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PEDAGOGICAL CHALLENGES OF USING ARTIFICIAL INTELLIGENCE AND DIGITAL TECHNOLOGIES IN DEVELOPING LANGUAGE SKILLS AMONG PRIMARY SCHOOL STUDENTS

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Abstract. This study examines how artificial intelligence (AI) and digital technologies can support language learning in young children. It also identifies a list of challenges that arise when integrating these tools into the educational process. Institutional, methodological, and social factors demonstrate the impact of successfully integrating AI into language education. The study also examined parents' attitudes toward the use of AI and digital tools in their children's education. The study is based on the idea that when schools do not provide clear guidelines, recommendations, or methodological support for the use of digital resources, teachers and families may struggle to effectively use AI tools. This means that reading, writing, speaking, and vocabulary—key language skills—may not develop at an early age. The study was conducted in 2025 in Shymkent and employed a quantitative research design involving a survey of 113 parents of children in grades 1–4. The analysis revealed a strong positive correlation between institutional support and the frequency of digital technology use ($r = 0.639$, $p < 0.001$). The hypothesis was confirmed. Parents are highly aware of digital educational tools, but they do not use them in their daily lives. The study identified pedagogical challenges: insufficient teacher training, digital inequality, a lack of methodological recommendations, and technological dependence. The latter is of particular concern to parents. The results suggest a comprehensive strategy combining teacher training, methodological guidance, and systematic institutional support for the use of AI and digital tools in language teaching in primary schools.

Keywords: artificial intelligence, digital technologies, language skills, primary education, institutional support, parental attitudes, pedagogical challenges, language education

Introduction

Contemporary education is undergoing profound transformation under the influence of digital technologies and artificial intelligence (AI). In the educational context, AI refers to digital tools that can perform tasks such as language processing, personalized learning, and providing feedback. This is particularly significant in primary school, where the foundations of a child's language development are laid in reading, writing, oral communication, and vocabulary. The use of digital tools opens up new pedagogical opportunities; however, it

simultaneously presents teachers and parents with a range of challenges, from methodological support to ensuring equitable access to technology.

In August 2025, the President of the Republic of Kazakhstan, Kassym-Jomart Tokayev, emphasized that the competent use of artificial intelligence by the younger generation should become a fundamental condition for the country's digital transformation [1]. The head of state emphasized the importance of expanding the AI-Sana program. This program is aimed at preparing schoolchildren, as well as improving the professional qualifications of teachers. Therefore, developing language skills for elementary school students using modern tools, including AI, is so important. Implementation should be gradual. The development of digital literacy and technological competencies is a rapid and fundamental process for the republic. It accelerates growth in all areas – from the economy to education.

Modern research confirms the active use of digital technologies. New opportunities come with them. The presence of positive aspects does not protect against risks. For example, a study conducted on a sample of 600 pre-service teachers found that internet addiction is a significant factor associated with feelings of loneliness and difficulties in interpersonal relationships, whereas differences in gender, age, or place of residence play a less substantial role [2]. The authors concluded that frequent use of digital tools can negatively impact emotional well-being and reduce social adaptation. This is especially important at the initial stage of education. After all, during this period, children not only develop language skills but also understand their social identities through communication.

Regardless of how advanced digital technologies become and how sophisticated artificial intelligence systems are developed, competent teacher support remains necessary. Of course, educators do not view teaching AI as a separate subject. Only integration into traditional classes and adaptation of educational material to the new realities are important. Teachers are unsure of their knowledge regarding AI and the appropriateness of curriculum adaptation, and therefore, support from program developers is needed. It is essential to develop students' competent interpretation and use of AI [3].

Kazakhstani pedagogical literature also highlights the dual nature of AI integration. On the one hand, researchers point to promising opportunities such as personalized learning, automated assessment, expanded access to educational resources, and reduced teacher workload. On the other hand, they note several significant challenges: the absence of a clear definition of "artificial intelligence" in the educational context, the threat of dehumanizing the learning process, the risk of teacher replacement, increased dependency on technology, and the potential decline in students' cognitive abilities [4, 5]. According to Nurgali [6] and colleagues, the primary driver of AI implementation in higher education is the broader digitalization of the educational system. Their findings reveal that AI technologies in Kazakhstan are still underutilized and are mostly limited to chatbots, virtual assistants, and search services such as ChatGPT. The authors identify several critical issues, including teachers' lack of trust in AI capabilities, insufficient competence in this field, and the absence of accessible tools for adaptive

and personalized learning. They conclude that the successful integration of AI into educational practice largely depends on teachers' readiness and professional training, as well as the availability of methodological and didactic solutions for incorporating these technologies into teaching and learning processes [7].

Colleagues in Kazakhstan [8] examine the challenges of maintaining academic integrity in the context of the rapid development of generative artificial intelligence. New technologies hinder student independence and negatively impact the development of critical thinking. This is certainly true. In this context, researchers emphasize the importance of focusing on and promoting a culture of academic integrity in schools.

The integration of AI into education opens new horizons not only in language learning but also in other areas, including sustainable development. As Leal Filho [9] notes, AI improves the learning process through a personalized approach to instruction. Rapid feedback develops critical thinking and complex problem-solving skills. At the same time, the authors emphasize the need for continued research into the ethical implications and potential pedagogical risks.

However, alongside these opportunities, the implementation of digital technologies and AI in education also reveals a number of serious pedagogical challenges. First and foremost, digital inequality remains a persistent issue: not all families can provide children with modern devices and stable internet access, which exacerbates educational disparities among students [10]. A second significant challenge is the insufficient readiness of teachers to effectively use new technologies. Some educators struggle to work with digital platforms and often lack an understanding of how to integrate them into the learning process.

Teachers' confidence in using ICT in teaching is reflected in their learning and critical assessment of their information literacy [11]. The lower the level of digital proficiency, the less effective the introduction of new digital tools becomes. This finding is consistent with a broader body of research emphasizing the strong relationship between teachers' digital competence and the effectiveness of technology integration.

Experimental studies consistently highlight that teacher perceive game-based educational platforms with automated tools (monitoring, assessment, and support). In particular, teachers with higher levels of digital literacy tend to evaluate these tools more positively, whereas less experienced teachers may perceive them as challenging or less reliable. This demonstrates that the effectiveness of digital tools depends not only on their technical features but also on teachers' pedagogical readiness [12].

Teachers' success in integrating AI largely depends on their own initiative. A lack of practice and methodological materials hinders technological progress at any level of education, including primary school. For example, at a university, teachers face challenges such as a lack of methodology, the organization of the educational process using AI, and technical implementation issues. Therefore, teachers' personal intentions, the goals they set for themselves, and the support

they receive from educational institutions play a key role [13]. Thus, both individual and institutional factors should be considered when analyzing the effectiveness of AI integration in education.

Following all of this, it's worth mentioning the social and psychological challenges faced by parents and teachers. Excessive use of digital devices can lead to dependency, superficial knowledge acquisition, decreased motivation for traditional reading and writing, and fears that the role of the teacher in the educational process may be diminished or replaced by technology [14]. These concerns are widely reflected in the literature, and indicate that the integration of digital technologies is not only a pedagogical issue but also a socio-cultural challenge.

Object of the study – the process of developing language skills among primary school students in the context of digital education digitalization.

Subject of the study – the pedagogical conditions, challenges, and factors influencing the use of artificial intelligence (AI) and digital technologies in the development of language skills among primary school children.

Research aim – to identify the pedagogical problems arising from the use of AI and digital technologies in the formation of language skills among primary school students, as well as to determine parents' attitudes towards this process. To achieve this aim, particular attention is paid to analyzing the factors that may either facilitate or hinder the effective integration of digital tools into primary education practice.

Research hypothesis – insufficient institutional and methodological support from schools (including the lack of recommendations for digital resources) significantly limits the use of artificial intelligence and digital tools in developing language skills among primary school students, which, in turn, exacerbates the pedagogical challenges of integrating these technologies into the educational process.

Materials and methods

This study employed a quantitative research design based on a questionnaire survey of parents of primary school students. A total of 113 responses were collected, representing parents of children in grades 1–4: first grade – 32 children (28.3%), second grade – 38 (33.6%), third grade – 32 (28.3%), and fourth grade – 11 (9.7%). Among respondents, 53 were boys (53.1%), and 60 were girls (46.9%).

Participants were parents of primary school students (grades 1–4) from the city of Shymkent, Republic of Kazakhstan. The majority reported that their children attended schools named after D.A. Qonaev, Oraz Zhandosov School No. 30, and, in some cases, Secondary School No. 43.

The questionnaire was bilingual (Kazakh and Russian) and consisted of three main sections: demographic characteristics and access to digital resources, the use of digital and AI tools, and perceptions of their effectiveness and practical application. The survey covered the following thematic areas:

-Socio-demographic data (school, grade, child's gender, device used, internet quality).

-Parents' awareness of digital tools and whether they received recommendations from the school.

-Use of digital and AI tools (educational applications, chatbots, dictation functions, adaptive learning platforms).

-Perceived effectiveness and experience (child motivation, independence, vocabulary development, trust in results).

-Open-ended questions capturing parental concerns and expectations regarding the use of AI and digital technologies in education.

The questionnaire included a mix of closed, Likert-scale (five-point), and open-ended questions, enabling the combination of quantitative and qualitative analyses. Data collection was conducted online via Google Forms, and participation was voluntary and anonymous.

The empirical data analysis was carried out in several stages using both quantitative and qualitative methods. Statistical data processing was conducted using IBM SPSS Statistics 26, which ensured high accuracy of calculations and enabled the execution of all necessary analytical procedures.

At the first stage, descriptive statistical analysis was performed, including the calculation of frequency distributions, means, and standard deviations. This allowed for a general overview of the level of digital and AI tool usage by parents and children and the identification of key trends in perceptions of their effectiveness and role in developing language skills among primary school students.

At the second stage, to test the research hypothesis and identify statistically significant relationships between key variables, a correlation analysis was conducted using the Pearson correlation coefficient. This method was chosen because the analyzed indicators (level of digital tool usage, perceived effectiveness, and institutional support from the school) are quantitative variables measured on an interval scale and approximately normally distributed. The use of the Pearson correlation allowed not only the identification of statistically significant relationships between the variables but also the assessment of their strength and direction, which is crucial for testing the hypothesis regarding the influence of institutional support on the use of digital and AI technologies.

In addition, a content analysis of open-ended responses was conducted to identify the most frequently mentioned parental concerns associated with the use of digital technologies and artificial intelligence. Among the most prominent themes were risks such as dependency on smartphones and digital devices, reduced independence and critical thinking skills in children, and loss of social skills due to excessive reliance on technology.

Results

The findings indicate that the smartphone is the primary device used for educational purposes, as reported by 40.7% of respondents. Tablets are used less frequently (15%), while laptops are employed by only 8.8% of students. A significant proportion of parents also noted that their children continue to rely exclusively on traditional learning tools, such as books and notebooks.

Access to the internet within families is generally assessed positively. More than half of respondents (55.8%) reported having high-quality internet connections, while 40.7% described their connection as moderate, and only 3.5% indicated a low-quality connection.

When asked, "Have you heard of applications or programs designed for learning reading, writing, or language skills?" parents provided varied responses. Only 15% of respondents (17 individuals) reported that their child actively uses such applications. More than half (52.3%, 59 respondents) indicated that they were aware of the existence of these digital tools but that their children do not use them. Meanwhile, 32.7% (37 respondents) admitted that they were not familiar with such programs at all (Figure 1).

These results demonstrate that although the overall level of parental awareness of language-learning applications is relatively high (approximately two-thirds of participants are familiar with such resources), their actual use in practice remains very low.

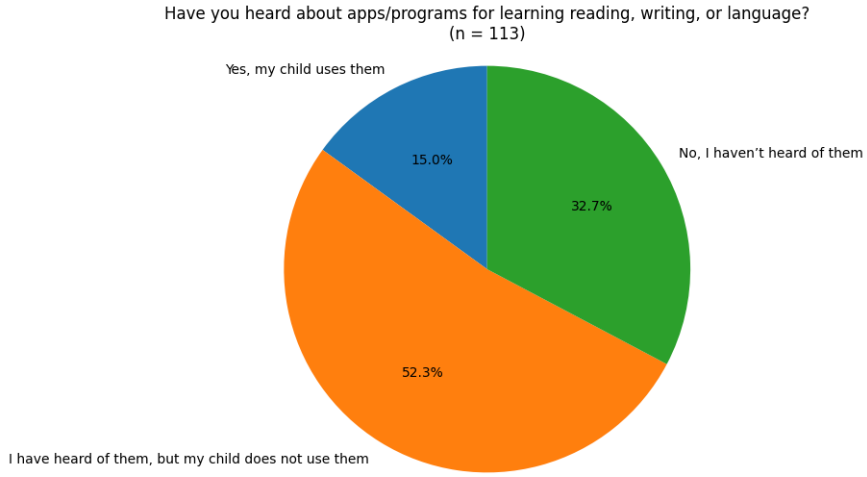

Figure 1 – Parental awareness and use of digital language-learning applications

A particularly important finding is that schools provide very limited systematic recommendations on the use of digital tools for language development. In response to the question, "Do you receive recommendations from the school on applications or websites aimed at developing reading and writing skills?", only 47 parents (41.6%) answered affirmatively, whereas the majority (66 respondents, 58.4%) reported that they do not receive such guidance.

This shows a clear deficit of institutional support: parents are largely left to their own devices when it comes to selecting appropriate applications, and as a result, both their awareness and their children's practical use of digital tools remain fragmented and inconsistent.

When asked, "What is most important to you in your child's language development?", most parents identified the ability of the child to express thoughts

orally as the key priority — a choice made by 54 respondents (47.8%). The development of a rich vocabulary was ranked second (23 responses; 20.4%). Fluent reading was considered a priority by 16 parents (14.2%), and accurate writing by 9 parents (8%).

A small number of respondents selected combined options such as "all of the above" or "everything is important", highlighting the multifaceted expectations parents have regarding language development. Only a few responses fell into the categories of "other" (3 respondents) or "difficult to answer" (1 respondent).

Overall, the findings indicate that parents place the greatest emphasis on the development of oral speech and communication skills, reflecting the social and practical orientation of language education in primary school. Skills such as reading, writing, and vocabulary expansion are also considered significant, but they are seen as secondary compared to oral expression.

Open-ended questions provided insight into parents' attitudes toward the integration of AI and digital technologies into the educational process. Parents' responses assessed the current state of digital technology adoption. They also reflected their expectations, fears, and suggestions regarding the use of AI in their children's education.

Fears center on the potential risks of using AI in education. These risks include pedagogical and socio-psychological consequences. The most frequently cited concerns relate to decreased student independence, poor critical thinking, and dependence on digital devices. There are also concerns about the development of cognitive skills such as reading, writing, and oral communication.

Lack of confidence in the accuracy and reliability of AI-generated responses, as well as concerns about the reduction of live interaction between teachers and students, also worried parents. Table 1 provides an analysis of parents' concerns by topic.

Table 1. Parents' concerns about the integration of AI in education

Category of Concerns	*Examples of Parents' Responses*	*Content of Concerns*
Reduced independence and critical thinking	"The child will stop using their own mind," "Ойлану қабілеті тежеледі" ("Students' thinking skills may become less developed"), "Баланың ой өрісі дамымайды" ("The child's thinking will not develop")	Concerns that the use of AI may lead to a loss of analytical skills, independent thinking, and initiative.
Dependence on technology and smartphones	"Смартфонға тәуелділік" ("Smartphone addiction"), "Бала телефонға байланып қалады" ("The child will become attached to the phone")	Fears of developing digital addiction and reduced control over the learning process.
Decline in cognitive development	"Worldview and brain development will stop," "People become less intelligent"	Concerns that excessive use of AI may slow children's intellectual development.
Loss of traditional skills	"They will forget how to read books," "Ability to express themselves will decrease"	Fears that reading, writing, and oral communication skills may deteriorate.

Replacement of teachers and loss of communication	"Replacement of teachers," "Lack of contact with the teacher"	Concerns about teachers being replaced by technology and the decline of face-to-face interaction.
Errors and unreliability of AI	"There is a lot of fake data in AI," "Its mistakes"	Distrust in the accuracy and reliability of AI-generated information.
Other	"Paid version," "Lack of parental control," "Neutral"	Other concerns, including issues related to cost, parental control, or neutral attitudes.

Parents expressed their opinions, suggestions, and recommendations regarding the effectiveness of their children's language development. They value the quality of interactive educational apps for language development. They also noted the pedagogical support provided by school administration and the value of an individualized approach to students through increased motivation.

Most respondents emphasized the quality of the internet and the availability of devices for internet access. The availability of basic and possibly additional tools, such as video lessons, electronic dictionaries, and platforms (programs) for practicing language skills, also remained important.

Table 2 highlights parents' recommendations about useful digital resources and the learning conditions that support language development.

Table 2. Parents' Opinions on Useful Digital Tools

Category of Suggestions	*Examples of Responses*	*Content of Suggestions*
Digital applications and platforms	"Good applications," "More apps," "Advanced applications"	Need for high-quality educational resources and interactive learning platforms
School support & Traditional methods	"Teacher," "School support," "Teacher's help"	The necessity of combining digital tools with pedagogical support and traditional teaching methods
Individualization & motivation	"Apps with rewards," "Topics chosen according to the child's interests"	Desire for personalized approaches and gamification in the learning process
Infrastructure & access	"Internet," "Tablet," "Laptop"	The importance of having reliable technology and access to the resources needed for learning
Methodological & content support	"Video lessons," "Tests and exercises," "Practice tasks"	Need for diverse and high-quality educational content
Dictionaries & translation tools	"Dictionary," "Translator," "Listening exercises"	Demand for tools that support vocabulary development and language comprehension
Social interaction	"More communication," "Develop thinking"	Emphasis on the importance of live communication and oral language practice
Skepticism & traditionalism	"I prefer traditional learning," "Face-to-face learning, not artificial"	Doubts about the necessity of AI and a preference for traditional teaching approaches

The findings showed that parents expressed mixed opinions. On the one hand, many of them recognized that AI and digital tools can make language learning more effective. On the other hand, they were cautious about the possible risks of introducing AI into the educational process. This combination of optimism and concern should be taken into account when developing educational policies and implementing digital technologies in schools.

The descriptive statistics indicate that the average level of digital and AI tool usage among parents and primary school students was 2.87 (SD = 0.87) on a five-point Likert scale, which reflects a moderate level of use (Table 3). The mean score for "effectiveness and user experience" was slightly higher at 3.07 (SD = 0.82), suggesting that participants generally viewed digital technologies positively, although some uncertainty and hesitation remained.

These results support the research hypothesis that limited institutional and methodological support from schools may inhibit the active integration of AI tools and reduce their effectiveness in the development of language skills among primary school students.

Table 3. Descriptive Statistics

Variable	*N*	*Minimum*	*Maximum*	*Mean (M)*	*Standard Deviation (SD)*
Use of AI tools	113	1.00	4.83	2.87	0.87
Effectiveness and user experience	113	1.00	5.00	3.07	0.82

In line with the research objectives and hypotheses, it was proposed that insufficient institutional and methodological support from schools—particularly the lack of recommendations for digital resources—significantly limits the use of artificial intelligence and digital tools in the development of language skills among primary school students, thereby exacerbating the pedagogical challenges associated with their integration into the educational process.

To test this hypothesis, a correlation analysis was conducted to examine the statistically significant relationship between the level of institutional support provided by educational organizations and the degree of use of digital and AI tools in language instruction. The variable "school support" was considered an independent variable in this study, encompassing the availability of recommendations, methodological materials, and various forms of advisory assistance provided by educational organizations. The variable "use of digital tools," acting as a dependent variable, reflected the frequency and extent to which digital technologies and AI tools are used in educational practice to develop students' language skills.

Analysis of the obtained data revealed a stable positive correlation between these indicators ($r = 0.639$; $p < 0.001$; $N = 113$). This allows us to conclude that the level of institutional support from schools is directly related to the active use of digital tools in the educational process. When schools provide methodological guidelines and organizational support, digital technologies are implemented more consistently and systematically. Conversely, the absence of such support

significantly limits the potential for their effective integration into the educational process.

Thus, the empirical results confirm the proposed hypothesis: institutional and methodological conditions created by educational organizations have a substantial impact on the use of digital and AI technologies in the development of language skills among primary school students. This once again shows the importance of systematic school support as a key factor in the successful digitalization of language education.

Discussion

The study's findings confirm that integrating digital technologies and artificial intelligence tools into primary education remains a pressing issue. However, the interpretation of these requires a cautious and critical approach, particularly in distinguishing between statistical associations and causal relationships. The evidence suggests a better understanding of the existing challenges and opportunities. The findings directly address the study's objective and hypothesis. They also align with contemporary scientific approaches to the digitalization of education.

First, the data obtained show that digital tools and artificial intelligence technologies are used at a moderate level ($M = 2.87$; $SD = 0.87$), despite parents' overall high awareness of educational apps. However, this awareness does not always translate into practical implementation: only a few families use such resources regularly. The majority either access them occasionally or don't use them at all. This situation may be associated with the lack of clear institutional support from educational institutions. More than half of parents noted that they didn't receive specific recommendations from their school on choosing digital tools, so they rely on their own experience and intuition, which doesn't always lead to systematic and conscious use of technology. At the same time, it should be noted that the present study does not allow for a definitive explanation of this discrepancy, as additional factors such as parental digital competence, socio-economic conditions, and access to technological resources may also influence the observed patterns.

Second, the results of the correlation analysis showed that the level of support from the school plays a significant role. The more active and clear the institutional support, the more likely parents are to use digital technologies in their children's education. The strong positive correlation ($r = 0.639$; $p < 0.001$) between "school support" and "use of digital tools" suggests that the presence of methodological recommendations, resource suggestions, and pedagogical guidance is associated with the frequency and intensity of AI and digital tool use in the learning process. It is important to emphasize that this correlation reflects a statistically significant association between the variables, but does not in itself indicate a direct cause-and-effect relationship. This finding is generally consistent with the working hypothesis of this study and supports previous research [11, 13], which demonstrates that institutional context and teacher readiness are critical factors in the success of digitalization efforts.

Third, the results highlight parents' socio-psychological and pedagogical concerns regarding the use of AI. These concerns are associated with the potential risks of reduced student independence, overreliance on digital technologies, and the possible weakening of direct teacher–student interaction. This suggests that parents view digital tools not only as pedagogical innovations but also as potential sources of risk. Also raises the question of pedagogical support for parents as intermediaries between the school (teacher) and the student.

For parents, language education means teaching children to speak orally. This may indicate a mismatch between parental expectations and the functional focus of many digital tools, which often prioritize structured tasks over communicative language use. Therefore, the importance of implementing educational tools that develop writing, reading, and oral skills is growing.

In this context, the effectiveness of digital and AI tools should be considered within a broader pedagogical framework effectiveness of digital and AI tools should be considered within a broader pedagogical context that includes institutional support, teacher readiness, parental involvement, and access to appropriate technological resources. These findings emphasize the need for a balanced and pedagogically grounded approach to the integration of digital technologies in education.

Overall, while the findings support the proposed hypothesis regarding the role of institutional support, they should be interpreted with caution. The results demonstrate a meaningful relationship between variables; however, they do not allow for definitive causal conclusions. Further research is required to explore additional influencing factors and to examine these relationships in more controlled experimental conditions.

Conclusion

The conducted study has confirmed the initial hypothesis: insufficient institutional and methodological support from schools significantly limits the use of digital and AI tools in the development of language skills among primary school students. The observed strong positive correlation between the level of school support and the intensity of technology use ($r = 0.639$; $p < 0.001$) indicates a direct relationship between these variables.

The analysis of empirical data demonstrated that, despite a relatively high level of parental awareness about digital resources, their practical use remains moderate. This is primarily due to the absence of systematic recommendations from schools, the fragmented nature of methodological support, and the lack of well-tested pedagogical practices. The identified pedagogical challenges are multidimensional and manifest themselves at several levels:

- Technical level – digital inequality and unequal access to the internet;
- Methodological level – scarcity of instructional materials and recommendations;
- Human resource level – insufficient digital competence among teachers;
- Socio-psychological level – parental concerns about technology dependence, loss of critical thinking, and the diminishing role of teachers.

The results of the content analysis reflect a dual parental attitude toward digital tools. On the one hand, parents acknowledge their potential to enhance children's motivation and independence; on the other, they express concerns about possible risks and emphasize the need for pedagogical oversight and guidance. This underlines the importance of a comprehensive strategy for AI integration in the educational process, which should include:

- the development of teachers' digital competencies;
- systematic methodological support for families;
- the design and dissemination of high-quality educational applications and platforms;
- the provision of equal access to digital infrastructure and online resources.

The study results may have been influenced by the personal (subjective) attitudes toward digitalization among parents of primary school students. Another limitation is the sample size —families are diverse in their sociocultural development. Furthermore, the correlation analysis was used only captured parents' perceptions and associations, but did not examine causal relationships. These limitations provide impetus for future research: increasing the sample size, conducting surveys among teachers and students, and conducting experimental work in the classroom.

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БАСТАУЫШ СЫНЫП ОҚУШЫЛАРЫНЫҢ ТІЛДІК ДАҒДЫЛАРЫН ҚАЛЫПТАСТЫРУДА ЖАСАНДЫ ИНТЕЛЛЕКТ ПЕН ЦИФРЛЫҚ ТЕХНОЛОГИЯЛАРДЫ ПАЙДАЛАНУДЫҢ ПЕДАГОГИКАЛЫҚ МӘСЕЛЕЛЕРІ

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Аңдатпа. Бұл зерттеу жасанды интеллект (ЖИ) мен цифрлық технологиялардың жас балаларда тіл үйренуді қалай қолдай алатынын зерттейді. Сондай-ақ, бұл құралдарды білім беру процесіне енгізу кезінде туындайтын қиындықтардың тізімін анықтайды. Институционалдық, әдіснамалық және әлеуметтік факторлар ЖИ-ді тілдік білім беруге сәтті енгізудің әсерін көрсетеді. Зерттеу сонымен қатар ата-аналардың балаларының білімінде ЖИ мен цифрлық құралдарды пайдалануға деген көзқарасын зерттеді. Зерттеу мектептер цифрлық ресурстарды пайдалануға нақты нұсқаулар, ұсыныстар немесе әдіснамалық қолдау көрсетпеген кезде, мұғалімдер мен отбасылар ЖИ құралдарын тиімді пайдалануда қиындықтарға тап болуы мүмкін деген идеяға негізделген. Бұл оқу, жазу, сөйлеу және сөздік қоры - негізгі тілдік дағдылар - ерте жаста дамымауы мүмкін дегенді білдіреді. Зерттеу 2025 жылы Шымкентте жүргізілді және 1-4 сыныптардағы балалардың 113 ата-анасына сауалнама жүргізуді қамтитын сандық зерттеу дизайны қолданылды. Талдау институционалдық қолдау мен цифрлық технологияларды пайдалану жиілігі арасында күшті оң корреляцияны көрсетті ($r = 0,639$, $p < 0,001$). Гипотеза расталды. Ата-аналар цифрлық білім беру құралдары туралы жақсы біледі, бірақ оларды күнделікті өмірінде қолданбайды. Зерттеу педагогикалық қиындықтарды анықтады: мұғалімдерді оқытудың жеткіліксіздігі, цифрлық теңсіздік, әдіснамалық ұсыныстардың жетіспеушілігі және технологиялық тәуелділік. Соңғысы ата-аналарды ерекше алаңдатады. Нәтижелер бастауыш мектептерде тілді оқытуда жасанды интеллект пен цифрлық құралдарды пайдалану үшін мұғалімдерді оқытуды, әдіснамалық басшылықты және жүйелі институционалдық қолдауды біріктіретін кешенді стратегияны ұсынады.

Тірек сөздер: жасанды интеллект, цифрлық технологиялар, тілдік дағдылар, бастауыш білім беру, институционалдық қолдау, ата-аналардың көзқарасы, педагогикалық мәселелер, тілдік білім

ПЕДАГОГИЧЕСКИЕ ПРОБЛЕМЫ ИСПОЛЬЗОВАНИЯ ИСКУССТВЕННОГО ИНТЕЛЛЕКТА И ЦИФРОВЫХ ТЕХНОЛОГИЙ В РАЗВИТИИ ЯЗЫКОВЫХ НАВЫКОВ МЛАДШИХ ШКОЛЬНИКОВ

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Аннотация. В данном исследовании рассматривается, как искусственный интеллект (ИИ) и цифровые технологии могут поддерживать изучение языка у маленьких детей. Также определяется список проблем, возникающих при интеграции этих инструментов в образовательный процесс. Институциональные, методологические и социальные факторы демонстрируют влияние успешной интеграции ИИ в языковое образование. В исследовании также изучалось отношение родителей к использованию ИИ и цифровых инструментов в образовании их детей. Исследование основано на идее, что когда школы не предоставляют четких руководств, рекомендаций или методической поддержки по использованию цифровых ресурсов, учителя и семьи могут испытывать трудности с эффективным использованием инструментов ИИ. Это означает, что чтение, письмо, говорение и словарный запас — ключевые языковые навыки — могут не развиваться в раннем возрасте. Исследование проводилось в 2025 году в Шымкенте и использовало количественный исследовательский подход, включающий опрос 113 родителей детей 1–4 классов. Анализ выявил сильную положительную корреляцию между институциональной поддержкой и частотой использования цифровых технологий ($r = 0,639$, $p < 0,001$). Гипотеза подтвердилась. Родители хорошо осведомлены о цифровых образовательных инструментах, но не используют их в повседневной жизни. Исследование выявило педагогические проблемы: недостаточная подготовка учителей, цифровое неравенство, отсутствие методических рекомендаций и зависимость от технологий. Последняя проблема вызывает особую обеспокоенность у родителей. Результаты исследования предполагают комплексную стратегию, сочетающую подготовку учителей, методические рекомендации и систематическую институциональную поддержку использования ИИ и цифровых инструментов в преподавании языков в начальных школах.

Ключевые слова: искусственный интеллект, цифровые технологии, языковые навыки, начальное образование, институциональная поддержка, отношение родителей, педагогические проблемы, языковое образование

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