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Online Education Process: Problems and Prospects

The main purpose of the research is to explore the problems and prospects of the online education process. This study systematically analyzes the acceptance, challenges, and future development prospects of the online education model among different social groups – students, parents, and teachers – during 2019–2025. Online education, initially implemented as a necessity during the pandemic, later gained significance both as an independent form of education and as a component of hybrid learning. Surveys conducted with 1000 students and parents, and 500 teachers revealed that technical, psychological, pedagogical, and organizational challenges are complex in nature. Infrastructure deficiencies, unstable internet connectivity, uneven digital literacy, and limited interactivity were identified as factors directly affecting the quality of the learning process. Meanwhile, online education offers advantages such as personalized learning, inclusivity, reduced environmental impact, efficient time management, and access to international resources. Enhancing teachers' digital skills, updating assessment standards, strengthening parent collaboration, and establishing psychological support mechanisms are considered key conditions for improving the effectiveness of this model. The results indicate that while online and hybrid learning will not completely replace traditional education, they will remain an essential component of future education system development strategies. The research was conducted in three directions: Parental approach to online education, student approach, and teacher approach. At the initial stage, surveys and interviews were conducted with 1,000 parents and students. Then, based on these problems, a survey was conducted with 500 teachers. The changing results of students from 2019 to 2025 were analyzed.

Keywords: *Online education, digital skills, distance learning, educational technologies, interactive platforms, student motivation, virtual classrooms.*

Introduction. In the contemporary period, global digitalization processes have facilitated the emergence of new organizational models within the education system. In 2019, during the period when the COVID-19 pandemic prevailed worldwide, the educational process had to be suspended. Under such circumstances, online education – and subsequently hybrid education – gradually became the primary mode of learning for people. Digital learning environments that have emerged as a result of the development of information and communication technologies have reduced education's dependence on spatial and temporal constraints and have provided more accessible opportunities for diverse groups of learners. In particular, the interruption of traditional instruction during emergency situations has more clearly demonstrated the practical significance of online education mechanisms.

Online education, including online teaching and learning, has been studied for decades. Numerous research studies, theories, models, standards, and evaluation criteria focus on quality online learning, online teaching, and online course design. What we know from research is that effective online learning results from careful instructional design and planning, using a systematic model for design and development.[7] The design process and the careful consideration of different design decisions have an impact on the quality of the instruction. And it is this careful design process that will be absent in most cases in these emergency shifts (Hodges, Moore, Trust, & Bond, 2020).

Formulation of the problem. The rapid integration of online education into the learning process, initially driven by the COVID-19 pandemic, has created a set of complex and multifaceted challenges that require systematic investigation. While online and hybrid learning models offer clear advantages, including personalized learning, increased inclusivity, time efficiency, and access to international resources, their implementation has revealed significant obstacles that hinder the effectiveness and quality of education.

The central problem addressed in this research is the identification and analysis of the technical, psychological, pedagogical, and organizational challenges that arise in online education, as experienced by students, parents, and teachers from 2019 to 2025. Key issues include insufficient digital infrastructure, unstable internet connectivity, uneven digital literacy levels, limited interactivity, and gaps in assessment practices. These challenges not only compromise learning outcomes but also affect student engagement, parental participation, and teachers' instructional effectiveness.

Moreover, the research problem extends to understanding how these challenges intersect with social and institutional factors, such as parental involvement, teacher preparedness, and the adaptation of traditional educational practices to online and hybrid environments. The study aims to formulate evidence-based insights that can inform strategies for enhancing the effectiveness of online education while addressing the barriers identified across different stakeholder groups.

By systematically analyzing these challenges and the prospects of online education, this research seeks to provide a foundation for the development of sustainable, inclusive, and high-quality online and hybrid learning models that complement traditional education without replacing its essential functions. The main aim of this research is to explore the problems and prospects of the online education process by analyzing the experiences and perspectives of students, parents, and teachers from 2019 to 2025, and to identify strategies for enhancing the effectiveness and sustainability of online and hybrid learning models.

To achieve this aim, the study addresses the following tasks:

– **To identify and categorize the challenges of online education** experienced by students, parents, and teachers, including technical, psychological, pedagogical, and organizational aspects.

– **To analyze the infrastructure and digital literacy factors** affecting the quality and accessibility of online learning.

– **To examine the advantages and prospects** of online and hybrid education, such as personalized learning, inclusivity, efficient time management, and access to international resources.

– **To assess the role of parental involvement** in supporting students' engagement and learning outcomes in online education.

– **To evaluate teachers' preparedness and methods** for delivering effective online instruction, including the use of ICT tools, interactive methods, and ethical integration of AI.

– **To propose recommendations and strategies** for improving the effectiveness, inclusivity, and sustainability of online and hybrid education, aligned with the needs of all stakeholder groups.

Literature review. Nevertheless, the widespread implementation of the online education model has brought to the fore a number of common challenges from both pedagogical and technological perspectives. Many researchers have examined this issue from various angles; for instance, some have explored the evolution of online education through a review of a single specialized journal in the field and through the analysis of bibliometric indicators (Rourke, Szabo, 2002). They have examined distance education by distinguishing between its pedagogical and practical dimensions (Hodges, Moore, Trust, & Bond, 2020).

Uneven infrastructure development, limited access to high-quality internet, and disparities in users' levels of digital literacy are among the factors that affect the effectiveness of this process. On the other hand, organizing instruction in an online environment requires a reconsideration of pedagogical issues such as teachers' methodological preparedness, the adaptation of instructional materials, the maintenance of interactivity, and the reliability of assessment processes. These complexities can at times influence the quality of learning outcomes, creating certain gaps when compared with traditional instruction.

The opportunities that online learning environments offer for education are also substantial. The resource richness of digital platforms, the implementation of personalized learning strategies, the creation of broad opportunities for international academic collaboration, and the enhancement of educational inclusivity represent key prospective directions of this model. From this perspective, online education is no longer regarded merely as an alternative form of instruction but is increasingly viewed as an essential component in future educational development concepts. In this regard, the issue was addressed as early as 19 June 2009, when, pursuant to Article 13 of the Law on Education adopted in the Republic of Azerbaijan, distance (online) education was recognized as one of the official forms of education (Law on Education, 2020: Article 13).

The main part. It is necessary to analyze both the existing challenges of the online education process and its future development potential through a scientific approach. In order to ensure the sustainable development of digital education, the study focused on the formulation of comprehensive strategies, the strengthening of technological infrastructure, and the renewal of pedagogical approaches.

The research was conducted in three main directions: parents' attitudes toward online education, students' perspectives, and teachers' perspectives. Thus, surveys, interviews were conducted with 1,000 parents and students. Subsequently, based on the issues identified, a survey was carried out with 500 teachers. In addition, students' academic outcomes from 2019 to 2025 were analyzed to identify changes over time.

Online education offers significant advantages such as accessibility, convenience, and personalized learning opportunities. So, it is an important point to emphazise the advantages of online education:

– The use of instructional methods such as word association, role-playing, brainstorming, and similar techniques by some teachers has led to increased student engagement and interest.

– By assigning research topics to students and continuously monitoring their academic activities, their logical, critical, and creative thinking skills are developed. At the same time, research skills are cultivated, and students psychologically come to understand that solving problems requires investigation and inquiry;

– Students no longer face time losses caused by traffic congestion, commuting, or similar factors.

– It plays a significant role in addressing global environmental issues. Millions of people commute from their homes to educational centers by personal vehicles, which emit gases that disrupt the ecological balance of the planet. Online education effectively mitigates this problem;

– Regardless of students' health conditions, they were able to participate regularly in lessons, thereby promoting inclusivity;

– It relieves students, parents, and teachers from transportation expenses. (money saving)

– A key advantage of hybrid education, which is presented as a continuation of online education, is that it allows teachers to revisit and teach topics that students found difficult in online lessons using different methods and visual aids in face-to-face settings;

– The opportunity to work in online groups tailored to students with varying levels of comprehension and shared interests;

– The ability to make lessons more engaging through games and videos;

– Teachers organizing competitive-style lessons, which further motivate students;

– Holding a monthly poetry day in literature classes, which helps improve students' verbal skills while also familiarizing them with both national and world literature.

Despite the numerous advantages of online and hybrid education outlined above, the effective realization of these benefits largely depends on teachers' professional readiness, competencies, and available support systems. In practice, a gap often emerges between the potential of online education and its actual implementation. This gap becomes particularly visible when examining teachers' needs as perceived by students and parents.

Teachers' needs as perceived by students and parents

Some teachers' own lack of trust in online or hybrid education is reflected in students as well, which in turn leads to a decline in the quality of education. Examples of such challenges are included the following matters:

– Insufficient skills in creating video-based instructional materials;

– The absence of virtual laboratories available in the national language for each subject area, which causes difficulties for teachers with limited foreign language proficiency;

– The existence of various technical problems, including situations in which students with hacking skills take control of the online lesson environment, remove the teacher from the session, or disrupt the instructional process. In such circumstances, the involvement of IT specialists to support teachers during the teaching process becomes unavoidable;

– Even teachers who approach their teaching responsibilities conscientiously require continuous professional development and ongoing education;

– The ability to motivate students. Encouraging parents to monitor and support their children's learning is a separate professional competence, which not all teachers possess.

So, the connection between the two paragraphs is based on the relationship between the potential advantages of online education and the practical challenges that hinder their realization. While the first paragraph highlights the benefits, the second paragraph explains that these benefits cannot be fully achieved without addressing teachers' professional and technical needs.

The problems encountered in online lessons can be classified into several categories, with technical issues representing one of the most significant groups. These challenges directly affect the quality, continuity, and inclusiveness of the educational process.

Table 1

Classification of Problems Encountered in Online Lessons

Category	Problem	Description / Impact on Learning Process
1	2	3
Technical Infrastructure	Lack of internet access	Prevents students from joining classes or causes frequent disconnections
	Network congestion and system overload	Leads to unstable connections and reduced lesson quality
	Power outages	Interrupts and suspends the teaching process
	Limited or no electronic resources	Excludes learners with different abilities and limits teaching effectiveness
	Shortage of devices in families	Forces students to attend classes on a rotational basis

Table 1 (Continued)

Platform-Related Issues	Interruption of lessons every 40 minutes (Zoom)	Disrupts continuity and flow of instruction
	Difficulties using Microsoft Teams	Students unable to locate teachers or classmates
ICT Competence	Teachers' insufficient ICT skills	Reduces effective use of digital tools in teaching
	Students' limited ICT competencies	Causes difficulties in participation and navigation in online platforms
Organizational Issues	Absence of online attendance journals	Wastes lesson time due to manual attendance checking
	Lack of automated participation tracking	Reduces efficiency and accountability in the learning process
Learning Environment	Distractions from phone calls/ messages	Decreases students' concentration during lessons
	Shared device usage without supervision	Leads to lack of control and lower academic performance
Health-Related Issues	Prolonged exposure to screens	Causes eye strain and negatively affects learners' health

This situation raises an important question regarding how the missed lessons during the interim period can be compensated. This can be achieved through several measures, including the organization of supplementary classes, the use of recorded lectures for asynchronous learning, the provision of additional learning materials, and the implementation of flexible scheduling to ensure that students are able to cover the missed content effectively.

Integration of Family and Household Issues into the Educational Process

This sector refers to the role of family-related and household factors in shaping students' learning experiences. It covers aspects such as parental involvement, home learning conditions, access to devices, and socio-economic status, all of which significantly influence students' ability to participate effectively in the educational process.

– The inclusion of household-related issues in the lesson often causes the instructional content to deviate from the intended topic and follow an unintended direction;

– Learners from low-income families frequently lack access to electronic resources or are compelled to use their parents' mobile phones. Consequently, when parents leave home, students are excluded from lessons;

– External noises during the instructional process hinder the effectiveness of the lesson and lead to distraction;

– Many parents do not take online education seriously and remove children from lessons to involve them in household chores;

– Odors from food prepared at home distract children and reduce their ability to concentrate;

– A considerable number of parents fail to recognize online lessons as a formal and structured educational process.

Psychological Problems

This sector refers to the psychological and behavioral challenges experienced by both learners and teachers in the context of online education. It encompasses issues related to motivation, engagement, cognitive independence, emotional expression, and social interaction. These factors significantly influence the effectiveness of the learning process and the overall development of students.

One of the major concerns is the lack of independent cognitive engagement among learners, as assignments are often completed with the assistance of family members or by copying answers from external sources. This practice reduces critical thinking and undermines the learning process. In addition, absenteeism and disengagement from lessons tend to increase in online environments, reflecting decreased motivation and responsibility.

Another important issue is the lack of structured, goal-oriented activities on the part of both teachers and students, which contributes to the perception that online education is ineffective. Furthermore, the absence of regular peer interaction leads to a decline in oral communication skills, increased social withdrawal, introversion, and weakened communicative competence.

Emotional factors also play a significant role. Both teachers and students often face difficulties in expressing emotions effectively in a virtual environment, which negatively affects the quality of interaction and mutual understanding. Finally, learners with rigid or closed patterns of thinking may struggle to adapt to the flexible and self-directed nature of online learning, further limiting their academic progress.

Problems Related to Teachers' Professional Capacity

This sector refers to the limitations in teachers' professional competencies that affect the effectiveness of the teaching and learning process in online education. It includes issues related to pedagogical skills, instructional strategies, adaptability to digital environments, and the effective use of information and communication technologies (ICT). These factors play a crucial role in maintaining student engagement, ensuring inclusivity, and achieving learning outcomes.

One of the key challenges is the use of monotonous teaching methods, particularly uniform speech delivery, which leads to a decline in learners' interest and attention. As a result, students may become disengaged, participate in unrelated activities, or even fall asleep during lessons. This indicates the need for more interactive and dynamic instructional approaches.

Another significant issue is the limited use of diverse ICT tools. This particularly affects learners with different learning styles, such as those with strong spatial–visual and bodily–kinesthetic intelligences, who may become relatively excluded from the educational process. The lack of methodological diversity reduces the inclusiveness and effectiveness of instruction.

Furthermore, teachers who adhere to rigid or traditional teaching practices often struggle to implement creative and student-centered approaches in online environments. This resistance to pedagogical innovation negatively impacts the quality of education. In addition, some teachers face difficulties in adapting to online education, which further limits their ability to manage digital classrooms effectively.

Finally, a critical concern is that a significant number of teachers do not participate in online lessons at all, which directly disrupts the continuity of the educational process and undermines students' learning opportunities.

Insufficient Methodological and Pedagogical Competence

This sector refers to the недостатки (shortcomings) in instructional design, teaching methodology, and assessment practices that affect the quality and effectiveness of the educational process, particularly in online and hybrid learning environments. It encompasses issues related to lesson planning, student engagement, assessment strategies, and the practical orientation of teaching. These factors are essential for ensuring meaningful learning and the development of students' competencies.

One of the key problems is the limitation of student participation during lessons. In some higher education contexts, lecturers discourage students from asking questions in order to complete the planned content. However, this approach contradicts the pedagogical principle that emphasizes depth of understanding over the quantity of material covered. A more effective approach is to focus on thorough comprehension rather than superficial coverage.

Another significant issue is the absence of well-defined and level-appropriate assessment standards in online learning environments. Since assessment should function as a motivational and developmental tool, the lack of clear criteria reduces its effectiveness and may negatively impact students' learning outcomes.

Problems also arise in the organization and delivery of lessons. For instance, when only a limited number of students attend online classes, some teachers choose not to conduct the lesson or reduce it to minimal interaction. This practice undermines fairness and disregards the needs of attending students. Similarly, the use of grades as a means of intimidation reflects an inappropriate pedagogical approach and negatively affects the learning climate.

Institutional and methodological unpreparedness is another concern, as many educational institutions lack sufficient experience and strategic planning for online or hybrid education. In addition, teachers often fail to treat lesson breaks as structured and purposeful elements of the instructional process, which reduces overall lesson effectiveness.

Further challenges include off-topic discussions during lessons, especially after the departure of observers, which distract from intended learning outcomes. There is also insufficient emphasis on practical activities, despite the need for students to acquire hands-on or simulated experience prior to internships or professional practice.

Finally, the continuous reliance on the same teaching methods limits pedagogical diversity and reduces student engagement. Learners themselves emphasize the importance of connecting instructional content to real-life contexts, noting that demonstrating practical relevance significantly increases their interest and motivation in the learning process.

Problems Related to Students' Psychological Well-Being

– Although academic success is more attainable for students who are surrounded by peers who are goal-oriented, disciplined, ethical, and responsible, those who study alongside peers who do not meet ethical standards often experience stress and emotional strain;

– Learners' inability to adapt to the instructional process in online or hybrid education formats;

– Learners who are unable to maintain eye contact with their teachers experience psychological discomfort during lessons;

– Negative effects on the social adaptation of shy or introverted students;

– The widespread occurrence of cheating leads to situations in which students with weaker academic potential receive high grades, causing demotivation among other students. Therefore, assessment methods and tools for hybrid and online education should be developed separately and with particular care;

– Students who favor structured and disciplined lessons may perceive online or hybrid classes as ineffective. In this regard, it is advisable to develop specific rules and procedures collaboratively with students for certain aspects of instruction.

– When teachers requested that cameras be turned on, many students refused to comply. One of the reasons for this was that the material conditions and living environments in many students' homes were inadequate or unstable. As a result, students, feeling uncomfortable or anxious about their circumstances, chose not to activate their cameras.

– A significant problem observed was that many pupils and students, despite having access to the internet, deliberately used technical issues as a pretext to avoid joining lessons, thereby disengaging from the learning process. To address this issue, teachers should work systematically and on a regular basis with both students and parents. In this context, the importance of education should be explained to family members as a key guarantee of the family's future. Families must be persuaded to adhere to the principle of unity and consistency in expectations within both the household and the educational process.

– Some students candidly admit that, although they had internet access, they did not attend the lessons of certain teachers. This highlights the importance of the teacher factor, particularly the teacher's ability to engage students and foster interest in both themselves and the subject matter.

– In some students, a weak sense of responsibility is observed. As a result, they do not take education seriously and refrain from participating in lessons. Even when they do join, they are often engaged in other activities during class rather than focusing on the learning process.

Mechanisms for Working with Parents

This sector focuses on strategies and approaches aimed at fostering effective collaboration between teachers and parents to support students' learning. It highlights the importance of parental engagement in both face-to-face and online educational environments, emphasizing how family involvement can influence learners' motivation, responsibility, and overall academic success.

One of the underlying challenges is the historical context of teacher–parent relationships. Issues that originated during face-to-face education–such as the exclusion of aggressive parents or the deterioration of communication between teachers and parents – can negatively affect the online learning process as well, making it essential to establish structured mechanisms for parental involvement.

To address this, parental awareness-raising measures are recommended. These include assigning joint tasks that involve parents, organizing parent–teacher conferences, holding regular meetings with parents, and promoting an understanding of the critical role that parental participation plays in the educational process.

Another effective mechanism is the recording and sharing of lessons with parents. This practice encourages students to take greater responsibility for their learning and provides parents with an opportunity to observe instructional quality. Consequently, it fosters trust and active engagement among parents, which can lead to more successful educational outcomes for students.

Results of the Analyses Conducted with Teachers

During the period of online education, the situation regarding information and communication technologies (ICT) and internet access had been summarized. Look at Figure.

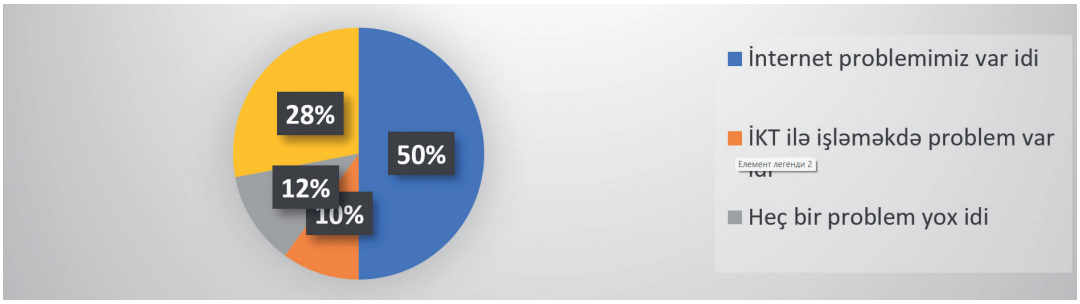

Fig. 1. Problems regarding İnformation Communication Technology or interner access. Blue-we had an internet problem, orange- we had a problem of using ICT, grey-we had nor any problems, yellow-students ICT ability was weak

Source: Survey conducted by the author.

Problems encountered by teachers on the online platforms used include

This sector refers to the challenges faced by teachers while delivering lessons through online platforms. It encompasses technical, pedagogical, and infrastructural issues that directly affect teachers' ability to conduct effective and interactive instruction. These problems influence both the quality of teaching and the learning experience of students, highlighting the need for platform-specific adaptations and support mechanisms.

The main issues can be classified into two categories: Technical and Interaction-related problems. A detailed overview is provided in the table below:

Methods used by teachers to attract and maintain students' attention include:

This sector focuses on pedagogical strategies and instructional techniques employed by teachers to engage students effectively in online learning environments. Maintaining learners' attention is crucial for ensuring active participation, comprehension, and the overall success of the educational process. The strategies highlighted here are particularly important in virtual classrooms, where distractions and limited interaction can reduce student engagement.

Teachers use a variety of methods to capture and sustain students' interest. One widely used approach is the incorporation of interactive games and quizzes, such as Kahoot and Quizizz, which encourage active participation and immediate feedback. Visual materials, when combined with brief discussions, also help reinforce understanding and maintain attention by catering to different learning styles.

Another effective technique is linking lesson content to personal examples or real-life experiences, which makes the material more relatable and meaningful to students. Additionally, posing problem-based or situational questions stimulates critical thinking, encourages active cognitive engagement, and allows students to apply knowledge in practical contexts.

Shortcomings encountered during the implementation of the applied methods include:

This sector addresses the challenges and limitations teachers encounter when implementing interactive and applied teaching methods in online learning environments. While these methods – such as games, quizzes, and problem-based activities – are designed to engage students and enhance learning, their effectiveness can be constrained by behavioral, technical, and environmental factors. Understanding these shortcomings is essential for improving instructional strategies and achieving desired learning outcomes.

One notable challenge is the refusal of some students to attend lessons, which reduces the overall effectiveness of interactive activities. Additionally, limited physical mobility in the online environment can lead to lethargy and decreased participation among learners.

Game-based activities, although engaging, can also create difficulties. Some students who struggle to accept defeat may leave the lesson prematurely, disrupting both their own learning and the dynamics of the class. Technical limitations further exacerbate these issues, as students who have difficulty using ICT tools may be unable to fully participate in applied activities.

Finally, the online implementation of interactive methods cannot entirely eliminate parental interference. While parental involvement can be beneficial, uncontrolled interference during game-based or collaborative activities may hinder students' independent engagement and the intended learning experience.

Steps taken by teachers to transform parents into active stakeholders in the educational process include:

This sector focuses on the strategies and actions employed by teachers to actively involve parents in supporting and enhancing the learning process. Parental engagement is crucial for reinforcing students' motivation, responsibility, and achievement, particularly in online or hybrid educational environments. By transforming parents into active stakeholders, teachers can create a more collaborative and effective educational ecosystem.

Teachers take several steps to achieve this goal. First, they conduct awareness-raising and informative discussions to clarify the importance of parental participation. Regular feedback on students' learning outcomes

Table 2

Classification of Problems Encountered by Teachers on Online Platforms

Category	Problem	Description / Impact on Teaching
Interaction-related	Inability to achieve live, emotional interaction	Teachers cannot replicate the immediacy and personal engagement of face-to-face lessons, reducing student engagement and feedback opportunities
Technical	Frequent technical disruptions and system freezes	Interrupts the flow of lessons, causes delays, and reduces instructional effectiveness
	Dependence on internet connectivity	Teachers' ability to deliver content is limited by network instability, particularly in regions with weak internet infrastructure
	Lack of a locally designed network system	Absence of regionally adapted networks prevents stable access for teachers in areas with weak or unstable internet, hindering lesson continuity

and the consistent sharing of statistical results with parents help maintain transparency and encourage parents' support. Assigning research tasks that require collaboration between students and parents fosters active participation in academic activities.

Furthermore, teachers address challenges by emphasizing positive aspects initially, thereby promoting constructive communication. Strengthening and deepening ongoing interactions, as well as encouraging parents to observe lessons, enables meaningful post-lesson discussions between parents and their children. These practices help establish trust, accountability, and shared responsibility for student learning.

Maintaining a Human Advantage in the Era of Artificial Intelligence

In the era of artificial intelligence, teachers face the challenge of maintaining their unique human contribution to the educational process – an area where machines cannot fully replace human qualities. This question is raised to highlight the essential skills and pedagogical approaches that enable teachers to remain indispensable in education.

To maintain this advantage, teachers must be creative, designing lessons with care and compassion that are grounded in both national and universal values. They should expand the use of differentiated instructional approaches to meet diverse learners' needs and demonstrate empathy, fostering meaningful teacher–student relationships. Such human-centered qualities ensure that education remains a holistic process, integrating intellectual, emotional, and social development, which cannot be fully replicated by AI technologies.

Areas Where Teachers in Online Education May Require Support

This sector focuses on the types of support that teachers may need to effectively conduct online education and adapt to evolving digital learning environments. The question regarding the areas in which support is required is raised to identify gaps in teachers' preparedness and to emphasize the importance of providing targeted assistance. Understanding these needs is crucial to ensure the quality, inclusiveness, and sustainability of online education.

Teachers involved in online instruction often require technical support to manage platform-related issues, troubleshoot connectivity problems, and ensure smooth delivery of lessons. Without such support, technical disruptions can significantly undermine instructional effectiveness and student engagement.

Another essential area is training in the use of various digital games and ICT tools. These tools are increasingly used to engage learners, promote active participation, and enhance understanding through interactive and applied learning methods. Adequate training ensures that teachers can select and implement these tools effectively, catering to diverse learning styles and maintaining students' interest.

Finally, teachers need comprehensive instruction on the effective and ethical use of artificial intelligence (AI) in education. As AI tools become more integrated into the learning process, it is essential for educators to understand how to leverage these technologies responsibly. This includes using AI to enhance personalized learning, provide timely feedback, and support differentiated instruction, while ensuring ethical considerations and data privacy are respected.

By identifying these areas, educational institutions can design targeted professional development programs and support systems that strengthen teachers' competencies, improve the quality of online education, and ultimately enhance student learning outcomes.

Analysis of the Admission Plan of the State Examination Center (SEC)

This sector focuses on the examination of admission trends and quotas established by the State Examination Center (SEC) for both higher education and secondary specialized education institutions. The analysis of these admission plans provides insight into applicant demand, competitiveness, and the allocation of educational opportunities across various specialization groups. Understanding these patterns is essential for policymakers, educators, and students to assess the accessibility and distribution of educational resources.

Compared to previous years, the admission quotas for the 2022–2023 academic year increased significantly, reflecting both rising demand and efforts to expand educational opportunities. According to SEC data, a total

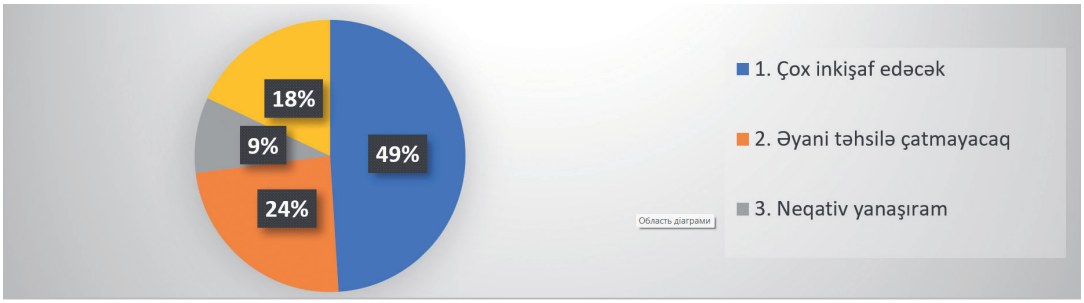

Fig. 2. Teachers' opinion about online education

of 78,506 applicants participated in the entrance examinations for Groups I–IV, while 103,007 applicants took part in Group V examinations, resulting in a combined total of 108,188 applicants for secondary specialized education institutions.

In higher education entrance examinations, 6,207 applicants scored above 500 points, including 1,494 applicants achieving scores above 600. The distribution of applicants scoring 600 points or higher by specialization groups was as follows: 38.55% (576 applicants) in Group I, 11.24% (168 applicants) in Group II, 24.83% (371 applicants) in Group III, and 25.37% (379 applicants) in Group IV (Summary of SEC, 2023). This distribution provides valuable information on the concentration of high-achieving applicants and highlights areas of academic competitiveness across different fields of study.

The figure 3 is necessary to provide a visual representation of long-term trends in higher education demand and competition. By presenting these historical data graphically, the figure helps readers quickly comprehend fluctuations in applicant numbers, the relative growth of admission quotas, and patterns of accessibility across years. The visualization supports the analysis of student demand in relation to available educational opportunities, thereby complementing the textual discussion of admission trends and highlighting the context for evaluating educational planning and policy decisions.

The figure illustrates the dynamics of admission quotas to higher education institutions and the number of applicant submissions between 1992 and 2023. The data demonstrate a long-term increase in the number of applications, particularly from the late 1990s to the mid-2000s, significantly exceeding the officially established admission quotas. This gap indicates a sustained high demand for higher education.

From approximately 2010 onward, a relative decline in application numbers can be observed, followed by renewed growth in recent years. In contrast, admission quotas increased more gradually and remained comparatively stable, reflecting state-regulated enrollment policies. The persistent disparity between application numbers and admission quotas highlights the competitive nature of access to higher education and the structural challenges associated with aligning demand with institutional capacity.

Approbation of research results: The research was conducted in the Philology Faculty of Sumgayit State university.

Conclusion. The present study aimed to explore the problems and prospects of the online education process by systematically analyzing the perspectives of students, parents, and teachers from 2019 to 2025. The research confirmed that the challenges associated with online education are multifaceted, encompassing technical, psychological, pedagogical, and organizational dimensions. Issues such as unstable internet connectivity, insufficient infrastructure, uneven digital literacy, and limited interactivity were identified as significant barriers that affect the overall quality and inclusiveness of the learning process.

At the same time, the findings highlight several opportunities offered by online education, including personalized learning, enhanced inclusivity, reduced environmental impact, efficient time management, and access to international educational resources. The study demonstrates that enhancing teachers' digital competencies, updating assessment standards, promoting active parental collaboration, and establishing psychological support mechanisms are crucial for maximizing the effectiveness of online and hybrid learning models.

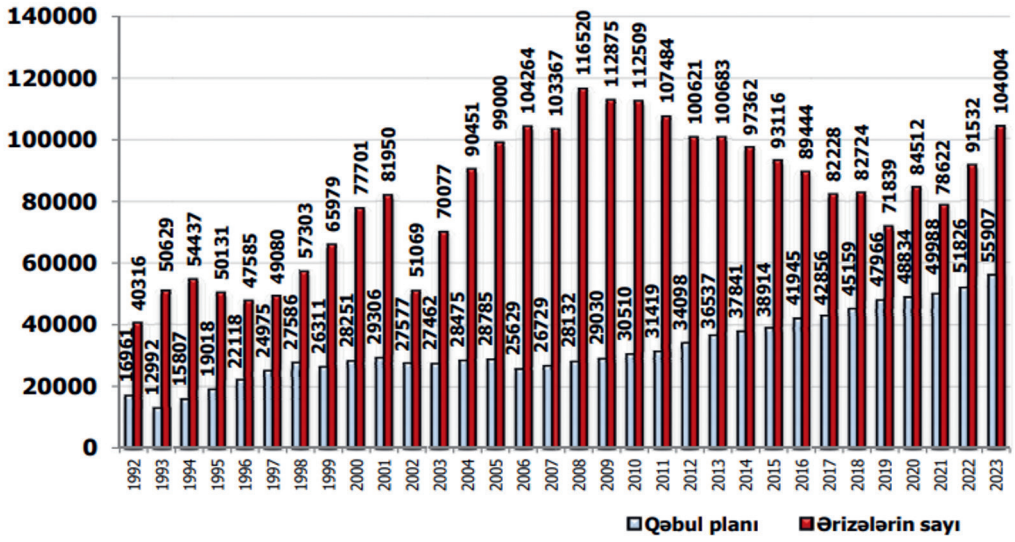

Fig. 3. Dynamics of Admission Quotas and the Number of Applicant Submissions to Higher Education Institutions (1992–2023) (The summary of "Abituriyent" journal, 2023)

Overall, the research indicates that while online and hybrid learning cannot entirely replace traditional face-to-face education, they will continue to play a pivotal role in the future development of educational systems. The analysis of students' academic performance trends, parental engagement, and teachers' adaptation from 2019 to 2025 confirms that a balanced integration of traditional, online, and hybrid methods is essential to address current challenges, improve learning outcomes, and ensure equitable access to quality education.

In conclusion, the study's findings directly correlate with its aim and objectives, providing evidence-based recommendations for policymakers, educators, and institutions to enhance the sustainability and effectiveness of online education while addressing the complex challenges identified among all stakeholder groups.

Процес онлайн-освіти: проблеми та перспективи

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Головною метою дослідження є вивчення процесу онлайн-освіти: проблеми та перспективи. У цьому дослідженні здійснено системний аналіз сприйняття, наявних труднощів і перспектив розвитку моделі онлайн-освіти серед різних соціальних груп – учнів, батьків і викладачів – у період з 2019 по 2025 рік. Онлайн-навчання, спочатку запроваджене як вимушений захід під час пандемії, згодом набуло значення як самостійна форма освіти та як складова гібридного навчання. Опитування, проведені серед 1000 учнів і батьків та 500 викладачів, засвідчили, що технічні, психологічні, педагогічні й організаційні проблеми мають комплексний характер. Недоліки інфраструктури, нестабільне інтернет-з'єднання, нерівний рівень цифрової грамотності й обмежена інтерактивність визначені як чинники, що безпосередньо впливають на якість освітнього процесу. Водночас онлайн-освіта надає такі переваги, як персоналізоване навчання, інклюзивність, зменшення екологічного навантаження, ефективне управління часом і доступ до міжнародних ресурсів. Підвищення цифрових компетентностей викладачів, оновлення стандартів оцінювання, зміцнення співпраці з батьками та створення механізмів психологічної підтримки визначені як ключові умови підвищення ефективності моделі. Результати свідчать, що онлайн- та гібридне навчання, не повністю замінюючи традиційну освіту, залишатимуться важливою складовою стратегій розвитку освітньої системи в майбутньому. Дослідження проводилося у трьох напрямах: підхід батьків до онлайн-освіти, підхід учнів та підхід вчителів. На початковому етапі були проведені анкетування та інтерв'ю з 1000 батьків і учнів. Потім, на основі цих проблем, було проведено опитування з 500 вчителями. Було проаналізовано зміну результатів учнів з 2019 по 2025 рік.

Ключові слова: *онлайн-освіта, цифрові навички, дистанційне навчання, освітні технології, інтерактивні платформи, мотивація учнів, віртуальні класи.*

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