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Artificial intelligence in developing reflection in future educational psychologists

Abstract

The article examines the theoretical and methodological aspects of using artificial intelligence in developing reflection in future educational psychologists. The purpose of the study is to identify the potential of artificial intelligence for enhancing students' reflective and metacognitive skills. The study employed theoretical analysis of psychological and pedagogical literature, synthesis of scientific approaches, and a pedagogical experiment involving psychology students. A.V. Karpov's methodology was used to assess the level of reflection, while the Schraw and Dennison questionnaire was applied to evaluate metacognitive awareness. The findings indicate that artificial intelligence tools have a positive impact on the development of reflection, self-regulation, and critical thinking. The study identifies pedagogical opportunities and potential risks associated with the use of artificial intelligence in education. It is concluded that pedagogically grounded integration of artificial intelligence contributes to the development of professional reflection and improves the quality of training of future educational psychologists.

Keywords: artificial intelligence, reflection, future educational psychologists, metacognition, self-regulation, professional training

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Искусственный интеллект в развитии рефлексии будущих педагогов-психологов

Аннотация

В статье рассматриваются теоретические и методические аспекты использования искусственного интеллекта в развитии рефлексии будущих педагогов-психологов. Цель исследования заключается в выявлении возможностей искусственного интеллекта в развитии рефлексивных и метакогнитивных навыков студентов. В исследовании использовались методы теоретического анализа психолого-педагогической литературы, обобщения научных подходов, а также педагогический эксперимент с участием студентов-психологов. Для диагностики уровня рефлексивности применялась методика А.В. Карпова, а для оценки метакогнитивной осознанности использовался опросник Schraw & Dennison. Результаты исследования свидетельствуют о положительном влиянии инструментов искусственного интеллекта на развитие рефлексии, саморегуляции и критического мышления обучающихся. Выявлены педагогические возможности и потенциальные риски применения искусственного интеллекта в образовательном процессе. Сделан вывод о том, что педагогически обоснованная интеграция искусственного интеллекта способствует развитию профессиональной рефлексии будущих педагогов-психологов и повышению качества их профессиональной подготовки.

Ключевые слова: искусственный интеллект, рефлексия, будущие педагоги-психологи, метакогниция, саморегуляция, профессиональная подготовка

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Болашақ педагог-психологтардың рефлексиясын дамытудағы жасанды интеллект

Аңдатпа

Мақалада болашақ педагог-психологтардың рефлексиясын дамытуда жасанды интеллектіні қолданудың теориялық және әдістемелік аспектілері қарастырылады. Зерттеудің мақсаты – студенттердің рефлексивтік және метатанымдық дағдыларын дамытудағы жасанды интеллект мүмкіндіктерін анықтау. Зерттеу барысында психологиялық-педагогикалық әдебиеттерді теориялық талдау, ғылыми көзқарастарды жинақтау және психология мамандығы студенттерінің қатысуымен педагогикалық эксперимент жүргізу әдістері қолданылды. Рефлексивтілік деңгейін анықтау үшін А.В. Карповтың әдістемесі, ал метатанымдық сананы бағалау үшін Schraw & Dennison сауалнамасы пайдаланылды. Зерттеу нәтижелері жасанды интеллект құралдарының рефлексияны, өзін-өзі реттеуді және сыни ойлауды дамытуға оң әсер ететіндігін көрсетті. Білім беру үдерісінде жасанды интеллектіні қолданудың педагогикалық мүмкіндіктері мен ықтимал тәуекелдері анықталды. Жасанды интеллектіні педагогикалық тұрғыдан

негізделген енгізу болашақ педагог-психологтардың кәсіби рефлексиясын дамытуға және олардың кәсіби даярлығының сапасын арттыруға ықпал ететіні туралы қорытынды жасалды.

***Түйін сөздер*:** жасанды интеллект, рефлексия, болашақ педагог-психологтар, метатаным, өзін-өзі реттеу, кәсіби даярлық

Introduction Modern higher pedagogical education is undergoing a stage of profound digital transformation associated with the active integration of artificial intelligence (AI) technologies into the educational process. These changes affect not only the content and methods of instruction but also the requirements for the professional training of future educational psychologists, whose activities require a high level of reflective thinking, self-regulation, and professional self-analysis.

In psychological and pedagogical science, reflection is regarded as a key component of professional development. In the classical works of J. Dewey, reflection is defined as active, purposeful, and critical consideration of experience based on the analysis of its grounds and consequences [1]. D. Schön further developed this idea by introducing the concept of the "reflective practitioner," emphasizing the necessity of continuous analysis of one's own actions within professional activity [2].

From the perspectives of cognitive and metacognitive psychology, reflection is closely associated with awareness and regulation of one's own cognitive activity. J. Flavell considers metacognition as the ability to understand and control one's cognitive processes, including planning, monitoring, and evaluating performance [3]. Within B. Zimmerman's theory of self-regulated learning, reflection represents a central element of the cycle "planning – performance – evaluation," ensuring the development of learner autonomy [5].

According to L.S. Vygotsky's cultural-historical theory, higher mental functions develop through social interaction and the use of cultural tools, which in contemporary conditions include digital educational technologies [4]. In this context, artificial intelligence can be considered a new cognitive tool mediating the processes of learning and reflective development.

Contemporary studies confirm the considerable potential of artificial intelligence in education. R. Luckin and colleagues note that AI is capable of providing personalized learning, educational data analysis, and adaptive feedback, thereby enhancing learners' cognitive development [6]. W. Holmes, M.Bialik, and C.Fadel emphasize that AI integration requires reconsideration of pedagogical approaches and contributes to the development of students' metacognitive and critical thinking skills [7].

A systematic review conducted by O. Zawacki-Richter and colleagues demonstrates that the major areas of AI application in higher education include intelligent tutoring systems, automated assessment, and learning analytics; however, pedagogical models for integrating these technologies remain insufficiently developed [8]. Of particular interest are large language models such as ChatGPT, which, according to E. Kasneci and colleagues, can support the development of critical thinking and reflection when used appropriately within pedagogically grounded contexts [9].

Despite the growing body of research on artificial intelligence in education and reflective pedagogy, the issue of purposeful application of AI specifically for developing reflection among future educational psychologists remains insufficiently explored. This determines the relevance and significance of the present study.

Research framework The present study is based on the assumption that the development of professional reflection among future educational psychologists represents an essential prerequisite for the formation of their professional competence and is closely related to metacognitive processes and self-regulated learning.

The conceptual framework of the study includes the following propositions:

1. The development of professional reflection among future educational psychologists is an important condition for the formation of professional competence and is closely associated with metacognitive processes and self-regulation of learning activities.

2. Artificial intelligence serves as a contemporary cognitive tool that provides personalized learning, immediate feedback, and support for students' reflective activities.

3. The use of intelligent educational technologies contributes to the development of critical thinking, metacognitive awareness, and self-analysis skills among future educational psychologists.

4. The integration of artificial intelligence tools into the educational process facilitates the enhancement of reflection among future educational psychologists, which is confirmed by the results of the experimental study.

5. The effectiveness of artificial intelligence implementation depends on pedagogically grounded instructional methods and adherence to the principles of academic integrity and digital ethics.

Literature review. Reflection in psychological and pedagogical science is considered a complex multidimensional process involving awareness and analysis of one's own activities, thoughts, and behavior. In the classical interpretation proposed by J. Dewey, reflection is understood as an active, purposeful, and critical examination of beliefs and knowledge based on a logical analysis of their grounds and consequences [1]. This approach laid the foundation for subsequent studies of reflective thinking in education.

The concept of reflection was further developed by D. Schön, who introduced the notion of the "reflective practitioner." He demonstrated that the professional activity of teachers and psychologists is impossible without continuous analysis of one's actions both "in action" (reflection-in-action) and "on action" (reflection-on-action) [2]. Thus, reflection becomes not an auxiliary component but a structural element of professional activity.

From the perspective of cognitive psychology, the concept of metacognition introduced by J.Flavell is of particular importance. Metacognition includes knowledge about one's cognitive processes and the ability to regulate them through planning, monitoring, and evaluating activity [3]. Therefore, reflection can be viewed as a broader process involving awareness and regulation of one's own thinking.

Within the framework of B. Zimmerman's theory of self-regulated learning, reflection occupies a central position in the learning cycle, which includes three interconnected stages: forethought, performance, and self-evaluation [5]. The effectiveness of learning largely depends on students' ability to analyze their achievements and mistakes, thereby fostering sustainable self-development skills.

Complementing these approaches, G. Schraw and R.S. Dennison developed an instrument for assessing metacognitive awareness that includes knowledge of cognitive strategies and regulation of cognitive activity [12]. This instrument makes it possible to empirically investigate the development of reflection and metacognitive skills among learners.

From the standpoint of L.S. Vygotsky's cultural-historical theory, the development of higher mental functions, including reflection, occurs through the internalization of social interactions and mediation by symbolic systems [4]. Under contemporary conditions, digital educational technologies, including artificial intelligence tools, serve as such mediating systems and may function as external cognitive facilitators.

Modern studies in cognitive science confirm that reflection is closely associated with meaning-making and knowledge construction. J. Bruner emphasized that learning is a process of constructing meanings rather than merely accumulating information [14]. In this context, reflection serves as a mechanism for integrating new experiences into an individual's system of personal meanings.

Therefore, theoretical analysis demonstrates that the reflection of future educational psychologists is a multilevel phenomenon encompassing cognitive, metacognitive, and personal-semantic components. It is closely related to self-regulation, critical thinking, and professional development, making it an important subject of psychological and pedagogical research.

Artificial intelligence (AI) in modern education is understood as a set of technologies capable of performing functions related to data analysis, adaptation of learning materials, and support of individual educational trajectories. Its implementation radically transforms traditional instructional models by shifting from standardized approaches to personalized learning.

According to R. Luckin and colleagues, artificial intelligence expands pedagogical opportunities through the analysis of large volumes of educational data and the provision of adaptive feedback, making learning more individualized and effective [6]. The authors emphasize that AI does not replace teachers but strengthens their professional functions, particularly in monitoring and supporting students.

W. Holmes, M. Bialik, and C. Fadel argue that the integration of AI into education requires reconsideration of the structure of the learning process, including educational goals, content, and methods. Artificial intelligence is viewed as a tool promoting the development of cognitive and metacognitive abilities when integrated appropriately into pedagogical practice [7].

A systematic review by O. Zawacki-Richter and colleagues demonstrates that the major areas of AI application in higher education include intelligent tutoring systems, automated assessment, learning analytics, and support for teaching activities [8]. At the same time, the authors note the insufficient development of pedagogical models for AI integration, which is particularly relevant for the training of specialists in the humanities.

Special attention in contemporary research has been devoted to large language models such as ChatGPT. According to Kasneci and colleagues, such systems possess considerable potential for supporting learning by providing explanations, feedback, and opportunities for the development of critical thinking [9]. Nevertheless, they also highlight risks associated with academic integrity and excessive dependence on technology.

International organizations have also emphasized the strategic importance of AI in education. UNESCO recommendations stress the need for ethical and pedagogically sound implementation of AI aimed at enhancing human potential rather than replacing it [10]. Similarly, the OECD regards artificial intelligence as a transformative factor affecting society and education and requiring the development of new competencies among future professionals [11].

Practical implementation of AI in educational settings is represented by intelligent tutoring systems such as ASSISTments, which provide automated feedback and support students while solving educational tasks [15]. Such systems have demonstrated effectiveness in improving academic performance and promoting self-regulation skills.

Thus, analysis of scientific literature indicates that artificial intelligence in education is not merely a technological innovation but a systemic factor transforming the educational process. It creates new opportunities for personalized learning, the development of cognitive and metacognitive abilities, and the improvement of professional training quality.

The development of reflection among future educational psychologists is a key prerequisite for professional competence because reflective mechanisms enable awareness of one's actions, analysis of professional experience, and adjustment of behavior in educational and counseling practice. Under conditions of digital transformation, artificial intelligence functions not only as a learning tool but also as a factor influencing cognitive and metacognitive development.

According to J. Flavell, metacognitive processes involve awareness and control of one's cognitive activities, which constitute the basis of reflective thinking [3]. Through the use of AI, students gain opportunities to compare their responses with reference models, analyze mistakes, and modify learning strategies, thereby enhancing self-observation and self-regulation processes.

B. Zimmerman emphasizes that self-regulated learning involves a cyclical process of planning, performance, and evaluation, in which reflection acts as both the final and corrective stage [5]. AI-based tools, including intelligent tutoring systems and language models, strengthen this cycle through immediate feedback, allowing learners to recognize the outcomes of their activities more effectively.

Large language models are particularly important for fostering reflection because they enable students to engage in dialogue, formulate questions, clarify understanding, and analyze their own reasoning. According to Kasneci et al., such systems can support critical thinking and metacognitive

activity when used appropriately in educational contexts [9]. This creates an external reflective environment in which learners' thinking becomes visible and available for analysis.

From the perspective of R. Luckin and colleagues, artificial intelligence may function as an intelligent partner that supports learning through data analysis and adaptive feedback [6]. In the training of future educational psychologists, this is especially valuable because it allows the modeling of professional situations and the analysis of students' behavior over time.

Furthermore, the reflective impact of AI is enhanced through the possibility of recording and analyzing educational trajectories. Within learning analytics, students gain access to information about their own progress, which contributes to the development of self-assessment and critical analysis skills [8]. This corresponds to J. Dewey's concept of conscious analysis of experience as the foundation of learning [1].

According to J. Bruner, learning is a process of meaning construction rather than simple information accumulation [14]. In this context, artificial intelligence may serve as a tool stimulating meaning-making through dialogue, feedback, and the modeling of alternative solutions, thereby deepening reflective analysis.

Therefore, artificial intelligence exerts a multidimensional influence on the development of reflection among future educational psychologists by facilitating:

- enhancement of metacognitive control [3];
- development of self-regulation skills [5];
- improvement of error analysis and decision-making abilities [6];
- support of critical thinking through dialogue-based systems [9].

Taken together, these factors make it possible to consider artificial intelligence not merely as a technological tool but as a cognitive environment contributing to the development of professional reflection among future specialists.

Materials and methods The study was conducted during the 2025–2026 academic year at M. Auezov South Kazakhstan University (Shymkent, Kazakhstan). The participants included 60 second- and third-year students enrolled in the Educational Psychology program. Two groups were formed: a control group (n = 30) and an experimental group (n = 30). The groups were comparable in terms of their initial level of reflection and academic performance.

The experimental study was organized within the framework of a formative pedagogical experiment aimed at developing reflection among future educational psychologists through the use of artificial intelligence tools. In the experimental group, the educational process incorporated several forms of work, including reflective tasks supported by generative artificial intelligence models (ChatGPT), analysis of pedagogical cases, reflective journals, and automated feedback. In the control group, instruction was conducted using traditional teaching methods without AI-based tools.

A.V. Karpov's methodology was employed to assess the level of reflection. Metacognitive awareness was measured using the Schraw and Dennison questionnaire, which evaluates awareness and regulation of cognitive activity [12].

During the study, changes in the level of reflection before and after the formative stage of the experiment were recorded. In addition, the dynamics of metacognitive skills development in both groups were analyzed. The empirical data were processed using methods of mathematical statistics, including descriptive statistics (mean values and percentage distributions). Comparative analysis of the control and experimental groups was carried out by examining the dynamics of indicators before and after the implementation of the experimental program.

The methodological basis of the study included:

– Dewey's and Schön's theories of reflection;
– Flavell's concept of metacognition;
– Zimmerman's theory of self-regulated learning;
– Vygotsky's cultural-historical approach;

– contemporary studies on artificial intelligence in education conducted by R. Luckin, W. Holmes, E. Kasneci, and others.

Therefore, the study employed a quasi-experimental design involving control and experimental groups and aimed to identify the influence of artificial intelligence on the development of reflective and metacognitive skills among future educational psychologists.

The components of professional reflection among future educational psychologists and the possibilities for their development through artificial intelligence are presented in Table 1.

Table 1 – Components of Professional Reflection and AI Capabilities

Components of Reflection	Characteristics	AI Capabilities
Cognitive	Analysis and comprehension of knowledge	Generation of explanations, feedback
Metacognitive	Planning, monitoring, and evaluation of one's own activity	Error analysis, adaptive recommendations
Emotional-evaluative	Self-assessment and awareness of emotional reactions	Reflective questions, support for self-analysis
Behavioral	Adjustment of professional actions	Situation modeling, scenario analysis

As shown in Table 1, artificial intelligence can support the development of all major components of professional reflection. AI technologies provide opportunities for cognitive support, promote metacognitive regulation, facilitate emotional self-awareness, and contribute to the improvement of behavioral strategies through modeling and feedback.

The pedagogical opportunities and potential risks associated with the use of artificial intelligence in the development of reflection are summarized in Table 2.

Table 2 – Opportunities and Potential Risks of Using AI in Developing Reflection

Opportunities	Potential Risks
Personalized learning	Dependence on AI
Immediate feedback	Reduced independence of thinking
Development of metacognitive skills	Superficial understanding of information
Educational data analysis	Risks to academic integrity
Support for critical thinking	Increased cognitive load

As can be seen from Table 2, the use of artificial intelligence in higher education provides significant pedagogical benefits, including personalized learning and support for critical thinking. At the same time, the introduction of AI requires careful pedagogical supervision to minimize risks associated with excessive dependence on technology, reduced cognitive autonomy, and issues of academic integrity.

A conceptual representation of the distribution of AI influence across the components of professional reflection is shown in Figure 1.

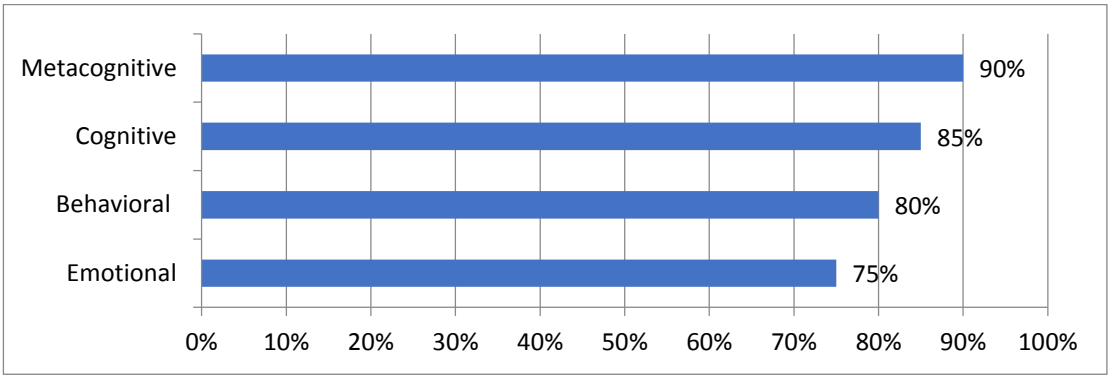

Figure 1 – The Potential of Artificial Intelligence for Developing the Components of Professional Reflection among Future Educational Psychologists

As shown in Figure 1, artificial intelligence exerts a substantial influence on all components of professional reflection among future educational psychologists. The greatest impact was observed on the metacognitive component (90%), indicating the significant role of AI in developing skills of planning, self-monitoring, and evaluation of one's cognitive activity. A high value was also recorded on the cognitive component (85%), demonstrating the effectiveness of artificial intelligence in supporting knowledge acquisition, analysis, and comprehension. The behavioral component accounted for 80%, reflecting the potential of AI for modeling professional situations and facilitating behavioral adjustment. A slightly lower, though still high, value was observed for the emotional-evaluative component (75%), which characterizes the development of self-assessment, awareness of emotional reactions, and self-analysis.

These indicators were derived from the quantitative processing of diagnostic results obtained using A.V. Karpov's reflection methodology [12] and the Schraw & Dennison metacognitive awareness questionnaire [13], and were expressed in percentage form for comparative analysis.

The percentage values were normalized based on the empirical distribution of the obtained scores.

The mechanism through which artificial intelligence affects the development of professional reflection among future educational psychologists can be represented as a sequential model (Figure 2).

Figure 2 – Model of the Influence of Artificial Intelligence on the Development of Professional Reflection among Future Educational Psychologists

Figure 2 illustrates the sequential mechanism through which artificial intelligence influences the development of professional reflection among future educational psychologists. The model demonstrates that the integration of AI tools into the educational process provides students with adaptive feedback, opportunities for self-analysis, and support for metacognitive regulation. These

processes contribute to the development of critical thinking, self-regulation, and reflective skills, thereby enhancing the quality of professional training. Thus, artificial intelligence may be regarded not only as a technological resource but also as a pedagogically significant factor promoting the development of professional reflection.

Results and discussion. The results of the pedagogical experiment made it possible to evaluate the effectiveness of artificial intelligence in promoting the development of reflection among future educational psychologists. The initial diagnostic stage demonstrated that the control and experimental groups were comparable in terms of their level of reflection, which confirmed the homogeneity of the sample and ensured the validity of further comparisons. The results of assessing the levels of reflection among students in the control and experimental groups before the implementation of the formative experiment are presented in Table 3.

Table 3 – Levels of Reflection before the Experiment (%)

Level	CG (%)	EG (%)
High	20,0	23,3
Medium	53,3	50,0
Low	26,7	26,7

As shown in Table 3, no substantial differences were observed between the control and experimental groups prior to the implementation of the formative program. In both groups, the majority of students demonstrated a medium level of reflection, whereas the proportions of participants with high and low levels were relatively similar. These findings indicate the homogeneity and comparability of the groups at the initial stage of the study, thereby providing a reliable basis for evaluating the effectiveness of the experimental intervention.

The dynamics of changes in the levels of reflection following the implementation of the artificial intelligence-based program are presented in Table 4.

Table 4 – Levels of Reflection after the Experiment (%)

Level	CG (%)	EG (%)
High	26,7	53,3
Medium	56,6	40,0
Low	16,7	6,7

The results presented in Table 4 demonstrate considerable positive changes in the experimental group after the implementation of the program based on artificial intelligence tools. In particular, the proportion of students with a high level of reflection increased from 23.3% to 53.3%, while the proportion of participants with a low level decreased from 26.7% to 6.7%. In contrast, changes in the control group were less pronounced. These findings suggest that the observed improvements were associated with the integration of AI-supported educational methods.

To obtain a more comprehensive understanding of the effectiveness of the experimental program, the mean values of reflection according to A.V. Karpov's methodology were analyzed. The results are presented in Table 5.

Table 5 – Mean Reflection Scores According to A.V. Karpov's Methodology

Group	Before the Experiment	After the Experiment
CG	118,4 ± 7,2	123,8 ± 6,8
EG	119,1 ± 7,4	142,6 ± 8,1

Further analysis of the mean reflection scores obtained using A.V. Karpov's methodology (Table 5) confirms the previously observed trends. In the experimental group, a substantial increase in the mean reflection score was recorded, rising from 119,1 ± 7,4 to 142,6 ± 8,1. In contrast, the control group demonstrated only minor changes, from 118,4 ± 7,2 to 123,8 ± 6,8. These results indicate that the implementation of artificial intelligence-based instructional strategies had a significant positive effect on the development of reflective abilities among students in the experimental group.

The obtained data can be interpreted in the context of J. Flavell's concept of metacognition, which emphasizes the role of awareness and regulation of cognitive processes in learning [3]. The observed improvements suggest that AI-supported learning environments enhance students' ability to monitor, evaluate, and adjust their own cognitive activity. Similarly, B. Zimmerman's theory of self-regulated learning explains these changes through the cyclical process of forethought, performance, and self-reflection, where feedback plays a central role in strengthening self-regulatory skills [5].

The findings are also consistent with the results reported by R. Luckin and colleagues, who argue that artificial intelligence contributes to learning personalization and provides adaptive feedback that enhances cognitive engagement and reflective thinking [6]. In this study, AI tools such as generative models and automated feedback systems likely functioned as external cognitive supports, facilitating deeper reflection and more conscious learning strategies among students.

The dynamics of reflection levels among students in the experimental group before and after the intervention are presented in Figure 3.

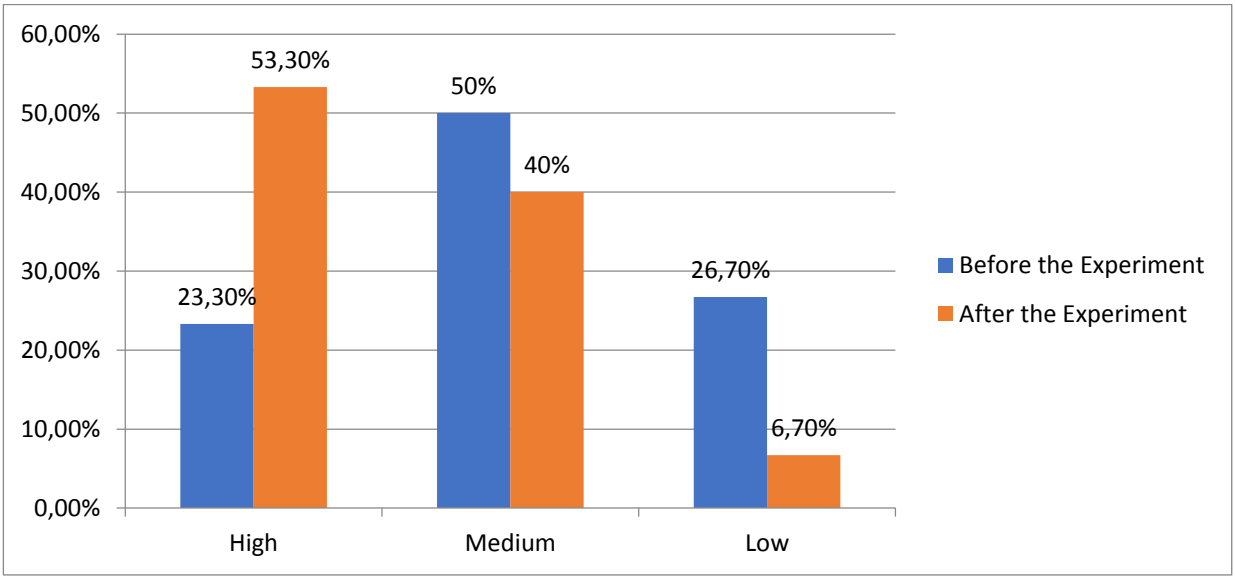

Figure 3 – Dynamics of Reflection Levels among Students in the Experimental Group Before and After the Experiment

The data illustrated in Figure 3 demonstrate a marked positive shift in the distribution of reflection levels within the experimental group. The proportion of students with a high level of reflection significantly increased after the implementation of the AI-based program, while the proportion of students with a low level of reflection decreased substantially. This confirms the effectiveness of artificial intelligence tools in enhancing reflective abilities through continuous feedback, self-assessment, and guided cognitive support.

The comparative dynamics of reflection levels in the control group are presented in Figure 4.

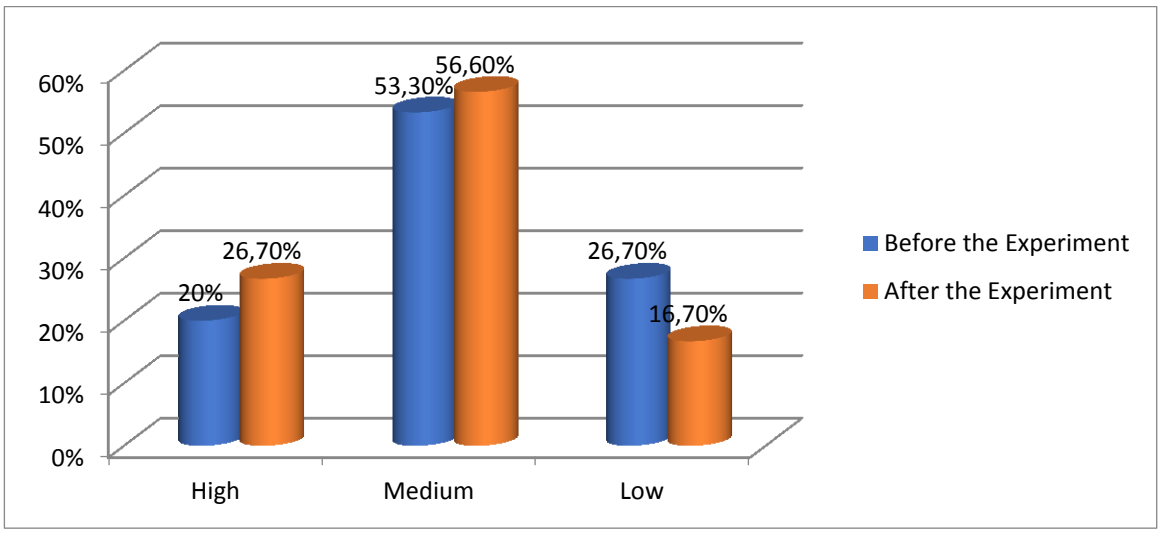

Figure 4 – Dynamics of Reflection Levels among Students in the Control Group Before and After the Experiment

As shown in Figure 4, changes in the control group were considerably less pronounced compared to the experimental group. Although a slight increase in the proportion of students with a high level of reflection was observed, the overall structure of reflection levels remained relatively stable. This indicates that traditional teaching methods alone have a limited impact on the development of reflective abilities without the integration of artificial intelligence-based support tools.

Overall, the results of the experimental study confirm the research hypothesis that the integration of artificial intelligence into the educational process significantly contributes to the development of reflection among future educational psychologists. The use of AI technologies enhances metacognitive awareness, supports self-regulated learning, and promotes critical thinking skills. At the same time, the effectiveness of AI implementation depends on pedagogically sound design and careful management of potential risks, including overreliance on technology and reduced independent cognitive effort.

Conclusion The conducted study demonstrated that the development of reflection among future educational psychologists is a crucial component of their professional training and is closely associated with the formation of metacognitive and self-regulation skills. In the context of digital transformation in education, artificial intelligence serves as a significant factor that enhances these processes. The theoretical analysis confirmed that reflection, as conceptualized in the works of J. Dewey and D. Schön, represents the foundation of professional thinking and ensures the awareness and meaningfulness of pedagogical practice. The theories of J. Flavell and B. Zimmerman further emphasize its essential role in metacognitive control and self-regulated learning. The results of the experimental study demonstrated that the use of artificial intelligence tools (generative models, case analysis, and automated feedback systems) significantly improved the level of reflection among students in the experimental group compared to the control group. At the same time, it was found that the effectiveness of AI implementation depends on a pedagogically grounded methodology. Uncontrolled use of such technologies may lead to reduced independent thinking and increased dependence on ready-made answers, which highlights the importance of ethical and didactic considerations. Thus, when properly integrated into the educational process, artificial intelligence proves to be an effective tool for developing reflection in future educational psychologists and contributes to a more conscious, analytical, and self-regulated learning process. Future research directions are related to the development of methodological models for integrating AI into the training of educational psychologists and to the study of the long-term impact of digital technologies on the development of professional reflection and metacognitive skills.

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