нарушают это единство. Особенно символично в этом отношении название произведения — «Тихий Дон». Дон становится не просто географическим пространством, а одним из важнейших образов романа. Его течение противопоставляется человеческой истории, полной войн, насилия и разрушений. Природа продолжает существовать, тогда как человеческий мир подвергается катастрофическим изменениям.

Образ земли также приобретает глубокое символическое значение. Для героев земля является не только источником существования, но и частью их идентичности. Исследователи отмечают, что в художественном мире Шолохова образ чернозёма связан с представлением о родной земле, памяти и принадлежности к определённому пространству.

3. Григорий Мелехов: человек перед лицом истории

Центральным образом романа является Григорий Мелехов. Его судьба позволяет наиболее полно раскрыть проблему взаимоотношений личности и истории.

Григорий не является героем, заранее определившим своё место в политическом противостоянии. Его жизненный путь складывается под воздействием обстоятельств, личных чувств и стремления понять происходящее. Именно поэтому его судьба приобретает трагический характер. Внутренний конфликт героя обусловлен невозможностью найти устойчивую нравственную опору в мире, где привычные представления о справедливости постоянно сталкиваются с реальностью насилия.
Григорий оказывается участником Первой мировой войны, революционных событий и Гражданской войны. Он неоднократно меняет сторону, но это нельзя сводить исключительно к политической непоследовательности. За его метаниями стоит мучительный поиск правды.
Для героя неприемлемо насилие как самоцель. Он стремится понять, за что человек должен сражаться и почему вчерашний товарищ становится врагом. Поэтому путь Григория — это не только движение между политическими лагерями, но прежде всего путь нравственного поиска.
В этом заключается одна из главных особенностей образа Мелехова: он не становится носителем готовой идеологии. Его сознание сохраняет непосредственную связь с землёй, семьёй, любовью и человеческой жизнью.

4. Любовь и семья как противостояние историческому хаосу

Важнейшей линией романа является любовная история Григория и Аксиньи. Их отношения существуют в пространстве, которое постоянно подвергается разрушительному воздействию истории.
Любовь в романе оказывается одновременно источником счастья и трагедии. Григорий и Аксинья стремятся обрести собственное пространство свободы, однако исторические обстоятельства вновь и вновь разлучают их.
Не менее значимым является образ семьи Мелеховых. Семья представляет собой модель традиционного мира, основанного на преемственности поколений. Но именно семья одной из первых подвергается разрушению.
Пантелей Прокофьевич олицетворяет старый казачий уклад, его представления о чести, труде и семейном порядке. Ильинична связана с нравственным началом дома, материнской памятью и милосердием.
Через судьбу семьи Шолохов показывает, что историческая катастрофа разрушает не только политические структуры, но и самые естественные человеческие связи.
Гибель героев приобретает поэтому особое значение: это не просто отдельные смерти, а постепенное исчезновение целого мира.

5. Война как испытание человеческой личности

В романе война изображена не как пространство героической романтики, а прежде всего как тяжёлое испытание человеческой природы. Шолохов показывает психологическое воздействие войны на человека. Герой вынужден убивать, видеть смерть товарищей и врагов, принимать решения в ситуации крайнего напряжения. Постепенно возникает нравственное отчуждение от насилия.

Особое значение имеют батальные сцены. Они не изолированы от мирной жизни, а постоянно соотносятся с ней. Исследователи отмечают связь шолоховской баталистики с более широкой русской литературной традицией и подчёркивают особую роль исторического и народного начала в изображении войны. Война изменяет психологию героев, разрушает привычное представление о ценности человеческой жизни. Именно поэтому возвращение к мирной жизни становится для Григория практически недостижимой мечтой.

6. Природа как нравственный и философский контрапункт истории

Одним из важнейших художественных средств романа является пейзаж. Природа у Шолохова существует в особом соотношении с человеческой историей. Дон, степь, земля, времена года создают ощущение вечности, которое резко контрастирует с кратковременностью человеческих конфликтов. Исследования художественной функции пейзажа в «Тихом Доне» показывают, что природные образы участвуют в осмыслении мирной жизни, Первой мировой и Гражданской войн, а также помогают выразить авторскую концепцию истории. Природа словно сохраняет память о нормальной жизни даже тогда, когда человек оказывается неспособен её сохранить. Особенно значим мотив Дона. Река становится символом непрерывности жизни. Человеческие поколения сменяют друг друга, войны заканчиваются, а Дон продолжает своё движение. Именно поэтому название романа приобретает философский смысл: «тихий» Дон существует рядом с «бурным» временем человеческой истории.

7. Историческая трагедия как трагедия поколения.

Судьба Григория Мелехова не является исключительно индивидуальной. Она отражает судьбу целого поколения, оказавшегося между разрушающимся прошлым и неопределённым будущим. Шолохов показывает, что историческая катастрофа не делит людей на абсолютно «правых» и «виноватых». В центре

произведения находится человек, который пытается сохранить человеческое достоинство в условиях, когда сама реальность делает это почти невозможным. Особенность авторской позиции заключается в стремлении увидеть историческую трагедию во всей её сложности. В романе представлены разные социальные и политические силы, однако авторское внимание постоянно возвращается к человеческим судьбам.
История приобретает человеческое измерение: за политическими лозунгами стоят конкретные люди, за военными победами — смерти, за революционными преобразованиями — разрушенные семьи и сломанные судьбы.
Исследователи отмечают, что в произведениях Шолохова столкновение старого и нового укладов тесно связано с разрушением традиционной культуры и социальными катастрофами начала XX века.

8. Финал романа: возвращение к дому.

Финал «Тихого Дона» является одним из наиболее значимых моментов в раскрытии авторской концепции судьбы человека.
После многочисленных потерь и скитаний Григорий возвращается к родному дому. Перед ним остаётся сын Мишатка — практически единственная живая связь героя с прежней жизнью.
Возвращение к дому можно рассматривать как возвращение к первооснове человеческого существования — семье, земле, памяти.
Однако это уже не возвращение прежнего Григория. История изменила его. Он потерял близких, пережил войну, внутренний кризис и духовное одиночество. Поэтому финал нельзя трактовать как простое счастливое возвращение. Это трагически неоднозначный итог человеческого пути. Герой остаётся жить, но за его плечами — опыт целой эпохи.

Заключение

Таким образом, роман-эпопея М. А. Шолохова «Тихий Дон» представляет собой глубокое художественное исследование судьбы человека в переломную историческую эпоху. Главная особенность произведения заключается в органическом соединении исторической панорамы и индивидуальной человеческой судьбы. История в романе не существует отдельно от человека: она входит в его дом, разрушает привычный уклад, определяет жизненный выбор, разлучает близких и заставляет переосмыслить нравственные ценности. Образ Григория Мелехова является центральным выражением этой проблемы. Его трагедия заключается не только в том, что он становится жертвой исторических обстоятельств, но и в невозможности найти однозначный

ответ на вопрос о правде в эпоху, когда общество расколото и каждая сторона считает себя носителем истины.
Шолохов показывает человека вне политических схем — человека, который любит, страдает, ошибается, ищет справедливость и стремится сохранить связь с родной землёй. В этом заключается непреходящая ценность «Тихого Дона». Роман рассказывает о конкретной исторической эпохе, но поставленная в нём проблема — взаимоотношение личности и истории — выходит далеко за пределы своего времени. Судьба Григория Мелехова становится художественным символом судьбы человека, оказавшегося в центре исторической катастрофы.

Тихий Дон в художественном мире Шолохова — это не только образ реки и родной земли. Это символ непрерывности жизни, которая продолжается несмотря на войны, революции и человеческие трагедии. Именно поэтому роман сохраняет своё значение как произведение о человеческой ответственности, нравственном выборе, памяти и цене исторических потрясений.

REFERENCES

1) Шолохов М. А. Тихий Дон: роман-эпопея: в 4 кн. — М.: Художественная литература, 1984.
2) Цыценко И. И. Национально-культурная специфика в романе-эпопее «Тихий Дон» // Известия Южного федерального университета. Филологические науки. — 2010. — № 2. — С. 32–43.
3) Архипенко Н. А., Власкина Т. Ю., Власкина Н. А. Принципы представления традиционной культуры донского казачества в творчестве М. А. Шолохова // Известия Южного федерального университета. Филологические науки. — 2010. — № 2. — С. 8–24.
4) Власкина Т. Ю. Традиционная культура верхнедонского казачества в произведениях М. А. Шолохова // Языкознание и литературоведение. — 2012.
5) Авдеева Е. А. «Тихий Дон» М. А. Шолохова и традиции древнерусской баталистики // Литературоведческие исследования. — 2010. Ширина Е. А. Образ природы как ключ к осмыслению войны и мира в романе-эпопее М. Шолохова «Тихий Дон» // литературоведческое исследование.

ТЕМА ДЕГРАДАЦИИ ЛИЧНОСТИ В РАССКАЗЕ А.П. ЧЕХОВА «ИОНЫЧ»

Сайднасирова Рухана Зайдиновна
Главный преподаватель кафедры «Тиллар» Академического лицея Чирчикского государственного педагогического университета

Аннотация

В статье рассматривается проблема духовной и нравственной деградации личности в рассказе А.П. Чехова «Ионыч». Анализируется процесс постепенного изменения Дмитрия Ионовича Старцева — молодого земского врача, обладающего профессиональными и нравственными перспективами, — в равнодушного, замкнутого и духовно опустошённого человека. Особое внимание уделяется влиянию окружающей среды, отсутствию высоких жизненных целей, материальным интересам и утрате способности человека к духовному развитию. Рассматривается художественное мастерство А.П. Чехова в изображении внутренней эволюции героя и авторская позиция по отношению к проблеме духовного обнищания личности.

Ключевые слова: А. П. Чехов, «Ионыч», деградация личности, духовное обнищание, нравственные ценности, общество, Старцев, Туркины, внутренняя трансформация.

ABSTRACT

The article examines the problem of spiritual and moral degradation in Anton Chekhov's short story “Ionych”. The gradual transformation of Dmitry Ionovich Startsev, a young zemstvo doctor with professional and moral potential, into an indifferent, isolated and spiritually impoverished person is analyzed. Particular attention is paid to the influence of the social environment, the lack of meaningful life goals, material interests and the loss of the ability for personal and spiritual development. The article also considers Chekhov's artistic methods of depicting the protagonist's inner transformation and the author's attitude toward the problem of spiritual decline.

Keywords: Anton Chekhov, “Ionych”, personality degradation, spiritual impoverishment, moral values, society, Startsev, Turkins, inner transformation.

Введение

Творчество А.П. Чехова занимает особое место в русской литературе конца XIX века. Писатель обращался к повседневной жизни человека и через, на первый взгляд, обычные события раскрывал глубокие нравственные и социально-

психологические проблемы. Одной из центральных проблем его произведений становится проблема духовного состояния личности, её способности сохранять человеческое достоинство, стремиться к развитию и противостоять влиянию окружающей среды.

Рассказ «Ионыч», написанный в 1898 году, является ярким примером произведения, в котором Чехов показывает постепенное духовное изменение человека. В центре рассказа находится Дмитрий Ионович Старцев — молодой врач, который в начале произведения представляется человеком энергичным, образованным и способным к глубоким чувствам. Однако с течением времени герой теряет свои лучшие качества и превращается в человека, для которого главным становятся деньги, комфорт и привычный образ жизни.

Таким образом, судьба Старцева представляет собой своеобразную историю духовного падения личности.

Актуальность темы

Проблема деградации личности, поднятая А.П. Чеховым, сохраняет актуальность и в современном обществе. Человек может постепенно утратить интерес к саморазвитию, творчеству, любви, профессиональному призванию и духовным ценностям, если материальные интересы и привычка к удобной жизни становятся главными ориентирами.

Чехов показывает, что духовная деградация не происходит мгновенно. Она начинается с небольших уступок самому себе: отказа от мечты, равнодушия к окружающим, стремления к материальному благополучию, нежелания бороться с жизненной рутиной. Именно постепенность этого процесса делает рассказ особенно убедительным.

Актуальность произведения заключается в том, что писатель заставляет читателя задуматься: что происходит с человеком, когда он перестаёт развиваться духовно? Может ли внешнее благополучие заменить внутреннюю наполненность жизни?

Объект исследования

Объектом исследования является процесс духовной и нравственной трансформации Дмитрия Ионовича Старцева в рассказе А.П. Чехова «Ионыч».

Предмет исследования

Предметом исследования являются художественные средства и сюжетно-композиционные особенности, с помощью которых А.П. Чехов раскрывает процесс деградации личности главного героя.

Задачи исследования

Для раскрытия темы необходимо решить следующие задачи:

1.Рассмотреть образ Дмитрия Ионовича Старцева в начале рассказа.
2.Проследить основные этапы изменения характера героя.
3.Определить причины духовной деградации Старцева.
4.Проанализировать роль семьи Туркиных в судьбе героя.
5.Рассмотреть значение любовной истории Старцева и Екатерины Ивановны.
6.Выявить роль материальных ценностей в изменении героя.
7.Определить авторскую позицию А.П. Чехова.
8.Показать актуальность проблемы деградации личности для современного читателя.
9.Образ Старцева в начале рассказа

В начале произведения Дмитрий Ионович Старцев показан молодым земским врачом. Он ещё не потерял способности интересоваться жизнью, испытывать чувства и стремиться к профессиональной деятельности.

Автор подчёркивает его энергичность и желание работать. Старцев много трудится, ездит к больным, выполняет своё профессиональное предназначение. В нём ещё присутствует внутренняя жизнь, которой впоследствии он лишится.
Особое значение имеет его знакомство с семьёй Туркиных. Сначала Старцев воспринимает их как интересных и культурных людей. Его привлекает Екатерина Ивановна, которую он воспринимает как умную, талантливую и необычную девушку.
В этот момент герой ещё способен мечтать о любви и личном счастье.
Любовь как возможность духовного развития
История отношений Старцева и Екатерины Ивановны занимает важное место в раскрытии основной проблемы рассказа.

Старцев испытывает сильное чувство к Екатерине Ивановне. Он надеется на взаимность и даже делает ей предложение. Однако Екатерина Ивановна отказывает ему, поскольку мечтает посвятить себя искусству и уехать учиться.
Этот отказ становится одним из важных моментов в судьбе героя.

Важно отметить, что сама любовная неудача не является непосредственной причиной деградации Старцева. Чехов показывает более глубокую проблему: герой оказывается неспособным найти новую духовную цель после разочарования.

Вместо внутреннего развития он постепенно выбирает удобство, деньги и привычную жизнь.
Постепенная деградация личности

Процесс изменения Старцева показан Чеховым постепенно. Именно постепенность позволяет увидеть, как

молодой и деятельный человек превращается в равнодушного обывателя.
Сначала герой много работает и интересуется людьми. Затем всё больше времени занимает материальная сторона жизни. Его начинают привлекать деньги, имущество, комфорт.

Изменяется даже его отношение к профессии. Если в начале врачебная деятельность связана с призванием и служением людям, то позднее работа становится для него прежде всего источником дохода.

Особенно выразительно Чехов показывает изменение героя через его внешний облик и привычки. Старцев становится всё более тяжёлым, малоподвижным, раздражительным. Изменение физического состояния становится своеобразным отражением его внутреннего духовного состояния.

Показательно и изменение имени героя. В начале он — Дмитрий Ионович Старцев, молодой врач. В дальнейшем окружающие всё чаще называют его Ионычем. Это обращение подчёркивает его превращение из личности в типичного обывателя.

Роль общества в деградации героя

Большое значение в рассказе имеет изображение общества, в котором живёт Старцев.

Семья Туркиных считается в городе образованной и культурной. Однако при более внимательном рассмотрении их «культурность» оказывается поверхностной. Их разговоры, развлечения и занятия во многом повторяются и лишены настоящего духовного содержания.

Таким образом, Чехов создаёт особую атмосферу провинциальной жизни, где человек постепенно привыкает к однообразию и перестаёт стремиться к высоким целям.

Однако писатель не снимает ответственности со Старцева. Герой не только становится жертвой среды, но и сам делает выбор. Он постепенно принимает правила окружающего мира и отказывается от борьбы за собственное духовное развитие.

Следовательно, причина деградации заключается не только в обществе, но и во внутренней слабости самого человека.

Материальные ценности и духовное обнищание

Одной из важнейших причин изменения Старцева становится его отношение к материальному благополучию.

В начале рассказа деньги не являются главной целью героя. Однако постепенно материальные интересы начинают занимать всё большее место в его жизни.

Он приобретает частную практику, становится состоятельным человеком, получает возможность жить обеспеченно. Но вместе с материальным благополучием исчезает духовная жизнь.

Чехов подчёркивает парадокс: чем богаче становится Старцев внешне, тем беднее он становится внутренне.

Его жизненное пространство расширяется материально, но духовный мир, наоборот, сужается.

Авторская позиция

А.П. Чехов не осуждает своего героя прямыми авторскими комментариями. Писатель предоставляет читателю возможность самостоятельно увидеть трагедию Старцева.

Авторская позиция выражается через контраст между начальным и конечным образом героя.

В начале перед нами молодой человек с профессиональными интересами, способный любить и мечтать. В конце — человек, для которого жизнь превратилась в повторяющуюся рутину.

Чехов показывает, что настоящая трагедия Старцева заключается не в том, что он стал богатым, а в том, что он утратил способность жить духовной жизнью.

Герой перестаёт задавать себе вопросы о смысле жизни, перестаёт стремиться к развитию и постепенно становится частью той среды, которая когда-то могла показаться ему скучной.

Вывод

Таким образом, рассказ А.П. Чехова «Ионыч» представляет собой глубокое исследование процесса духовной деградации личности.

На примере Дмитрия Ионовича Старцева писатель показывает, как человек, обладающий хорошими способностями и нравственным потенциалом, постепенно теряет свои лучшие качества. Причинами этого становятся влияние окружающей среды, жизненная рутина, отсутствие духовных целей, материальные интересы и неспособность бороться за внутреннюю свободу.

Особенность произведения заключается в том, что деградация героя происходит незаметно. Старцев не совершает какого-либо одного страшного поступка. Он просто постепенно отказывается от всего, что делало его живым и духовно развитым человеком.

Заключение

Рассказ «Ионыч» заставляет задуматься о ценности человеческой личности и ответственности человека за собственную судьбу.

Чехов показывает, что духовное падение начинается тогда, когда человек перестаёт развиваться, отказывается от мечты, становится равнодушным к другим людям и позволяет материальным интересам полностью определить свою жизнь.

История Старцева является предупреждением: внешнее благополучие не способно заменить духовную жизнь человека.

Главная мысль рассказа заключается в необходимости постоянной внутренней работы над собой. Человек должен сохранять способность чувствовать, думать, любить, стремиться к знаниям и высоким целям. Только в этом случае он может сохранить свою индивидуальность и не превратиться в безразличного к жизни «Ионыча».

Список литературы

1.Чехов А.П. Собрание сочинений: в 12 т. — М.: Художественная литература.
2.Чехов А.П. «Ионыч» // Рассказы. — М.: Просвещение.
3.Катаев В.Б. Чеховские рассказы: проблемы интерпретации. — М.: Высшая школа.
4.Чудаков А.П. Антон Павлович Чехов. — М.: Русский путь.
5.Полоцкая Э.А. Пути чеховских героев. — М.: Советский писатель.
6.Сухих И.Н. Проблемы поэтики А.П. Чехова. — СПб.: Филологический факультет СПбГУ.

HAKAMLIK SUDLARINING TASHKIL ETISH TARTIBI, TURLARI VA UNING FAOLIYATI

Doston Mahkamov
Chirchiq davlat pedagogika universiteti o'qituvchisi

ANNOTATSIYA

Mazkur maqolada "Hakamlik sudlari va davlat sudlari o'rtasidagi hamkorlik masalalari", "Hakamlik sudlari va davlat sudlarining o'zaro nisbati", "Hakamlik sudlarining o'rni va uning bugungi kundagi ahamiyati", "Davlat sudlariga kelib tushayotgan muammoli vaziyatlarda hakamlikni qo'llash istiqbollari" kabi tushunchalarni qamrab oladi.

KIRISH

Jamiyat rivojlanib borgani sari u bilan bog'liq nizolar, masalalar va munosabatlar oshib boradi. Bu o'z navbatida manashu masalalarni hal etishga talab ko'payadi. O'zbekiston Respublikasida 2007-yilgacha faqatgina davlat sudlari faoliyat yuritib kelgan va 2007-yildan boshlab nizolarni muqobil hal etishning yangi tizimi yo'lga qo'yildi ya'ni hakamlik sudlari**.**

O'zbekiston Respublikasining sud-huquq tizimini isloh qilish, demokratlashtirish, sudning chinakam mustaqilligini ta'minlash va uni yangi darajaga ko'tarish borasida maqsad qilib olingan, 2017 - 2021 yillarga mo'ljallangan Harakatlar strategiyasi[1] asosidagi islohotlar sud tizimining va hokimiyatining mustaqilligini ta'minlash, fuqarolar huquqlari, erkinliklari va qonuniy manfaatlarini himoya qilish borasidagi sudlarning ahamiyati va rolini oshirishga qaratilgan bo'lib, uning tom ma'noda davomi sifatida O'zbekiston Respublikasi Prezidentining 2022 - yil 28 - fevraldagi PF-60 - son "2022-2026 yillarga mo'ljallangan yangi O'zbekistonning taraqqiyot strategiyasi to'g'risida"gi Farmonining qabul qilinishini ko'rishimiz mumkin. Aynan taraqqiyot strategiyasining 15-maqsadida[2] nafaqat sud protsessini tartibga solish borasida balki paydo bo'lgan nizolarni muqobil usullarda hal etish yo'nalishining keng foydalanish uchun zarur tashkiliy-huquqiy shart-sharoitlarni barpo etish, yarashuv institutini qo'llash doiralarini yana ham kengaytirish borasida ham bir qator vazifalar belgilab qo'yildi, bu o'z navbatida nizolarni muqobil hal etish yo'llarini kengayishini anglatadi va sud tizimi bilan barobar darajaga olib borilishini tezlashtiradi**.**

[1] "O'zbekiston Respublikasini yanada rivojlantirish bo'yicha Harakatlar Strategiyasi To'g'risida" O'zbekiston Respublikasi Prezidentining Farmoni. https://lex.uz/acts/-3107036
[2] "2022-2026-yillarga mo'ljallangan yangi O'zbekistonning taraqqiyot strategiyasi to'g'risida" O'zbekiston Respublikasi Prezidentining Farmoni. https://lex.uz/docs/-5841063

O‘zbekiston Respublikasi Adliya vazirligining 2022-yil yanvar oyidagi reyestr ma’lumotlariga ko‘ra[3], O‘zbekistonda jami 255 dan ortiq doimiy faoliyat yurituvchi hakamlik sudlari ro‘yxatdan o‘tgan bo‘lib, jumladan, O‘zbekiston Hakamlik sudlari assotsiatsiyasi huzurida 160 dan, O‘zbekiston Savdo-sanoat palatasi huzurida 15 dan ortiq va boshqa nomalar bilan qayd etilgan 80 dan ortiq doimiy faoliyat yurituvchi hakamlik sudlari va jami 1200 ga yaqin hakamlik sudi sudyalari ro‘yxatdan o‘tgan.

Davlat sudlov usuliga qaraganda hakamlik sudlari nizolarni hal etish usuli sifatida uzoq o‘tmishga ega va davlat vujudga kelgunga qadar muomilada bo‘lgan, ya’ni bizni davirgacha yetib kelgan ma’lumotlarga nazar tashlasak, qadimda podshohliklar va xonliklar huzuridagi qozilar tarafidan, boshqalarga qaraganda alohida obro‘-e’tiborga ega odamlar tomonidan “qozilik” qilinib, aholining meros bo‘yicha, oilaviy, qo‘shnilar, qarindoshlar va o‘zaro, tanish-bilish odamlar orasidagi nizolarni va kelishmovchiliklarni hal qilishgan. Ayni vaqtda 140 dan ziyod rivojlangan davlatlarda o‘z faoliyatni ko‘rsatayotgan hakamlik sudlari (arbitraj sudlari) ko‘pgina mamlakatlarda juda qulay investitsion sharoitni rivojlantirishga va kirib kelayotgan chet el davlatlari investitsiyalarining oqimini oshirish uchun sezilarli hamda samarali ko‘maklashib kelish bilan birga mahalliy tadbirkor subyektlarning belgilangan huquq va manfatlarini himoya qilishni ham ta’minlab kelmoqda.[4]

Hakamlik sudi deganda nizolarni davlat sudlarida ko‘rib chiqilishini emas, balki davlat sudlaridan mustaqil hakamlik sudlarida hal etish usulini tushunishimiz zarur. Bu turlicha mamlakatlarda nomlanishi ham farq qiladi masalan; Rossiyada-Treteyskiy sud, ko‘pgina xorijiy mamlakatlarda-Arbitraj sudi, O‘zbekistonda Hakamlik va Arbitraj sudlari deb nomlanib bu esa ixtiyoriy sudlov usuli hisoblanib, tomonlar orasida, ya’ni jismoniy va yuridik shaxslar orasida yuzaga kelgan nizolar hamda kelishmovchiliklarni hakamlik usulida hal etilishi orqali nizoga barham berish tomonlar o‘rtasida hakamlik bitimi yoki shartnoma shaklida kelishuvga erishtirishni anglatadi.

Yuqorida aytganimizdek, Arbitraj va hakamlik sudlari davlatlarda har xil nomlanadi, ammo aynan shu sudlar ma’lum bir davlatda fuqarolar va iqtisodiy subyektlari orasidagi qarzdorlikka bog‘liq bo‘lgan nizolarning 90 - 95% ko‘rib hal etadi. 2006 - yil 16 - oktyabrdagi O‘zbekiston Respublikasi “Hakamlik sudlari to‘g‘risida”gi qonun qabul qilinishi va 2007 - yil 1 - yanvardan kuchga kirishini hakamlik sudlari faoliyati davlatimizda amalga oshirilayotgan sud tizimidagi islohotlarning yangiobosqichi va davomi sifatida baxolandi.

Xususan, hozirgi kunlarda demokratik qadriyatlar, odamlarning huquq va erkinliklari

[3] Doimiy faoliyat yurituvchi hakamlik sudlari reyestri https://data.egov.uz/data/6107d5772a2e256d868e8704?page=1

[4] Xakberdiyev Abdumurad Abdusaidovich. O‘zbekistonda Hakamlik Sudlari Faoliyati. Ilmiy-ommabop risola. Toshkent – 2022.: https://legalcity.uz/archives/3894

va qonunda belgilangan manfaatlarini himoyalashda insonlarning sotsial iqtisodiy, ijtimoiy faolligiga, huquqiy madaniyati va huquqiy ongini oshirishga, eng muhimi bo‘lgan jamiyatda manfaatlar balansini ta’minlashga faol yordamlashayotgan bir necha fuqarolik jamiyati institutlari,onodavlat-notijorat tashkilotlari orasida faoliyat yuritayotgan va keng ziyoli fuqarolarimizning keng qatlamlari qo‘llab-quvvatlab kelayotgan O‘zbekiston Respublikasi “Hakamlik sudlari to‘g‘risida”gi qonunida 250 dan ortiq muntazam faoliyat ko‘rsatuvchi hakamlik va arbitraj sudlari juda tez sur’atlar bilan rivojlanib va shakillanib bormoqda.

O‘zbekiston Respublikasida hakamlik sudlari, umuman olganda nizolarni muqobil hal etish usullari nima sababdan zarurligini quydagi raqamlardan ham anglashimiz mumkin, ya’ni Germaniyada 90%, AQSH da 95%, Buyuk Britaniyada 90-95% nizoli vaziyatlarda sud muhokamasi bo‘lgunicha hal etiladi. Mediatsiya, Hakamlik sudlari orqali nizolar deyarli davlat sudlariga kelib tushmayapti. Masalan, Germaniya davlatining iqtisodiy va fuqarolik sudlarida alohida “mediator-sudya” toifasi shakllangan bo‘lib, har qanday ishda hoh u fuqarolik bo‘lsin hoh u iqtisodiy da’vo bo‘lsin uni kelib tushishidanoq mediator-sudiya belgilangan tartibda shug‘ullanishi belgilanadir.Amaliyotda bu tajriba ortiqcha ovoragarchilikni oldini olishga va sudgacha bo‘lgan jarayonlarda nizoni hal qilishi bilan o‘zini oqlab kelmoqda.[5]

O‘zbekiston Respublikasining Oliy Majlisi tarafidan qabul qilingan “Mamlakatimizda demokratik islohotlarni yanada chuqurlashtirish va fuqarolik jamiyatini rivojlantirish konsepsiyasi”[6]ga ko‘ra sud-huquq tizimini bundanda isloh qilish, jamiyatni demokratlashtirish hamda rivojlantirishning asosiy tarkibiy bo‘lagi sifatida sudlarni erkinligi va mustaqilligini kafolatlash hamda qonunning ustuvorligi, inson erkinliklari va huquqlarini ishonchlihhimoyasini ta’minlash borasida katta ko‘lamli ishlar amalga oshirildi.

A. AXakberdiyevning O‘zbekistonda hakamlik sudlari faoliyatiga bag‘ishlangan Ilmiy-ommabop risolasida quydagicha fikrlarini aytib o‘tgan. O‘zbekiston Respublikasida faoliyat olib boruvchi muntazam faoliyat ko‘rsatuvchi hakamlik sudlari tadbirkorlik subyektlari orasida paydo bo‘luvchi iqtisodiy nizolarni bundan tashqari fuqarolik huquqiy munosabatlaridan kelib chiquvchi nizolarni muqobil hal etish yo‘li bilan davlat sudlarida ko‘rilayotgannda’vo ishlarini ko‘lamini kamaytirish va ularning sifat darajasini yana ham ko‘paytirishga munosib hissa qo‘shib kelayotganini e’tirof etishini istagan. O‘zbekiston Respublikasida hakamlik sudi mutloqo yangi sud tizimi bo‘lib, manashu kungacha quydagi sudlarning ish

[5] Shuhrat Cho‘lliyev. Mediatsiya: nizolarni hal qiluvchi institutga aylana oldimi?. Xalq so’zi online. Toshkent 2020. Batafsil - https://xs.uz/uz/post/mediatsiya-nizolarni-hal-qiluvchi-institutga-ajlana-oldimi

[6] “Mamlakatimizda demokratik islohotlarni yanada chuqurlashtirish va fuqarolik jamiyatini rivojlantirish konsepsiyasi” https://lex.uz/docs/-2947919

faoliyatida “Hakamlik sudlari to‘g‘risida”gi qonuni, mazkur qonunga berilgan sharhlar hamda O’zbekistonda faoliyat yurituvchi hakamlik sudiga tegishli bo‘lgan reglament va “Hakamlik ishini ko‘rishda hakamlik sudi yig‘imi, harajati va taraflarning chiqimlari to‘g‘risida”gi nizomdan boshqa bir hujjatlar mavjudmas.[7]

Yuqoridagi fikrlarga qo‘shilgan holda aytolamanki, O‘zbekistonga tadbiq etilgan nizolarni hal etish usullari yangi tizim bo‘lib bu borada amalga oshirilgan ishlar salmoqli. Hususan hakamlik sudlarida ko‘riladigan ishlar ko‘lamining kamligi qonunan hakamlik sudlari “Hakamlik sudlari to‘g‘risida”gi Qonunning 9-moddasiga muvofiq, hakamlik sudlari tadbirkorlik subyektlari o‘rtasida vujudga keluvchi iqtisodiy nizolarni hamda fuqarolik huquqiy munosabatlaridan kelib chiquvchi nizolarni hal etishi va hakamlik sudlari mehnat, ma’muriy va oila huquqiy munosabatlaridan kelib chiquvchi nizolarni, hamda qonunda belgilangan boshqa nizolarni hal etmasligi belgilangan. Sh.M Asiyanov o‘zining “Hakamlik sudlari to‘g‘risidagi” Qonuniga sharhida hakmalik sudlari to‘g‘risidagi qonuning 9-moddasini sharhlab shunday deydi; hakamlik sudi Albatta, hakamlik sudi O‘zbekiston Respublikasi qonunlari tomonidan faqatgina iqtisodiy hamda fuqarolik sudlari yohud boshqa organlar vakolatiga kiritilgan ishni ko‘rishga haqli emaslar, xususan:

- bola asrab olishda;
- yuridik faktni belgilashda;
- alimentlarni undirishda;
- fuqaroni majburiy tarzda psixiatrik kasalxonaga yoki statsionarga yotqizishda;
- mehnat nizolarida;
- qarzini to‘lashga qurbi yetmaslik borasidagi ishlar (bankrotlik);
- ma’muriy-huquqiyymunosabatlarda kelib chiqadigan nizolarda;
- davlat organlarining ma’muriy faoliyati bilan bog‘liq nizolari va soliq munosabatlarida.[8]

Yuqorida hakamlik sudlari tomonidan ko‘rilmaydigan ishlar ro‘yxati keltirilgan bo‘lib, fikrimcha, hakamlik sudlari rolini oshirilishini sustligi aynan shu nizolarni faqatgina davlat sudlarida ko‘rilishdadir. Hakamlik sudlari davlat sudlari bilan hamkorligi doirasida hakamlik sudlarini hal qiluv qarorlarini ijroga qaratish borasida davlat sudlari ijro varqasi beradi aliment undirish borasidagi ishlarni ham hakamlik sudida ko‘rib chiqish va hal qiliv qarori ijrosi bo‘yicha ijro varaqasi olishni

[7] Xakberdiyev Abdumurad Abdusaidovich. O‘zbekistonda hakamlik sudlari faoliyati. Ilmiy-ommabop risola. Toshkent – 2022.: https://legalcity.uz/archives/3894

[8] O‘zbekiston Respublikasi “Hakamlik sudlari to‘g‘risida”gi qonuniga sharh. Sh.M Asiyanov https://nrm.uz/contentf?doc=0428849_hakamlik_sudlarit o%EE2%80 %98g%hE2%80%98risidagi_qonunga%240sharh&products=1_vse_zakodnodatelstvo_uzbekistana#print

yo‘lga qo‘yish bu borada amalga oshirlishi lozim bo‘lgan ishar sirasiga qo‘shishimiz mumkin. Hakamlik muhokamasining mahfiyligi tomonlarga qo‘shimcha erkinlik beradi fuqarolik huquqiy munosabatlarda ya’ni ajrim, bola asrab olish, aliment undirish sir saqlanish kelgusida yuzaga kelishi mumkin bo‘lgan nizolarni ham oldini olishga katta hissa qo‘shadi.

Oliy ma’lumotga ega bo‘lgan odamlar hatto Hakakamlik sudiyalari orasida turli ko‘rsatgichga ega bo‘lgan oliy ma’lumotli yuristlar va huquqshunoslar ham hakamlik sudining faoliyati haqida uni davlatda amalga oshiriladigan umumiy vazifalari haqida to‘liq bilmasliklari va ba’zilar esa umuman hakamlik sudi nimaligini bilmasliklari hozirda hech kimga sir emas.

Hakamlik sudlarining turlari haqida to‘xtaladigan bo‘lsak O‘zbekiston qonunchiligi tahlili bo‘yicha, yuqorida ta’kidlanganidek.

Mamlakatimizda hakamlik sudlarining ikkita turi:

- Muvaqqat (vaqtinchalik)
- doimiy faoliyat yurituvchi hakamlik sudlari faoliyat ko‘rsatadi.

Doimiy faoliyat yurituvchi hakamlik sudlarining ta’sischi tashkilot rahbarlarining ixtiyoriy farmoyishlari bilan tuziladi va ularning huzurida tashkil etiladi. “Hakamlik sudlari to‘g‘risida”gi Qonunning 6-moddasiga ko‘ra, doimiy faoliyat yurituvchi hakamlik sudlari yuridik shaxslar yoki ularning birlashmalari (assotsiatsiya, birlashma) tomonidan tuziladi va shu tashkilotlar huzurida faoliyat yuritadi[9]. Davlat hokimiyatlari hamda boshqaruv organi hakamlik bitimi taraflari bo‘lishi hamda hakamlik sudlarini tashkil etishi mutlaqo mumkin emas. Amaldagi ichki qonunchilik doimiy faoliyat yurituvchi hakamlik sudlarini tashkil etish tartibiga nisbatan boshqa cheklovlarni nazarda tutmaydi. Shunday qilib, doimiy faoliyat yurituvchi hakamlik sudlari amaldagi qonunchilikka muvofiq mustaqil yuridik shaxs sifatida tashkil etilishi va ro‘yxatdan o‘tkazilishi mumkin emas.[10]

FOYDALANILGAN ADABIYOTLAR RO‘YXATI

1. Xakberdiyev Abdumurad Abdusaidovich. O‘zbekistonda hakamlik sudlari faoliyati. Ilmiy-ommabop risola. Toshkent – 2022.: https://legalcity. uz/archives/3894
2. Shuhrat Cho‘lliyev. Mediatsiya: nizolarni hal qiluvchi institutga aylana oldimi?. Xalq so‘zi online. Toshkent-2020. Batafsil - https://xs.uz/uz/ post/mediatsiya-nizolarni-hal-qiluvchi-institutga-ajlana-oldimi
3. O‘zbekiston Respublikasining “Hakamlik sudlari to‘g‘risidagi” Qonuniga Sharh. Sh.M Asiyanov https://nrm.uz/

[9] Batafsil: A.Xakberdiyev Nizolarni muqobil tartibda hal qilishda hakamlik sudlari va ularning turlari // Yuridik fanlar axborotnomasi. 2022. 2-son.
[10] O‘zbekiston Respublikasining 2006-yildagi “Hakamlik sudlari to‘g‘risidagi” Qonun https://lex.uz/docs/1072079

4. A.Xakberdiyev Nizolarni muqobil tartibda hal qilishda hakamlik sudlari va ularning turlari // Yuridik fanlar axborotnomasi. 2022. 2-son.

SUN'IY INTELLEKT VA INSON HUQUQLARI: NAZARIY VA HUQUQIY ASOSLAR

Ravshan Baxronov Rashid O'g'li

Annotatsiya. Ushbu maqola sun'iy intellekt (SI) texnologiyalarining jadal rivojlanishi sharoitida inson huquqlarining nazariy va huquqiy asoslarini tahlil qiladi. Tadqiqot SI tushunchasi va rivojlanish bosqichlarini, zamonaviy inson huquqlari konsepsiyalarini hamda ushbu ikki soha orasidagi o'zaro aloqadorlikni o'rganadi. Adabiyotlar tahlili asosida maqola SI rivojlanishining inson huquqlariga ta'sirini, mavjud huquqiy mexanizmlarning samaradorligini va global hamjamiyat oldida turgan muammolarni ochib beradi. Xulosa qismida SI sohasidagi huquqiy tartibga solishni takomillashtirish uchun tavsiyalar beriladi.

Kalit so'zlar: sun'iy intellekt, inson huquqlari, huquqiy tartibga solish, raqamli huquqlar, axloqiy SI, xalqaro huquq, texnologik siyosat

Аннотация. В данной статье анализируются теоретические и правовые основы прав человека в условиях бурного развития технологий искусственного интеллекта (ИИ). В исследовании исследуется концепция и этапы развития Си, современные концепции прав человека, а также взаимодействие между этими двумя областями. На основе анализа литературы в статье раскрывается влияние развития си на права человека, эффективность существующих правовых механизмов и проблемы, стоящие перед мировым сообществом. В заключительной части даны рекомендации по совершенствованию правового регулирования в сфере Си.

Ключевые слова: искусственный интеллект, права человека, правовое регулирование, цифровые права, этический Си, международное право, технологическая политика

Abstract. This article analyzes the theoretical and legal foundations of human rights in the context of the rapid development of artificial intelligence (SI) technologies. The study explores the concept and

stages of development of SI, modern human rights concepts, and the interplay between these two areas. Based on literature analysis, the article reveals the impact of SI development on human rights, the effectiveness of existing legal mechanisms and the challenges facing the global community. The summary section provides recommendations for improving legal regulation in the SI field.

Keywords: artificial intelligence, human rights, legal regulation, digital rights, ethical SI, international law, technological policy

KIRISH

Zamonaviy dunyoda sun’iy intellekt (SI) texnologiyalari hayotimizning barcha jabhalarini shiddat bilan o’zgartirmoqda. Ushbu texnologiyalar insoniyatga beqiyos imkoniyatlar yaratish bilan bir qatorda, inson huquqlari sohasida ham jiddiy savollar va muammolarni keltirib chiqarmoqda [1]. SI tibbiyot, ta’lim, transport, huquqni muhofaza qilish va boshqa ko’plab sohalarda keng qo’llanilmoqda. Biroq, SI algoritmlari qaror qabul qilish jarayonida ishtirok etgani sari, ularning shaffofligi, adolatliligi va inson huquqlariga ta’siri masalasi tobora dolzarb bo’lib bormoqda [2].

Birlashgan Millatlar Tashkilotining Inson huquqlari umumjahon deklaratsiyasi va boshqa xalqaro huquqiy hujjatlar orqali kafolatlangan huquq va erkinliklar raqamli texnologiyalar kontekstida yangi ma’no va ahamiyat kasb etmoqda. Xususan, shaxsiy ma’lumotlar maxfiyligi, so’z erkinligi, kamsitishdan himoyalanish huquqi kabi masalalar SI tizimlarini rivojlantirish va qo’llash jarayonida alohida e’tibor talab etmoqda [3].

Ushbu tadqiqotning maqsadi SI va inson huquqlari o’rtasidagi o’zaro aloqadorlikning nazariy va huquqiy asoslarini tahlil qilish, mavjud muammolarni aniqlash hamda SI texnologiyalarini huquqiy tartibga solishning istiqbolli yo’nalishlarini belgilashdan iborat. Tadqiqot doirasida SI tushunchasi va uning rivojlanish bosqichlari, zamonaviy inson huquqlari yondashuvlari hamda ularning o’zaro munosabati masalalari yoritiladi.

METODOLOGIYA VA ADABIYOTLAR TAHLILI

Ushbu tadqiqot SI va inson huquqlari mavzusidagi ilmiy maqolalar, huquqiy hujjatlar, xalqaro tashkilotlar hisobotlari va ekspert fikrlarining kompleks tahlili asosida amalga oshirildi. Tadqiqot metodologiyasi qiyosiy-huquqiy tahlil, tizimli yondashuv va kontekstual tahlil usullarini o'z ichiga oladi.

Sun'iy intellekt tushunchasining mohiyati va rivojlanish bosqichlari bo'yicha Russell va Norvig [4] tomonidan taklif etilgan klassifikatsiya muhim nazariy asos bo'lib xizmat qildi. Ular SI tizimlarini inson kabi fikrlash, inson kabi harakat qilish, ratsional fikrlash va ratsional harakat qilish kabi to'rt yo'nalishda tasniflaydilar. Bundan tashqari, Bostrom [5] tomonidan ilgari surilgan "kuchli" va "kuchsiz" SI tushunchalari hamda ularning rivojlanish istiqbollari tahlil qilindi.

Inson huquqlari kontekstida SI masalalarini o'rganishda Risse [6] ning "Inson huquqlarining raqamli kelajagi" nomli tadqiqoti, shuningdek Yevropa Ittifoqining 2021-yilda qabul qilingan "Sun'iy intellektga oid qonun" loyihasi muhim manba bo'lib xizmat qildi [7]. O'zbekiston kontekstida mamlakat qonunchiligida sun'iy intellektni tartibga solish masalalari Yunusov [8] tomonidan o'rganilgan. Rossiya Federatsiyasida SI sohasida huquqiy tartibga solish masalalari Nazmutdinov [9] ishlarida batafsil yoritilgan.

SI va inson huquqlari o'rtasidagi munosabatlarni tahlil qilishda BMTning "Biznes va inson huquqlari bo'yicha rahbariy tamoyillari" [10] hamda xalqaro huquq ekspertlari guruhi tomonidan 2018-yilda ishlab chiqilgan "Toronto deklaratsiyasi" kabi xalqaro hujjatlar o'rganildi.

NATIJALAR VA MUHOKAMA

Sun'iy intellekt - bu insoniy aql uchun xos bo'lgan funksiyalarni bajarish qobiliyatiga ega bo'lgan kompyuter tizimlari va algoritmlarni yaratish borasidagi ilmiy-texnologik sohadir. SI rivojlanishida bir necha asosiy bosqichlarni ajratib ko'rsatish mumkin: mustaqil algoritmlarga asoslangan dastlabki tizimlar (1950-1960-yillar), ekspert tizimlar (1970-1980-yillar), mashina o'rganishi (1990-2000-yillar) va chuqur o'rganishga asoslangan zamonaviy neyron tarmoqlari (2010-yildan hozirgi kungacha) [4].

Zamonaviy SI tizimlari katta hajmdagi ma’lumotlarni qayta ishlash, murakkab muammolarni hal qilish, matnlar bilan ishlash, tasvirlarni tanish va boshqa ko’plab funksiyalarni bajara oladi. Biroq, SI tizimlarining mustaqil qaror qabul qilish qobiliyati inson nazorati va javobgarligi masalasini yanada dolzarb qilmoqda. Bostrom ta’kidlaganidek, "kuchli SI" yoki umumiy sun’iy intellekt (Artificial General Intelligence) rivojlanishi bilan bog’liq xavf-xatarlarni hisobga olish muhim ahamiyatga ega [5].

Inson huquqlari - bu har bir insonga tug’ilishidan berilgan, uning qadr-qimmatini ta’minlaydigan asosiy huquq va erkinliklardir. Zamonaviy yondashuvlar inson huquqlarining universalligini, bo’linmasligini va o’zaro bog’liqligini ta’kidlaydi. Biroq, raqamli texnologiyalar rivojlanishi bilan yangi avlod huquqlari - raqamli huquqlar masalasi kun tartibiga chiqmoqda [6].

Raqamli muhitda shaxsiy ma’lumotlar himoyasi, axborot xavfsizligi, raqamli tenglik va ommaviy kuzatuv tizimlaridan himoyalanish kabi masalalar tobora dolzarb bo’lib bormoqda. SI tizimlari ma’lumotlarni to’plash va qayta ishlash, shuningdek, shaxsni identifikatsiya qilish imkoniyatlarini kengaytirmoqda, bu esa shaxsiy hayot daxlsizligi huquqini ta’minlash bo’yicha yangi yondashuvlarni talab etmoqda [3].

Yevropa Ittifoqi tomonidan qabul qilingan Ma’lumotlarni himoya qilish bo’yicha umumiy reglament (GDPR) va "Sun’iy intellektga oid qonun" loyihasi kabi huquqiy hujjatlar raqamli muhitda inson huquqlarini himoya qilishga qaratilgan muhim qadamlar hisoblanadi [7]. O’zbekistonda ham "Shaxsga doir ma’lumotlar to’g’risida"gi Qonun qabul qilingan bo’lib, u raqamli muhitda fuqarolar huquqlarini himoya qilishga qaratilgan [8].

SI va inson huquqlari o’rtasidagi munosabatlar ikki yo’nalishda rivojlanmoqda: birinchidan, SI tizimlarining inson huquqlariga ta’siri; ikkinchidan, SI rivojlanishi davomida inson huquqlarini himoya qilish mexanizmlari.

SI tizimlarining inson huquqlariga ta’siri juda ko’p qirrali bo’lib, ham ijobiy, ham salbiy oqibatlarga olib kelishi mumkin. Masalan, SI tibbiyot sohasida qo’llanilishi hayot va sog’liqni saqlash huquqini

ta’minlashga yordam bersa, SI asosidagi nazorat tizimlari shaxsiy hayot daxlsizligi huquqini cheklashi mumkin [9].

Xalqaro darajada SI sohasida axloqiy va huquqiy me’yorlarni shakllantirish jarayoni faol davom etmoqda. BMTning "Biznes va inson huquqlari bo’yicha rahbariy tamoyillari" texnologiya kompaniyalari uchun muhim yo’riqnoma vazifasini o’tamoqda [10]. 2018-yildagi "Toronto deklaratsiyasi" esa SI tizimlarini ishlab chiqish va qo’llashda kamsitishga yo’l qo’ymaslik tamoyillarini belgilab bergan [11].

Quyidagi jadval orqali turli sohalarda qo’llanilayotgan SI tizimlarining inson huquqlariga ijobiy va salbiy ta’sirini baholash mumkin:

1-jadval.

Sun’iy intellekt tizimlarining turli sohalarda inson huquqlariga ta’siri

Soha	SI tizimi turi	Ijobiy ta’sir	Salibiy ta’sir	Ta’sir etilgan asosiy huquqlar
Tibbiyot	Diagnostik algoritmlar, kasallik taxminlash tizimi	Davolash imkoniyatlarini kengaytirish, tibbiy xizmatlar samaradorligini oshirish	Noto’g’ri tashxislar xavfi, ma’lumotlar maxfiyligining buzilishi	Sog’liqni saqlash huquqi, shaxsiy ma’lumotlar himoyasi
Ta’lim	Adaptiv o’qitish tizimlari	Individuallashtirilgan ta’lim, maxsus ehtiyojli o’quvchilar uchun imkoniyatlar	Raqamli tafovutni kuchaytirish, standartlashtirilgan yondashuv	Ta’lim olish huquqi, rivojlanish huquqi
Huquqni muhofaza qilish	Prognozli politsiya tizimlari, yuz tanish	Jinoyatchilikni samarali oldini olish	Noto’g’ri ayblovlar, ayrim guruhlarni haddan tashqari nazorat qilish	Adolatli sud huquqi, kamsitilmaslik huquqi
Moliya	Kredit skoring tizimlari	Moliyaviy xizmatlardan foydalanish imkoniyatini kengaytirish	Mavjud ijtimoiy tengsizliklarni mustahkamlash	Iqtisodiy huquqlar, tenglik huquqi
Mehnat bozori	Ishga qabul qilish algoritmlari	Samarali nomzod tanlash, sub’ektiv omillarni kamaytirish	Gender, irqiy va boshqa belgilarga ko’ra kamsitish	Mehnat qilish huquqi, kamsitilmaslik huquqi

Jadvaldan ko’rinib turibdiki, SI tizimlari bir vaqtning o’zida ham inson huquqlarini ta’minlashga yordam berishi, ham ularni

cheklashi mumkin. Bu ziddiyatli vaziyat SI tizimlarini ishlab chiqish va joriy etishda kompleks yondashuvni talab etadi.

Tadqiqot natijalariga ko'ra, SI tizimlarining inson huquqlariga salbiy ta'sirini kamaytirish uchun quyidagi choralarni ko'rish zarur:

SI tizimlari shaffofligini ta'minlash: Algoritmlarga asoslangan qaror qabul qilish jarayonlarini tushuntirish imkoniyatini yaratish, SI tizimlarining ishlash tamoyillarini ochiq-oydin bayon qilish.

Doimiy monitoring va audit: SI tizimlarining inson huquqlariga ta'sirini muntazam ravishda baholab borish, ijtimoiy-huquqiy oqibatlarni tahlil qilish.

Ko'p tomonlama boshqaruv: SI sohasidagi huquqiy tartibga solish jarayonida davlat organlari, xususiy sektor, fuqarolik jamiyati institutlari va ekspertlar hamkorligini ta'minlash.

Huquqiy savodxonlikni oshirish: Jamiyatda SI tizimlari bilan bog'liq bilim va ko'nikmalarni rivojlantirish, fuqarolarni o'z huquqlarini himoya qilish mexanizmlari bilan tanishtirish.

Yuqoridagi tahlil natijalariga ko'ra, SI va inson huquqlari o'rtasidagi munosabatlar kompleks xarakterga ega bo'lib, har bir SI tizimini ishlab chiqish va joriy etishda inson huquqlari tamoyillariga rioya qilish zarur. SI sohasidagi huquqiy tartibga solishni takomillashtirish orqali ushbu texnologiyalarning ijobiy salohiyatini saqlagan holda, salbiy oqibatlarini kamaytirish mumkin.

XULOSA

Sun'iy intellekt texnologiyalarining jadal rivojlanishi sharoitida inson huquqlarini ta'minlash masalasi global hamjamiyat oldida turgan eng muhim vazifalardan biridir. Tadqiqot natijalariga ko'ra, SI va inson huquqlari o'rtasidagi o'zaro aloqadorlik masalasi kompleks yondashuvni talab etadi.

Birinchidan, SI tizimlari ishlab chiqilishi va qo'llanilishining barcha bosqichlarida inson huquqlari tamoyillariga rioya qilinishini ta'minlash zarur. Bu

maqsadda SI tizimlarining shaffofligini oshirish, diskriminatsion amaliyotlarga yo'l qo'ymaslik va axloqiy me'yorlarga rioya qilish muhim ahamiyatga ega.

Ikkinchidan, mavjud huquqiy mexanizmlarni SI rivojlanishi sharoitida yangi vujudga kelayotgan muammolarni hal qilishga moslashtirish zarur. Bu jarayonda xalqaro va milliy darajalarda SI sohasidagi huquqiy tartibga solishni takomillashtirish, yangi me'yoriy-huquqiy hujjatlarni ishlab chiqish va mavjudlarini yangilash talab etiladi.

Uchinchidan, jamiyatda SI texnologiyalari bilan bog'liq bilim va ko'nikmalarni oshirish, fuqarolarni o'z huquqlarini himoya qilish usullari bilan tanishtirish muhim ahamiyatga ega. Bu yo'nalishda ta'lim tizimini takomillashtirish, axborot kampaniyalarini o'tkazish va jamoat muhokamalarini tashkil etish maqsadga muvofiqdir.

Xulosa o'rnida shuni ta'kidlash lozimki, SI texnologiyalari rivojlanishi insoniyatga beqiyos imkoniyatlar yaratish bilan bir qatorda, inson huquqlari sohasidagi an'anaviy tushunchalar va mexanizmlarni qayta ko'rib chiqishni taqozo etmoqda. SI va inson huquqlari o'rtasidagi muvozanatni saqlash uchun texnologik rivojlanish bilan huquqiy tartibga solish o'rtasida uzviy aloqani ta'minlash zarur.

ADABIYOTLAR RO'YXATI

1. Eubanks, V. (2018). *Automating Inequality: How High-Tech Tools Profile, Police, and Punish the Poor*. New York: St. Martin's Press.

2. O'Neil, C. (2016). *Weapons of Math Destruction: How Big Data Increases Inequality and Threatens Democracy*. New York: Crown Publishers.

3. Zuboff, S. (2019). *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power*. New York: Public Affairs.

4. Russell, S., & Norvig, P. (2020). *Artificial Intelligence: A Modern Approach*. 4th edition. Pearson Education Limited.

5. Bostrom, N. (2014). *Superintelligence: Paths, Dangers, Strategies*. Oxford: Oxford University Press.

6. Risse, M. (2019). *Human Rights and Artificial Intelligence: An Urgently Needed Agenda*. Human Rights Quarterly, 41(1), 1-16.

7. European Commission. (2021). *Proposal for a Regulation on a European Approach for Artificial Intelligence*. Brussels: European Commission.

8. Yunusov, O. (2022). *O'zbekistonda sun'iy intellekt sohasidagi huquqiy tartibga solish muammolari*. Huquq va innovatsion texnologiyalar, 3(2), 45-58.

9. Nazmutdinov, B. (2021). *Pravovoe regulirovanie iskusstvennogo intellekta v Rossii i mire*. Journal of Law and Digital Technologies, 2(1), 24-36.

10. United Nations. (2011). *Guiding Principles on Business and Human Rights*. New York and Geneva: United Nations.

11. The Toronto Declaration: Protecting the right to equality and non-discrimination in machine learning systems. (2018). Amnesty International & Access Now. https://www.accessnow.org/the-toronto-declaration-protecting-the-rights-to-equality-and-non-discrimination-in-machine-learning-systems/

SPORT VA TA’LIMNI INTEGRATSIYALASH ORQALI 9–10 YOSHLI O‘QUVCHILARNI AQLIY VA JISMONIY RIVOJLANTIRISH METODLARI HAMDA VAZIFALARI

H. B. Ismailova
O‘zbekiston davlat jahon tillari universiteti
O’zbekiston
e-mail: hilolaismailova92@gmail.com

ANNOTATSIYA:

Ushbu maqolada sport va ta’lim jarayonlarini integratsiyalash orqali boshlang‘ich sinf (9–10 yosh) o‘quvchilarining aqliy va jismoniy rivojlanishiga ta’sir etuvchi pedagogik va psixologik omillar tahlil qilingan. Integrativ yondashuvning nazariy asoslari va afzalliklari yoritilib, o‘quvchilarning kognitiv faolligini oshirishda sport mashg‘ulotlari va darslarning o‘zaro bog‘liqligi ko‘rsatib berilgan. Shuningdek, bolalarning aqliy va jismoniy qobiliyatlarini rivojlantirishga qaratilgan metodlar va vazifalar (shu jumladan, kinaestetik yondashuv, o‘yinli musobaqalar va ko‘p sensorli o‘qitish) ilmiy jihatdan asoslangan. Integrativ mashg‘ulotlarni joriy etish natijasida o‘quvchilarning diqqat barqarorligi, o‘quv motivatsiyasi va jismoniy chidamliligi oshganligini tasdiqlovchi eksperimental tadqiqot natijalari keltirilgan.

Kalit so‘zlar: sport-ta’lim integratsiyasi, jismoniy madaniyat, kognitiv rivojlanish, motivatsiya, harakat faoliyati, metodika.

Аннотация: В данной статье проанализированы педагогические и психологические факторы, влияющие на умственное и физическое развитие учащихся начальных классов (9–10 лет) посредством интегратsии спортивного и образовательного процессов. Раскрыты теоретические основы и преимущества интегративного подхода, показана взаимосвязь спортивных занятий и учебных уроков в повышении познавательной активности учащихся. В работе научно обоснованы методы и задачи развития когнитивных и физических способностей детей, включая кинестетический подход, игровые соревнования и полисенсорное обучение. Приведены результаты экспериментального исследования, подтверждающие рост уровня устойчивости внимания, учебной мотиватsии и физической выносливости учащихся под воздействием внедрения интегративных занятий.

Ключевые слова: интегратsия спорта и образования, физическая культура, когнитивное развитие, мотиватsия, двигательная активность, методика.

Annotation: This article analyzes the pedagogical and psychological factors influencing the mental and physical development of primary school students (aged 9–10) through the integration of sports and educational processes. The theoretical foundations and advantages of the integrative approach are revealed, demonstrating the interconnection between sports activities and academic lessons in enhancing students' cognitive engagement. The study scientifically substantiates the methods and tasks for developing children's cognitive and physical abilities, including the kinaesthetic approach, playful competitions, and multisensory learning. The results of an experimental study are presented, confirming the growth in attention stability, academic motivation, and physical endurance among students as a result of implementing integrative classes.

Keywords: sport-education integration, physical culture, cognitive development, motivation, motor activity, methodology.

So‘nggi yillarda O‘zbekiston Respublikasida ta’lim tizimi va sog‘lom turmush tarzini shakllantirish sohalarida olib borilayotgan islohotlar yosh avlodning har tomonlama barkamol bo‘lib voyaga yetishini ta’minlashga qaratilgan. Prezidentning “Yoshlarni jismoniy chiniqtirish va sport orqali ularning intellektual salohiyatini oshirish to‘g‘risida”gi tashabbuslari mazkur yo‘nalishdagi tadqiqotlarning dolzarbligini yanada oshiradi. Ayniqsa, 9–10 yosh oralig‘idagi o‘quvchilar jismoniy, aqliy va hissiy jihatdan jadal rivojlanish bosqichida bo‘lib, bu davrda ularning o‘qish faoliyati va sportdagi faol ishtiroki o‘zaro chambarchas bog‘liqdir. Shu sababli sport va ta’lim integratsiyasi orqali bola shaxsini har tomonlama rivojlantirish hozirgi pedagogika va sport psixologiyasining ustuvor yo‘nalishlaridan biri hisoblanadi (Qodirov, 2022; G‘ulomov, 2023). Tadqiqotning maqsadi Sport mashg‘ulotlari va o‘quv jarayonini integratsiyalash orqali 9–10 yoshli o‘quvchilarning aqliy (kognitiv) va jismoniy rivojlanish darajasini oshirishga xizmat qiluvchi metodlar hamda pedagogik vazifalarni ishlab chiqish.

Tadqiqot metodlari tahliliy, eksperimental, pedagogik kuzatuv, test va suhbat metodlari asosida o‘quvchilarning aqliy va jismoniy ko‘rsatkichlari o‘rganildi. Shuningdek, ta’limda sport elementlarini qo‘llash samaradorligini aniqlash uchun “integrativ mashg‘ulotlar” modeli sinovdan o‘tkazildi.

Sport va ta’lim integratsiyasining nazariy asoslari Integratsiya — bu turli faoliyat turlarini yagona maqsad sari yo‘naltirishdir. Jismoniy tarbiya va ta’lim jarayonini uyg‘unlashtirishda asosiy g‘oya — o‘quvchilarni faqat jismonan emas, balki aqliy, emotsional va ijtimoiy jihatdan ham rivojlantirishdir.

Psixolog A. Leontyev (1978) va L. Vygotskiy (1984) larning fikriga ko‘ra, bola faoliyatidagi harakat va tafakkur o‘zaro

chambarchas bog‘liq bo‘lib, harakat orqali idrok, diqqat va xotira jarayonlari faollashadi. Shu boisdan, sport mashg‘ulotlarini ta’lim jarayoniga integratsiyalash o‘quvchilarning kognitiv faolligini oshiradi.

Asosiy vazifalar. Quyidagi grafikda “Integrativlik tamoyili” mashg‘ulotlarni sport va ta’limni integratsiyalashdagi asosiy yo‘nalishlar kesimida ko‘rsatildi.(2.-rasmga qarang).

Mashg`ulotlarda integrativlik tamoyilining tarkibiy komponentlari



2-rasm. Mashg`ulotlarda integrativlik tamoyili

Bu tamoyil quyidagicha keng tavsiflanadi:

**Sport+ta`lim birligi** o‘quvchilarning ko‘nikma jihatdan mashg‘ulotlarda xilma xilliligini ta’minlaydi ya`ni bir xillikdan yiroqlashadi. Usullar nazariya amaliyoti bilan uyg‘unlashadi. Bu integratsiya real mashg‘ulot jarayonida o‘z aksini topadi – usullar amalda qo‘llaniladi.

**Jismoniy-aqliy bog`liqlik** mashg`ulotlarda harakatlarni sozlar yo‘rdamida (ingliz, diqqatni jamlash, ongni va fikrlashini rivojlantirish) bir-birini to‘ldiruvchi tizimda uyg‘unlashtiriladi. Bu dars jarayonida ko‘p funksiyali shaxs sifatini shakllantiradi.

**Fikrlash uyg`unligi** o‘quvchi o‘zining faoliyatida shaxsiy madaniyat, apatiya, lexoradka kabi stressli vaziyatlardan chiqish vaziyatni oldindan ko‘ra bilishi g`oliblikka erishuvchi usullar jamoaviy boshqaruvchanlik harakatlari asosida ish olib boradi. Mashg`ulotlar nafaqat tanani balki axloqiy-estetik tuyg‘ularni ham tarbiyalashi kerak. Harakat madaniyati, sport etiketi, jamoada ishlash odobi bunga misoldir.

Tizimli yondashuv o‘quvchining yosh xususiyatlari, ruhiy holati va jismoniy imkoniyatlari o‘zaro uyg‘un holda hisobga olinadi bu esa samarali mashg‘ulot muhitini yaratadi. Biz tarafimizdan ishlab chiqilgan maxsus ishlanmalar mashg`ulotni tizimlashtiradi.

Diqqatni jamlash uchun “nafas gimnastikasi”, “vizual relaksatsiya” usullari. Jismoniy mashqlar orasida qisqa dam olish va konsentratsiya mashqlari o‘tkazish

Dars jarayonida o‘quvchilarning o‘z faoliyatini rejalashtirishi o‘zlarining amaliy harakatlarini oshirish bo‘yicha ishlashi mashg‘ulotlardagi ilg‘or tajribalardan foydalanishi hamda nazariy bilim va amaliy ko‘nikmalarga ega bo‘lishlari katta ahamiyat kasb etdi.

Dars jarayonida o‘quvchilarning egallagan jismoniy qobiliyatlarini nazorat qilish maqsadida dars ishlanmalari ishlab chiqildi.

- mashg‘ulotlarda o‘quvchilar jismoniy qobiliyatlarining rivojlanganlik holati pedagog tomonidan o‘tkazilgan mashg‘ulotlarda baholab borildi. Dastlab mashg‘ulotga nisbatan o‘quvchining reaksiyasi e’tiborga olinadi. O‘zlashtirilishi lozim bo‘lgan vazifalarning hal qilinganligini aniqlashtirish maqsadida savollar berildi va faoliyati tahlil qilindi. Pedagogik tahlil va harakatlarni o‘zlashtirganligiga qarab o‘quvchi baholandi;

- O‘quv mashg‘uloti asosida harakatlarni o‘zlashtirish ko‘rsatkichi bo‘yicha mashg‘ulotda olingan ko‘nikma va malakalarni o‘quvchi o‘z imkoniyatlaridan kelib chiqib fiziologik dinakmikasini aniqlaydi o‘zlashtirilgan jismoniy qobiliyatning samaradorlik koeffitsenti hisobini amalga oshiradi. Keyin erishilgan natijalarni nisbatlaydi va o‘z-o‘zini nazorat qilish va jismoniy-aqliy qobiliyatlarini yanada takomillashtirish bo‘yicha xulosaga keladi;

- Baholash shkalasida belgilangan o‘quvchining mashg‘ulotlarga bo‘lgan munosabati alohida o‘rin tutib unda o‘quvchi holati muhim ahamiyat kasb etadi. Shuningdek sport turiga bo‘lgan ijobiy munosabat ularda jismoniy qobiliyatlarni jadal rivojlanishiga olib keladi;

- Mashg`ulotlarda o‘quv jarayonini tashkil etish va o‘tkazishda ma’lum talablar qo‘yiladi. Bu orqali o‘quvchilarni aniq maqsad sari olg‘a intilishlarida samarali turtki bo‘lishi uchun yo‘naltirish ongli tarzda amalga oshirilishi lozim.

Mashg`ulotda tizimlilik – bu pedagogning o‘z kasbiy rivojlanishining barcha bosqichlarini (intellektual, kommunikativ, tashkiliy, variativ, axloqiy, kombinatsion, itegratsion) o‘zaro muvofiqlashtirishga intilishidir. Bu jarayonda:

– Pedagog mashg`ulotda o‘quvchining kognitiv, metakognitiv, mashg‘ulot yuqumlilik darajasini oshirishga har tomonlama o‘zlashtirishga intiladi;

– O‘z ustida ishlash strategiyasini ishlab chiqadi;

– Refleksiya va baholash orqali individual va jamoaviy o‘sish yo‘llarini aniqlaydi.

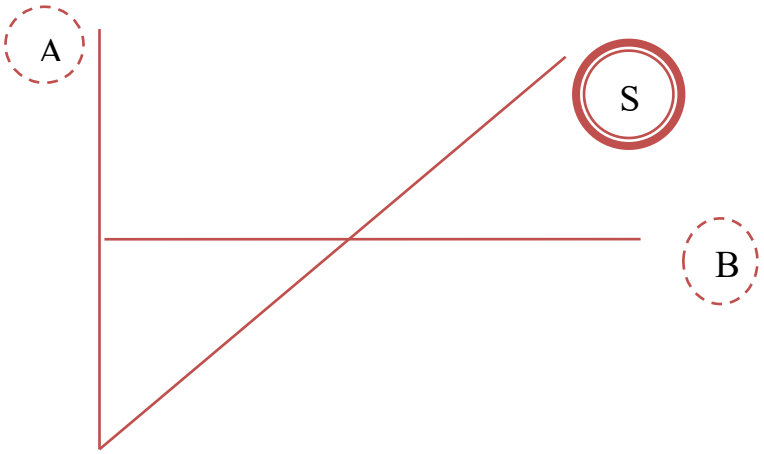
Tizimlilikning natijaviy mezonlari (Jismoniy tarbiya+ta`lim-tarbiya)

– Pedagog va o‘quvchi faoliyatining uzviylikda tashkil etilishi;

– O‘quvchilarning umumiy madaniy, sport va axloqiy tarbiyasida ijobiy dinamikani ta’minlay oladigan pedagogning shakllanishi;

– Ta’limda bilim, ko‘nikma va qadriyatlarning barobar shakllanishi;

– Mashg`ulotda refleksiyaning chuqurlashuvi va progres holatlarga moslashtirish qobiliyatining erishimliligi (1-rasmga qarang).



1-rasm. Jismoniy tarbiya darslarini integratsiyalash A-Jismoniy tarbiya **B**-ta`lim-tarbiya **S**-Integratsiya

Grafikda jismoniy tarbiya mashg`ulotlarida o‘quvchilarni tizimlilik asosida shakllangan asosiy tarkibiy elementlarning tizimdagi ahamiyati ko‘rsatilgan.

Natijalar va muhokama. Integratsiyalashgan mashg‘ulotlar natijasida o‘quvchilarda: 1) diqqat barqarorligi 18% ga; 2) o‘quv motivatsiyasi 22% ga; 3) jismoniy chidamlilik esa 25% ga oshgani kuzatildi.

Bu natijalar sport faoliyatining aqliy faoliyat bilan uyg‘unligi bolaning shaxsiy rivojlanishiga ijobiy ta’sir ko‘rsatishini tasdiqlaydi. Sport va ta’lim integratsiyasi 9–10 yoshli o‘quvchilarni har tomonlama rivojlantirishda samarali mexanizm hisoblanadi. U nafaqat jismoniy salomatlikni mustahkamlaydi, balki aqliy faoliyatni, ijtimoiy kompetensiyalarni va emotsional barqarorlikni ham rivojlantiradi. Shuning uchun boshlang‘ich ta’lim tizimida integrativ sport-ta’lim mashg‘ulotlari keng joriy etilishi lozim.

Berilgan yosh bosqichlaridagi xususiyatlarni amalda tatbiq etishda maxsus metodlardan foydalanish talab etiladi. Quyidagi 2-jadvalda sport va ta’lim integratsiyasini ta’minlovchi asosiy metodlarning qiyosiy tahlili keltirilgan

Ushbu uslubda yondashuvlarning samaradorligini aniqlash maqsadida 60 nafar o‘quvchi ishtirokida maxsus tajriba sinovlari o‘tkazildi. 3-jadvalda mazkur eksperimental dasturning natijalari aks ettirilgan.

1-jadval. Integratsiyalashgan mashg‘ulotlar samaradorligini baholash (tajriba guruhi misolida)

Ko‘rsatkichlar	Dastlabki natija (%)	Tajriba natijasi (%)	O‘sish darajasi (%)
Diqqat barqarorligi	62	80	+18
O‘quv motivatsiyasi	58	80	+22
Jismoniy chidamlilik	64	89	+25
Muloqot va hamkorlik ko‘nikmasi	60	83	+23
Mustaqil fikrlash	55	77	+22

Izoh: Jadval ma’lumotlari 9–10 yoshli 60 nafar o‘quvchidan tashkil topgan tajriba guruhida 3 oylik integratsion dastur asosida o‘tkazilgan tadqiqot natijalarini ifodalaydi.

Tajriba natijalarining ijobiy ko‘rsatkichlari o‘quv jarayoniga integratsion darslarni amaliy jihatdan rejalashtirish zarurligini ko‘rsatdi. Quyidagi 4-jadvalda fanlar kesimida integratsion dars mashg‘ulotlarini rejalashtirish modeli taqdim etilgan.

Tadqiqot davomida ishlab chiqilgan rejalashtirish modelining pedagogik samaradorligi an’anaviy ta’lim tizimi bilan solishtirilib o‘rganildi. 5-jadvalda integrativ dars tizimining an’anaviy usulga nisbatan ustunlik ko‘rsatkichlari keltirilgan.

2-jadval. Integrativ mashg‘ulotlarning pedagogik samaradorlik ko‘rsatkichlari

Ko‘rsatkich	An’anaviy dars tizimi (%)	Integrativ dars tizimi (%)	Farq (%)
Darsdagi faol ishtirok	65	90	+25
Diqqatni jamlash	70	88	+18
O‘quvchi tashabbuskorligi	58	82	+24
Bilimni mustahkamlash darajasi	60	84	+24

Ko‘rsatkich	An’anaviy dars tizimi (%)	Integrativ dars tizimi (%)	Farq (%)
Darsdan qoniqish	72	93	+21

Taqdim etilgan jadvallar tahlili shuni ko‘rsatadiki:

Integrativ yondashuv o‘quvchilarning harakat, fikrlash va emotsional faolligini uyg‘unlashtiradi.

O‘quvchilarda dars jarayoniga nisbatan ijobiy motivatsiya ortadi. Jismoniy faollik orqali kognitiv funksiyalar (xotira, diqqat, tafakkur) 20–25% ga oshadi.

Shunday qilib, 9–10 yoshli boshlang‘ich sinf o‘quvchilarini o‘qitish jarayonida sport va ta’limni integratsiyalash yosh avlodning aqliy va jismoniy salohiyatini birdek rivojlantirishning eng samarali pedagogik mexanizmlaridan biri ҳисобланади. Olib borilgan tahlillar va tajriba-sinov natijalari shuni ko‘rsatdiki, an’anaviy ta’lim jarayoniga jismoniy faollik elementlari, harakatli o‘yinlar hamda kinaestetik yondashuvlarni joriy etish o‘quvchilarning kognitiv funksiyalarini sezilarli darajada yaxshilaydi. Xususan, tajriba guruhida diqqat barqarorligi 18% ga, o‘quv motivatsiyasi 22% ga, jismoniy chidamlilik esa 25% ga oshgani sport va ta’lim uyg‘unligining yuqori samaradorligini amalda isbotladi. Taklif etilgan integrativ metodlar (harakat orqali o‘qitish, o‘yinli musobaqalar va ko‘p sensorli yondashuvlar) bolalarning darsdagi faolligini oshiribгина qolmay, ularda sog‘lom turmush tarzi ko‘nikmalarini shakllantiradi va psixologik barqarorlikni ta’minlaydi. Shu bois, boshlang‘ich ta’lim tizimida o‘quv mashg‘ulotlarini sport turlari bilan uzviy bog‘lagan holda tashkil etish zamonaviy pedagogikaning ustuvor vazifalaridan biri bo‘lmog‘i lozim.

Foydalanilgan adabiyotlar

1. O‘zbekiston Respublikasining 2020-yil 23-sentabrdagi “Ta’lim to‘g‘risida”gi O‘RQ-637-sonli Qonuni. – Qonunchilik ma’lumotlari milliy bazasi, 24.09.2020-y.
2. Mirziyoev Sh.M. Buyuk kelajagimizni mard va olijanob xalqimiz bilan birga quramiz. – Toshkent: “O‘zbekiston” NMIU, 2017. – 488 b.
3. Абдуллаева Ш.А. Бошланғич синф ўқувчиларини ўқитиш жараёнида инноватsion ёндашувлар. – Тошкент: Фан ва технология, 2022. – 164 б.
4. Юсупов М.Х., Қурбонов Т.Э. Жисмоний маданият ва спорт интегратsиясининг педагогик асослари // Педагогиkaning долзарб муаммолари. – Тошкент, 2023. – № 2. – Б. 45–48.

5. Коджаспирова Г.М. Педагогика: учебник для академических бакалавров. – Москва: Юрайт, 2021. – 719 с.
6. Siedentop D., Hastie P., van der Mars H. Complete Guide to Physical Education and Sports Integration. – Champaign, IL: Human Kinetics, 2019. – 320 p.
7. Bailey R. Physical education and sport in schools: A review of benefits and outcomes // Journal of School Health. – 2018. – Vol. 88, No. 5. – P. 397–407.
8. Qodirov B. Jismoniy tarbiya nazariyasi va metodikasi. Toshkent: Fan. (2022).
9. G‘ulomov A. Boshlang‘ich ta’limda integrativ yondashuvning pedagogik asoslari. Toshkent: TDPU nashriyoti. (2023).
10. Vygotsky, L. S. Mind in Society. Harvard University Press. (1984)
11. Leontyev, A. N. Activity, Consciousness, and Personality. Moscow: Progress Publishers. (1978)
12. Piaget, J. (1969). The Mechanisms of Perception. London: Routledge.
13. O‘zbekiston Respublikasi Prezidentining PQ–4310-son qarori, 2019-yil 4-iyun.
14. Ubaydullayev M. Boshlang‘ich sinfda jismoniy tarbiya darslarini integratsiyalash usullari // Pedagogika va psixologiya jurnali, (2020). 2(4), 45-52.
15. Ж.М. Шукурллаев. Ўқувчи-ёшларни волейбол спорт турига танлаб олишнинг методик хусусиятлари. Academic research in educational sciences Vol 1.No 2, 2020 ISSN 2181-1385.
16. Шукурллаев Ж.М. Волейбол спорт тури воситасида мактаб ўқувчиларида жисмоний сифатларни ривожлантиришда акмеологик ёндашувнинг мазмуни. // 2021. – Vol. - 2/ ISSUE 11/ ISSN 2181-1385. 551-554 б.
17. Shukurllayev J.M. Sport mahoratini oshirish (Voleybol). Darslik-Chirchiq “ Sity of book” , 2023-240 b.
18. Shukurllayev J.M. Jismoniy madaniyat nazariyasi va metodikasi. Darslik.- Toshkent, Zebo prints, 2024-224 b.

ADAPTIV TA’LIM MUHITIDA INTERAKTIV VIZUALLASHTIRISHDAN FOYDALANISH BOSQICHLARI

Azizjon Komiljon o‘g‘li Atoyev
Qashqadaryo viloyati, Koson tumani 2-sonli umumta’lim maktabining informatika o‘qituvchisi.

ANNOTATSIYA.

Mazkur maqolada adaptiv ta’lim muhitida interaktiv vizuallashtirishdan foydalanishning mazmuni, didaktik imkoniyatlari va uni tashkil etish bosqichlari yoritilgan. Tadqiqotning maqsadi o‘quvchilarning boshlang‘ich bilimlari, topshiriqni bajarish jarayonidagi qiyinchiliklari va o‘zlashtirish natijalariga mos vizual ta’lim faoliyatini tashkil etish ketma-ketligini ishlab chiqishdan iborat. Maqolada ilmiy adabiyotlarni tahlil qilish, qiyoslash, umumlashtirish va pedagogik modellashtirish usullaridan foydalanilgan. Nazariy tahlil asosida diagnostika, maqsad va individual yo‘nalishni belgilash, vizual materiallarni moslashtirish, interaktiv faoliyatni tashkil etish, teskari aloqa va pedagogik yordam, yakuniy baholash va refleksiyadan iborat olti bosqich taklif etilgan. Ularning o‘zaro bog‘liqligi informatika faniga oid amaliy misol orqali tushuntirilgan. Taklifning metodik ahamiyati o‘quvchi faoliyatidan olingan ma’lumotlarni vizual materiallar murakkabligi va pedagogik yordam hajmini belgilash bilan bog‘lashda namoyon bo‘ladi. Maqola nazariy-metodik xususiyatga ega bo‘lib, taklif etilgan bosqichlarning samaradorligi keyingi pedagogik tajriba-sinovlarda tekshirilishi lozim.

Kalit so‘zlar: adaptiv ta’lim, raqamli ta’lim muhiti, interaktiv vizuallashtirish, individual ta’lim yo‘nalishi, diagnostika, pedagogik yordam, teskari aloqa, refleksiya.

Kirish. Raqamli ta’lim jarayonini tashkil etishda o‘quv materialini elektron shaklda taqdim etish bilan birga, uning o‘quvchining tayyorgarligi va ehtiyojlariga mosligini ta’minlash ham muhimdir. Bir mavzuni o‘zlashtirishda ayrim o‘quvchilar qo‘shimcha tushuntirishga ehtiyoj sezsa, boshqalari mustaqil ishlash yoki murakkabroq topshiriqlarni bajarishga tayyor bo‘ladi. Shu sababli o‘quv mazmuni, topshiriqlar va pedagogik yordamni o‘quvchi faoliyatiga qarab moslashtirish masalasi dolzarb hisoblanadi.

Adaptiv ta’lim muhitida moslashtirish o‘quvchi haqidagi ma’lumotlarga tayanadi. Bunda boshlang‘ich bilim, bajarilgan topshiriqlar, yo‘l qo‘yilgan xatolar va yordamdan foydalanish holatlari keyingi o‘quv faoliyatini belgilashga xizmat qilishi mumkin. Adaptiv ta’limga oid tadqiqotlarda ham o‘quvchi modeli, mazmunni moslashtirish, adaptiv teskari aloqa va ta’lim yo‘nalishini boshqarish masalalari o‘rganilgan [1].

Interaktiv vizuallashtirish ushbu jarayonni tashkil etish vositalaridan biridir. Mazkur maqolada interaktiv vizuallashtirish deganda o‘quvchiga tasvirlangan obyekt yoki jarayon bilan faol ishlash, parametrlarni o‘zgartirish, bajarilish ketma-ketligini boshqarish va natijalarni taqqoslash imkonini beruvchi ko‘rgazmali taqdimot tushuniladi. Masalan, algoritm bajarilishini qadamma-qadam kuzatish, elektron jadvaldagi qiymatlarni o‘zgartirib diagrammadagi o‘zgarishlarni tekshirish yoki modelning turli holatlarini solishtirish shunday faoliyatga kiradi.

Biroq vizual materialning interaktivligi uning adaptivligini avtomatik ravishda ta’minlamaydi. O‘quvchi tasvirni boshqarishi mumkin bo‘lsa-yu, uning javoblari asosida topshiriq yoki yordam o‘zgarmasa, moslashtirish mexanizmi to‘liq ishlamaydi. Shuning uchun interaktiv vizuallashtirishni diagnostika, maqsad, topshiriq, yordam va baholash bilan bog‘langan holda loyihalash zarur.

Metodologiya va adabiyotlar tahlili. Maqola nazariy-metodik tadqiqot sifatida tayyorlandi. Unda adaptiv ta’lim, multimediali o‘qitish, teskari aloqa va pedagogik yordamga oid tanlangan ilmiy manbalar mazmunan tahlil qilindi. Manbalarni tanlashda ularning o‘quv jarayonini moslashtirish, vizual materiallarni tashkil etish va o‘quvchi faoliyatini qo‘llab-quvvatlash masalalariga bevosita aloqadorligi hisobga olindi. Ushbu tahlil tizimli sharh yoki barcha mavjud tadqiqotlarni to‘liq qamrab olishni da’vo qilmaydi.

Tadqiqotda qiyoslash orqali turli yondashuvlarning umumiy jihatlari ajratildi; umumlashtirish yordamida metodik talablar shakllantirildi; pedagogik modellashtirish asosida esa interaktiv vizuallashtirishdan foydalanish bosqichlari va ular orasidagi qayta aloqa belgilandi.

F.Martin, Y.Chen, R.L.Moore va C.D.Westine adaptiv ta’limga oid ilmiy maqolalar tahlil qilib, tadqiqotlarda qo‘llanilgan strategiyalar, texnologiyalar va loyihalash yondashuvlarini umumlashtirgan. Mualliflar moslashtirish manbalari sifatida o‘quvchi modelini, moslashtirish obyektlari sifatida esa mazmun va o‘qitish modelini ko‘rib chiqqan[1]. Mazkur yondashuv ushbu maqolada diagnostika ma’lumotlarini keyingi topshiriq va yordam turini tanlash bilan bog‘lash uchun nazariy asos sifatida qabul qilingan.

R.E.Mayerning ilmiy maqolalarida multimediali o‘qitishga oid ilmiy qo‘llanmasida materialni o‘quvchi boshqaradigan qismlarga ajratish, muhim axborotni ajratib ko‘rsatish va mavzuga aloqasiz elementlarni cheklash tamoyillari yoritilgan[2]. Ushbu tamoyillardan kelib chiqib, interaktiv vizual materiallarni qisqa, maqsadga yo‘naltirilgan va boshqariladigan shaklda loyihalash maqsadga muvofiq deb qarash mumkin.

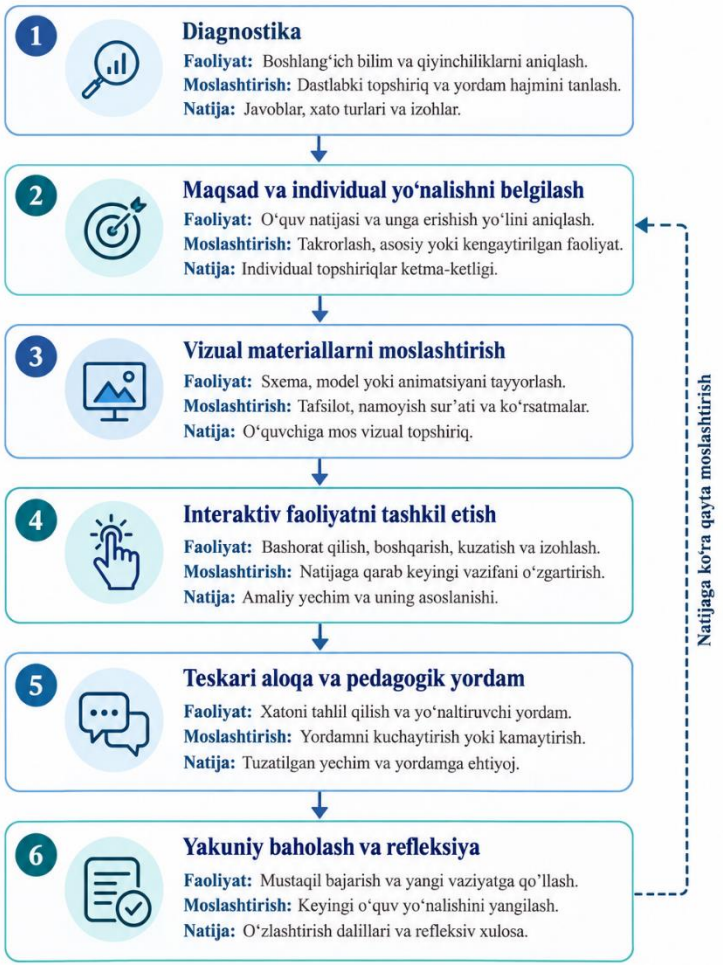
J.Hattie va H.Timperley teskari aloqaning ta’siri uning mazmuni va taqdim etilishiga bog‘liqligini ko‘rsatadi. Ularning

modelida ta’lim maqsadi, joriy natija va keyingi harakatlar haqidagi axborot muhim o‘rin tutadi [3]. Bu yondashuv asosida vizual topshiriqqa beriladigan javob faqat to‘g‘ri yoki noto‘g‘ri ekanini bildirish bilan cheklanmasligi, o‘quvchining keyingi harakatini yo‘naltirishi lozimligi haqidagi metodik talab shakllantirilgan.

A.Munshi va hammualliflarning tadqiqotida adaptiv pedagogik yordamning turli shakllari bir xil natija bermagani qayd etilgan. Xatolarni aniqlash va modelni tekshirishga yo‘naltirilgan strategik ko‘rsatmalar ayrim boshqa yordam shakllariga qaraganda foydaliroq bo‘lgan[4]. Bu natija yordamni shunchaki ko‘paytirish emas, balki uning mazmunini o‘quvchi duch kelgan qiyinchilikka moslashtirish zarurligini ko‘rsatadi.

Tanlangan adabiyotlar tahliliga tayangan holda, maqolada uchta metodik talab ilgari suriladi: vizual material aniq o‘quv maqsadiga xizmat qilishi; moslashtirish kuzatiladigan faoliyat dalillariga tayanishi; pedagogik yordam o‘quvchining mustaqil ishlashiga sharoit yaratishi kerak.

Natija va muhokama. Tadqiqotning asosiy nazariy-metodik natijasi sifatida adaptiv ta’lim muhitida interaktiv vizuallashtirishdan foydalanishning olti bosqichli ketma-ketligi taklif etildi. Bosqichlar bir martalik qat’iy tartibni emas, o‘quvchi natijalariga ko‘ra oldingi faoliyatga qaytish imkonini beradigan jarayonni ifodalaydi *(1-rasmga qarang)*.



1-rasm. Adaptiv ta’lim muhitida interaktiv vizuallashtirishdan foydalanish bosqichlari.

Birinchi bosqich - diagnostika. Dastlab o‘quvchining mavzuga oid tayanch bilimlari va amaliy harakatlari aniqlanadi. Buning uchun qisqa test, natijani oldindan aytish, xatoni topish yoki sodda amaliy topshiriqdan foydalanish mumkin. Faqat umumiy ballni qayd etish yetarli emas: o‘quvchi aynan qaysi tushuncha yoki amalni bajarishda qiynalayotganini aniqlash zarur.

Masalan, algoritm bajarilishiga oid topshiriqda noto‘g‘ri natija o‘zgaruvchining qiymatini yangilashni tushunmaslik yoki shartni noto‘g‘ri talqin qilish bilan bog‘liq bo‘lishi mumkin. Ushbu xatolar uchun turlicha vizual tushuntirish talab etiladi. Shuningdek, topshiriqqa ko‘p vaqt sarflashning o‘zi bilim yetishmasligini bildirmaydi; bu ko‘rsatkich javob va izohlar bilan birgalikda ko‘rib chiqiladi.

Ikkinchi bosqich - maqsad va individual yo‘nalishni belgilash. Diagnostika asosida erishilishi kerak bo‘lgan natija aniqlashtiriladi. Maqsad kuzatiladigan harakat orqali ifodalanadi: o‘quvchi jarayonni tushuntiradi, o‘zgarishni bashorat qiladi, xatoni aniqlaydi yoki mustaqil model tuzadi.

O‘quvchilarga umumiy asosiy maqsad saqlangan holda, unga erishishning turli yo‘llari taklif etiladi. Bir o‘quvchi tayanch

tushunchani takrorlaydi, boshqasi asosiy topshiriqni bajaradi, uchinchisi bilimini yangi sharoitga tatbiq etadi. Ushbu yo‘nalishlar doimiy toifalar bo‘lmaydi; yangi natijalar asosida o‘zgartiriladi.

Uchinchi bosqich - vizual materiallarni moslashtirish. Vizual materialning mazmuni, tafsilotlari va boshqaruv imkoniyatlari o‘quv maqsadiga muvofiq belgilanadi. Boshlang‘ich yordamga ehtiyoji bo‘lgan o‘quvchiga izohlangan sxema va qadamma-qadam bajarish imkoniyati, tayyorligi yuqoriroq o‘quvchiga esa kamroq ko‘rsatma bilan mustaqil boshqariladigan model taqdim etilishi mumkin.

Taklif etilayotgan yondashuvda moslashtirishning asosiy obyektlari - ko‘rinadigan axborot hajmi, topshiriq murakkabligi va yordam darajasidir. ***Masalan,*** dastlab muhim elementlar ajratib ko‘rsatiladi, keyinchalik o‘quvchidan ularni mustaqil topish so‘raladi. Vizual belgilash matnli izohlar bilan ham ta’minlanishi lozim.

To‘rtinchi bosqich - interaktiv faoliyatni tashkil etish. O‘quvchi vizual jarayonni kuzatish bilan birga, uning natijasini oldindan taxmin qiladi, parametrlarni o‘zgartiradi va o‘z taxminini tekshiradi. Ushbu bosqich uchun “bashorat qilish - bajarish - taqqoslash - izohlash” ketma-ketligi taklif etiladi.

Masalan, elektron jadvaldagi bir qiymat o‘zgartirilganda diagramma qanday o‘zgarishi oldindan so‘raladi. O‘quvchi qiymatni o‘zgartirgach, kuzatilgan natijani o‘z taxmini bilan solishtiradi va farq sababini tushuntiradi. Bunda baholash uchun tugmalarni bosish sonidan ko‘ra, bashoratning asoslanganligi va izohning mazmuni muhimroq hisoblanadi.

Beshinchi bosqich - teskari aloqa va pedagogik yordam. O‘quvchining xatosiga mos yordam beriladi. Taklif etilayotgan tartibda yordam dastlab yo‘naltiruvchi savol, zarurat tug‘ilganda muhim elementni ajratib ko‘rsatish, keyin qisman bajarilgan namuna shaklida taqdim etiladi. O‘quvchi vazifani mustaqil bajara boshlaganda yordam kamaytiriladi.

Masalan, “Javob noto‘g‘ri” degan xabar o‘rniga “Ikkinchi qadamdan keyin o‘zgaruvchining qiymati qanday bo‘ldi?” kabi savol beriladi. Agar qiyinchilik saqlansa, tegishli qadam qayta ko‘rsatiladi. Yordamdan keyingi to‘g‘ri javob esa mustaqil o‘zlashtirish dalili sifatida darhol qabul qilinmaydi; o‘xshash yangi topshiriq bilan tekshiriladi.

Oltinchi bosqich - yakuniy baholash va refleksiya. O‘quvchi erishgan natija dastlab belgilangan maqsad bilan taqqoslanadi. Baholashda tushunchani izohlash, amaliy vazifani bajarish, xatoni tuzatish va bilimni yangi vaziyatga qo‘llash hisobga olinadi. Refleksiya uchun “Qaysi bosqichda qiynaldim?”, “Qaysi yordam foydali bo‘ldi?”, “Keyingi safar nimani mustaqil bajara olaman?” savollaridan foydalanish mumkin.

Mazkur bosqich natijalari keyingi faoliyatni rejalashtirishga xizmat qiladi. Asosiy tushuncha o‘zlashtirilmagan bo‘lsa, tegishli vizual tushuntirishga qaytiladi; natija mustaqil bajarish orqali tasdiqlansa, murakkabroq vazifa beriladi.

Taklif etilgan bosqichlarni informatika fanida ***shartli algoritmni o‘rganish*** misolida qo‘llash mumkin. Dastlab o‘quvchidan berilgan qiymatda shartning rost yoki yolg‘onligini aniqlash so‘raladi. Keyin interaktiv blok-sxemada kirish qiymatini o‘zgartirish va bajariladigan yo‘lni kuzatish imkoniyati yaratiladi. Har safar o‘quvchi avval qaysi tarmoq bajarilishini bashorat qiladi, so‘ng jarayonni ishga tushirib, natijani izohlaydi. Xato yuz bersa, shart ifodasiga yo‘naltirilgan yordam beriladi. Yakunda o‘quvchi boshqa shartga ega algoritmni ko‘maklarsiz tahlil qiladi.

Ushbu metodik taklifning o‘ziga xos jihati diagnostik ma’lumotni aniq pedagogik qaror bilan bog‘lashidir. Masalan, shartni noto‘g‘ri talqin qilish shart ifodasini tushuntirishga, bajarilish ketma-ketligini chalkashtirish esa qadamma-qadam vizuallashtirishga asos bo‘ladi. Shu tariqa bir xil xabarning barcha o‘quvchilarga takroran berilishi o‘rniga, yordam mazmuni aniqlangan qiyinchilikka moslashtiriladi.

Biroq taklif etilgan ketma-ketlikning mavjudligi uning samaradorligi isbotlanganini anglatmaydi. Uni tekshirish uchun bir xil o‘quv mazmuni va vaqt sharoitida adaptiv hamda moslashtirilmaydigan interaktiv materiallardan foydalanish natijalarini taqqoslash mumkin. Dastlabki tayyorgarlik, mustaqil bajarish, yangi vaziyatga qo‘llash va ma’lum vaqtdan keyingi bilim saqlanishi baholanishi lozim. Ushbu maqolada bunday tajriba o‘tkazilmagan; natijalar metodik taklif sifatida taqdim etilmoqda.

Xulosa. Adaptiv ta’lim muhitida interaktiv vizuallashtirishdan foydalanish o‘quvchi faoliyatini diagnostika qilish, maqsadni aniqlash, materialni moslashtirish, amaliy harakatni tashkil etish[6], yordam berish va natijani baholashning o‘zaro bog‘liqligini talab etadi. Maqolada ushbu jarayonni tashkil etish uchun olti bosqichli metodik ketma-ketlik taklif etildi.

Moslashtirishning asosiy mezoni sifatida o‘quvchining kuzatiladigan natijalari: javoblari, izohlari, xato turlari va mustaqil bajarish darajasidan foydalanish maqsadga muvofiq. Vizual materiallar hamda pedagogik yordam shu dalillarga qarab o‘zgartirilishi kerak.

Foydalanilgan adabiyotlar:

1. Martin, F., Chen, Y., Moore, R. L., & Westine, C. D. (2020). Systematic review of adaptive learning research designs, context, strategies, and technologies from 2009 to 2018. *Educational Technology Research and Development, 68*, 1903–1929. https://doi.org/10.1007/s11423-020-09793-2.

2. Mayer, R. E. (Ed.). (2005). *The Cambridge Handbook of Multimedia Learning*. Cambridge University Press. Nashriyot taqdim etgan kitobdan parcha.

3. Hattie, J., & Timperley, H. (2007). The power of feedback. *Review of Educational Research, 77*(1), 81–112. https://doi.org/10.3102/003465430298487.

4. Munshi, A., Biswas, G., Baker, R., Ocumpaugh, J., Hutt, S., & Paquette, L. (2022). *Analyzing adaptive scaffolds that help students develop self-regulated learning behaviors*. arXiv preprint, arXiv:2202.09698. https://doi.org/10.48550/arXiv.2202.09698.

5. A.K.Atoyev “Moslashuvchan veb-tizimning pedagogik dizayni ishlab chiqish”. Intellektual axborot tizimlari va raqamli transformatsiya jarayonlarining innovatsion yechimlari. Qarshi. 2025. 503-507 b.

CONTENTS

1. Muxtorov Muhammadyusuf Anvarovich, (2026). TO‘QIMACHILIK SANOATI KORXONALARI UCHUN SOLIQ SIYOSATI: BARQAROR ISHLAB CHIQARISH VA AYLANMA IQTISODIYOTNI QO‘LLAB-QUVVATLASH MEXANIZMLARI *Academic Research in Educational Sciences, 7*(8), 5–7.

2. Nurafzal Qaytmas (2026). REVIEW OF OUTRIGGER SYSTEMS AND THEIR STRUCTURAL PERFORMANCE IN TALL BUILDINGS. *Academic Research in Educational Sciences, 7*(8), 8–26.

3. Kamilova Zulfira Abdujabbarovna (2026). NAVIGATING GLOBAL TRADE DYNAMICS: RESILIENCE, DIGITALIZATION, AND SUSTAINABLE SUPPLY CHAINS. *Academic Research in Educational Sciences, 7*(8), 27–30.

4. Nasriyeva Dilbar Muhiddinovna (2026). NODIRA - QO‘QON ADABIY MUHITINING ZABARDAST VAKILASI. *Academic Research in Educational Sciences,7*(8), 31–35.

5. Yuldasheva Surayyo Tursunovna (2026). THE ROLE OF ARTIFICIAL INTELLIGENCE IN ENHANCING ENGLISH LANGUAGE LEARNING *Academic Research in Educational Sciences, 7*(8), 36–38.

6. Анжелика Шамильевна Махмуджонова (2026). М. А. ШОЛОХОВ: РОМАН «ТИХИЙ ДОН» — СУДЬБА ЧЕЛОВЕКА НА ФОНЕ ИСТОРИИ *Academic Research in Educational Sciences, 7*(8), 39–45.

7. Сайднасирова Рухана Зайдиновна. (2026). ТЕМА ДЕГРАДАЦИИ ЛИЧНОСТИ В РАССКАЗЕ А.П. ЧЕХОВА «ИОНЫЧ». *Academic Research in Educational Sciences, 7*(8), 46–51.

8. Doston Mahkamov (2026). HAKAMLIK SUDLARINING TASHKIL ETISH TARTIBI, TURLARI VA UNING FAOLIYATI. *Academic Research in Educational Sciences, 7*(8), 52–57.

9. Ravshan Baxronov Rashid O’g’li (2026). SUN’IY INTELLEKT VA INSON HUQUQLARI: NAZARIY VA HUQUQIY ASOSLAR *Academic Research in Educational Sciences, 7*(8), 58–65.

10. H. B. Ismailova (2026). SPORT VA TA’LIMNI INTEGRATSIYALASH ORQALI 9–10 YOSHLI O‘QUVCHILARNI AQLIY VA JISMONIY RIVOJLANTIRISH METODLARI HAMDA VAZIFALARI *Academic Research in Educational Sciences, 7*(8), 66–73.

11. Azizjon Komiljon o‘g‘li Atoyev (2026). ADAPTIV TA’LIM MUHITIDA INTERAKTIV VIZUALLASHTIRISHDAN FOYDALANISH BOSQICHLARI *Academic Research in Educational Sciences, 7*(8), 74–80.