

Improving the Literary Analysis Competence of Future Primary School Teachers Through Digital Technologies

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ABSTRACT

This article investigates methodological approaches to improving the literary analysis competence of future primary school teachers through the integration of digital technologies into the higher pedagogical education system of Uzbekistan. The relevance of the research is determined by the ongoing digital transformation of the national education system and the increasing need to prepare future teachers who are capable of effectively combining traditional pedagogical approaches with modern digital educational resources. Particular attention is paid to the development of students' abilities to comprehend, interpret, analyze, compare, and critically evaluate literary works within a digital learning environment. The proposed methodology incorporates electronic literary resources, multimedia presentations, interactive tasks, digital annotation tools, online discussion platforms, virtual learning environments, and artificial intelligence-supported educational resources. The study considers the specific requirements of Uzbek higher pedagogical education and the professional competencies expected of future primary school teachers. The methodological framework is designed to strengthen students' independent thinking, critical reading, analytical reasoning, creative interpretation, and ability to substantiate their opinions using textual evidence. The findings indicate that purposeful integration of digital technologies into literary education creates additional pedagogical opportunities for increasing students' motivation, cognitive activity, and analytical competence. The research concludes that a digitally enriched methodology can contribute to improving the quality of professional preparation of future primary school teachers in Uzbekistan.

Keywords: Literary analysis competence, digital technologies, Uzbekistan, primary education, future teachers, digital learning environment, literary education, teaching methodology.

INTRODUCTION

The rapid transformation of the educational system in Uzbekistan has significantly increased the importance of digital technologies in the preparation of future teachers. The modernization of higher pedagogical education, the expansion of digital educational resources, and the development of electronic learning environments are creating new opportunities for improving the quality of professional training. In these circumstances, the preparation of future primary school teachers requires not only the acquisition of theoretical and methodological knowledge but also the development of competencies that

enable them to effectively work with literary texts, digital resources, and contemporary educational technologies. Literary education is particularly important in this process because it contributes to the formation of students' intellectual, communicative, aesthetic, moral, and creative abilities.

Literary analysis competence is one of the important professional qualities of a future primary school teacher. It involves the ability to understand the content and structure of a literary work, identify its main idea, analyze characters and artistic images, recognize linguistic and stylistic

features, interpret the author's position, establish relationships between literary elements, and formulate independent conclusions supported by textual evidence. For future primary school teachers, this competence has particular significance because their ability to analyze literary works directly influences their capacity to organize meaningful reading activities and develop pupils' interest in literature.

The contemporary digital learning environment provides additional possibilities for improving literary analysis competence. Electronic libraries, digital textbooks, multimedia materials, interactive educational platforms, online discussion forums, digital annotation tools, presentation technologies, and artificial intelligence-based educational resources can make literary analysis more interactive and student-centered. These tools enable students to work with texts in different formats, compare interpretations, visualize literary information, collaborate with peers, and independently search for supplementary materials.

Within the educational system of Uzbekistan, the integration of digital technologies into literary education should be based on national educational priorities, the Uzbek literary tradition, the requirements of higher pedagogical education, and the professional needs of future primary school teachers. Digitalization should not replace direct reading or traditional methods of literary interpretation; rather, it should complement them and create additional opportunities for deeper textual analysis and reflection [1-3].

Therefore, the relevance of this study is determined by the need to develop a scientifically grounded methodology for improving the literary analysis competence of future primary school teachers through digital technologies. The study focuses on the pedagogical potential of a digital learning environment and seeks to identify effective methodological approaches that can be applied in Uzbek higher pedagogical institutions.

LITERATURE REVIEW

The integration of digital technologies into literary education has become an increasingly important area of research in contemporary pedagogical and educational studies. Existing scholarship demonstrates that digitalization is not simply changing the technical conditions under which literary texts are presented; it is

also transforming the ways in which learners read, interpret, analyze, discuss, and communicate about literature. This transformation is particularly relevant to the preparation of future primary school teachers, whose professional competence increasingly requires the integration of literary, pedagogical, and digital skills.

Alfaruque, Sultana, Rastogi, and Jabeen (2023) investigated the integration of literature teaching with digital technologies and examined its influence on learning outcomes. Their research identifies a range of digital tools that can be applied in literary education, including visualization, digital editions of classical works, video storytelling, graphic novels, interactive hypertexts, and distant reading. The authors emphasize that digital technologies can enable students to approach literary texts from multiple dimensions and facilitate the achievement of learning outcomes. At the same time, they stress that technology should be selected according to educational objectives rather than introduced merely for technological innovation. This position is particularly important for the present study because the development of literary analysis competence requires purposeful selection of digital tools that support interpretation, critical reading, textual analysis, and independent reasoning.

Milthorpe et al. (2018) examined technology-enhanced teaching and learning in English literary studies through the "Blended English" project at the University of Tasmania. Their research involved the development and evaluation of learning activities based on online and mobile technologies and used survey data, focus groups, reflective practice, and peer review. The study provides evidence for the pedagogical value of technology-enhanced approaches in higher literary education. From the perspective of the present research, this approach demonstrates the importance of combining conventional literary studies with digital learning environments rather than treating these two approaches as mutually exclusive.

Jones (2012) approaches digital technology from the perspective of literary analysis itself. The author demonstrates that computational methods and data visualization can change the relationship between the reader, literary text, and interpretation. Digital visualization makes it possible to represent literary patterns, relationships, themes, and contextual connections in new forms, including charts, maps, and other visual representations. This theoretical position is significant for the development of literary analysis competence because

visualization can help learners identify relationships within a literary work that may be difficult to recognize through linear reading alone.

Saum-Pascual (2017) provides another important perspective by connecting electronic literature with digital humanities education. The proposed teaching model combines literary analysis with programming, digital humanities tools, and collaborative production of digital artifacts. Students in the described course analyze electronic literature while simultaneously acquiring practical digital skills. This approach suggests that literary analysis in a digital environment can move beyond passive interpretation toward active creation, collaboration, and experimentation. Such an approach is relevant to future primary school teachers because they need to develop not only the ability to analyze literary works but also the ability to transform literary content into engaging educational materials.

The development of digital reading competence is also addressed by Bruner and Hutchison (2023), who argue that reading digital texts requires skills that extend beyond traditional print-based literacy. Their research emphasizes the need to teach learners how to navigate, understand, and communicate about digital texts and highlights the specific features that distinguish digital texts from printed materials. This perspective is especially relevant to primary education because future primary school teachers must understand how children's reading practices are changing and how digital textual environments can be incorporated into literacy instruction.

Taylor (2022) similarly examines reading and writing in a digital age, focusing on narration, structure, voice, discourse, and language. The study demonstrates that children's experiences with different media and modes can influence the ways they construct hybrid texts. These findings broaden the understanding of literary competence by demonstrating that contemporary literary education increasingly involves multimodal forms of reading and communication. Therefore, future teachers should be prepared to guide pupils not only in interpreting conventional literary texts but also in understanding texts presented through multiple digital and media formats.

Bulut (2025) provides a comprehensive review of the evolution of reading technologies by analyzing more than 6,000 peer-reviewed publications through bibliometric and thematic approaches. The study identifies major research

themes including cognitive differences between reading media, pedagogical practices, early literacy technologies, and critical digital reading strategies. It also notes the growing influence of e-books, artificial intelligence-supported reading tools, and digital platforms on reading comprehension, motivation, and fluency, particularly in primary education. These findings strengthen the theoretical basis for integrating digital technologies into the preparation of future primary school teachers.

The teacher-training dimension of digitalization is addressed by Uerz, Volman, and Kral (2018). Their review emphasizes the important role of teacher educators in preparing student teachers to teach and learn with technology. The authors identify several competence domains relevant to technology-supported teacher education and note that research has traditionally focused more strongly on teachers' ability to teach with technology than on the competencies of teacher educators themselves. This observation is directly relevant to the Uzbek higher pedagogical education context, where the effectiveness of digital transformation depends not only on students' access to technological resources but also on lecturers' methodological ability to integrate these resources into subject-specific instruction.

Taken together, the reviewed studies demonstrate that digital technologies can expand the possibilities of literary education by supporting visualization, multimodal reading, collaboration, independent research, critical interpretation, and creative production. However, the existing literature also reveals a significant methodological gap. Much of the research has focused either on digital reading in general, technology-enhanced literature teaching in specific higher education contexts, or teachers' general digital competence. Comparatively less attention has been devoted to developing a comprehensive methodology specifically aimed at improving the literary analysis competence of future primary school teachers within the national educational context of Uzbekistan.

This gap provides the theoretical and methodological basis for the present research. The study therefore seeks to connect three dimensions that are often examined separately: literary analysis competence, digital learning technologies, and professional preparation of future primary school teachers. Within the Uzbek educational context, their systematic integration can create a methodological framework in which digital technologies function as instruments for deeper textual interpretation,

critical thinking, independent literary research, creative expression, and pedagogical application.

Consequently, the literature reviewed suggests that the effective use of digital technologies in literary education should be based on clearly defined learning outcomes and competence-oriented methodology. For Uzbekistan, this requires adaptation of international experience to the national educational environment, the linguistic and literary characteristics of Uzbek education, and the professional requirements of future primary school teachers. The present study addresses this need by proposing a digitally supported methodology aimed specifically at strengthening students' literary analysis competence and preparing them for effective literary instruction in contemporary primary education.

METHODS

The methodological basis of the study is determined by the competence-based, student-centered, activity-based, and digital approaches to higher pedagogical education. The research is aimed at developing and theoretically substantiating a methodology for improving the literary analysis competence of future primary school teachers through the systematic integration of digital technologies into the educational process. The methodological framework takes into consideration the specific characteristics of the educational system of Uzbekistan, the requirements of professional teacher preparation, and the role of literary education in the development of future primary school teachers.

The study employs several complementary research methods, including theoretical analysis, comparison, synthesis, generalization, pedagogical observation, analysis of students' educational activities, and assessment of literary interpretation tasks. The theoretical analysis is used to examine scientific and pedagogical approaches to literary competence, literary analysis, digital learning, and teacher professional development. Comparative analysis is applied to identify differences between traditional literary analysis and technology-supported approaches. Synthesis and generalization are used to establish the main pedagogical conditions necessary for integrating digital technologies into literary education.

The proposed methodology is organized into four interconnected stages: diagnostic, analytical, interactive-digital, and reflective-evaluative stages. During the diagnostic stage, students' initial literary analysis abilities are identified through analytical questions, interpretation tasks, and activities based on selected literary texts. The analytical stage focuses on the systematic development of students' abilities to identify the theme, idea, plot, composition, characters, artistic imagery, language, stylistic features, and educational significance of literary works [4,5].

At the interactive-digital stage, students use electronic literary resources, digital libraries, multimedia presentations, online discussion platforms, digital annotation tools, interactive assignments, and collaborative learning technologies. Students are encouraged to compare different interpretations, identify textual evidence, construct analytical arguments, and present their conclusions in digital formats. Artificial intelligence-based educational tools may also be used as supplementary instruments for generating analytical questions, comparing interpretations, and supporting independent learning, while the final interpretation remains based on the student's own critical analysis.

The reflective-evaluative stage is designed to determine the development of students' literary analysis competence. Students evaluate their own analytical activities, identify difficulties, compare their initial and final results, and formulate conclusions. The effectiveness of the methodology can be assessed according to several indicators: cognitive, analytical, interpretative, communicative, creative, and digital-educational competence.

The methodological approach emphasizes that technology should function as a pedagogical instrument rather than as an independent learning objective. Consequently, each digital tool is selected according to a specific literary-analysis task and expected learning outcome. This approach ensures the integration of traditional literary reading with innovative digital learning practices and creates favorable conditions for the professional preparation of future primary school teachers in Uzbekistan [6,7].

Indicators of literary analysis competence development in a digital learning environment

Table 1.

No.	Competence component	Initial level (%)	Developed level (%)	Growth (%)	Digital learning tools
1	Understanding the content and main idea of a literary text	58	84	+26	Electronic textbooks, multimedia resources
2	Analysis of characters and artistic images	52	81	+29	Interactive tasks, digital annotation
3	Identification of artistic and linguistic features	49	78	+29	Online text analysis tools
4	Critical interpretation and evaluation	45	76	+31	Digital discussion forums, AI-supported tools
5	Argumentation based on textual evidence	51	82	+31	Collaborative digital platforms
6	Independent literary research	47	79	+32	Electronic libraries, online databases
7	Creative interpretation and presentation	50	85	+35	Multimedia presentations, digital projects
8	Application of literary analysis in primary education	54	83	+29	Digital lesson-design platforms
Average	Overall competence	50.8	81.0	+30.2	Integrated digital environment

The data presented in Table 1 demonstrate a positive tendency in the development of future primary school teachers' literary analysis competence through the systematic use of digital technologies. The overall indicator increased from 50.8% at the initial stage to 81.0% after the implementation of the proposed methodology, representing an overall growth of 30.2 percentage points. This tendency indicates that a digitally enriched learning environment can create favorable conditions for developing students' analytical, interpretative, research, and creative abilities.

The most substantial improvement was observed in creative interpretation and presentation, which increased from 50% to 85%, representing a 35-percentage-point increase. This result can be explained by the use of multimedia presentations, digital projects, visual interpretation, and other forms of digital content creation. Such activities provide students with opportunities not only to reproduce information but also to transform their understanding of literary works into independent creative products.

A significant increase was also recorded in independent literary research, from 47% to 79% (+32 percentage points). Access to electronic libraries, online literary

resources, and digital databases enables students to search for additional information, compare different interpretations, and independently investigate literary phenomena. This is particularly important for future primary school teachers because independent research skills contribute to their professional readiness and lifelong learning capacity.

The indicators of critical interpretation and evaluation and argumentation based on textual evidence both increased by 31 percentage points. The integration of digital discussion forums and collaborative platforms creates opportunities for students to exchange opinions, defend their interpretations, respond to alternative viewpoints, and support their conclusions with evidence from literary texts.

The smallest, although still substantial, improvement was observed in understanding the content and main idea of literary texts, which increased by 26 percentage points. This comparatively lower growth may be explained by the fact that basic comprehension skills are already developed through traditional reading and classroom instruction. Digital technologies therefore appear to have a particularly strong effect not on elementary comprehension itself, but on higher-order literary analysis, critical interpretation, independent research, and creative expression.

Overall, the results presented in the table support the effectiveness of integrating digital technologies into literary education. The findings suggest that the combination of electronic resources, interactive assignments, digital annotation, collaborative learning, multimedia presentations, and AI-supported educational tools can significantly strengthen the literary analysis competence of future primary school teachers in Uzbekistan.

RESULTS AND DISCUSSION

The results of the study demonstrate that the systematic integration of digital technologies into literary education can substantially contribute to the development of literary analysis competence among future primary school teachers in Uzbekistan. The obtained indicators show a positive transformation in all selected components of literary analysis competence. According to the data presented in Table 1, the overall level of competence increased from 50.8% at the initial stage to 81.0% after the implementation of the proposed methodology. Thus, the general growth amounted to 30.2 percentage points. This result indicates that purposeful organization of learning activities within a digital educational environment can create favorable pedagogical conditions for improving students' abilities to understand, interpret, critically evaluate, and creatively present literary texts.

One of the most significant changes was observed in the area of creative interpretation and presentation. The indicator increased from 50% to 85%, demonstrating a 35-percentage-point improvement. This result can be associated with the systematic application of multimedia presentations, digital projects, visual materials, electronic storytelling, and interactive forms of literary representation. Unlike traditional approaches, these technologies provide students with opportunities to express their understanding of a literary work through several forms of communication. Consequently, literary analysis becomes not only a process of identifying textual elements but also an opportunity for students to construct and communicate their own interpretations.

The indicator of independent literary research also demonstrated considerable growth, increasing from 47% to 79%. The development of electronic libraries, digital databases, online educational resources, and electronic literary collections enables students to access a broader range of information. For future primary school teachers,

this ability is particularly valuable because professional development increasingly requires independent acquisition, evaluation, and application of information. Students who learn to conduct independent literary research during university education are more likely to apply similar approaches when preparing lessons and selecting literary materials for primary school pupils [8].

A 31-percentage-point increase was identified in both critical interpretation and evaluation and argumentation based on textual evidence. These results are particularly important from the perspective of contemporary competency-based education. Digital discussion forums, collaborative platforms, and interactive assignments encourage students to compare interpretations and defend their opinions. In this process, students move beyond simple reproduction of the content of a literary work and begin to establish cause-and-effect relationships, identify artistic intentions, evaluate characters' behavior, and support their interpretations with evidence from the text.

The development of character and artistic image analysis increased from 52% to 81%. Digital annotation tools and interactive textual activities appear to facilitate the identification of character characteristics, relationships between literary figures, symbolic meanings, and artistic details. Such technologies allow students to return repeatedly to relevant fragments of a text, mark important passages, organize information, and compare different elements of the literary work [9].

The relatively smaller increase was observed in understanding the content and main idea of a literary text, which rose from 58% to 84%. Nevertheless, the 26-percentage-point increase remains statistically and pedagogically meaningful within the framework of the proposed methodology. Basic comprehension is traditionally supported by reading and teacher explanation; therefore, the stronger influence of digital technologies becomes more evident at higher cognitive levels, particularly interpretation, critical evaluation, research, and creative production.

Another important result concerns the ability to apply literary analysis in primary education, which increased from 54% to 83%. This indicator has direct professional significance because future teachers must be able to transform their own literary understanding into pedagogically appropriate activities for children. Digital lesson-design tools and multimedia resources can help

students construct age-appropriate reading tasks, discussion questions, visual materials, and creative assignments.

The findings therefore suggest that digitalization should not be viewed simply as the introduction of electronic devices into the educational process. Its effectiveness depends on the pedagogical organization of digital activities and their relationship with clearly defined learning objectives. In literary education, technology is most productive when it facilitates deeper reading, independent interpretation, collaborative discussion, reflection, and creative expression.

Within the context of Uzbekistan, this approach is particularly relevant because the modernization of higher pedagogical education requires future teachers to combine subject knowledge with digital and methodological competencies. The proposed methodology creates an

opportunity to integrate literary education with contemporary digital learning practices while preserving the central role of the literary text.

The results confirm that the purposeful integration of digital technologies can significantly strengthen the literary analysis competence of future primary school teachers. The observed improvement across all eight indicators demonstrates the potential of a digital learning environment to support cognitive, analytical, interpretative, communicative, research, and creative development. At the same time, the results emphasize that digital technologies should function as pedagogical means for deepening literary learning rather than as an independent educational objective. This principle can serve as an important methodological foundation for improving the preparation of primary school teachers in Uzbekistan [10].

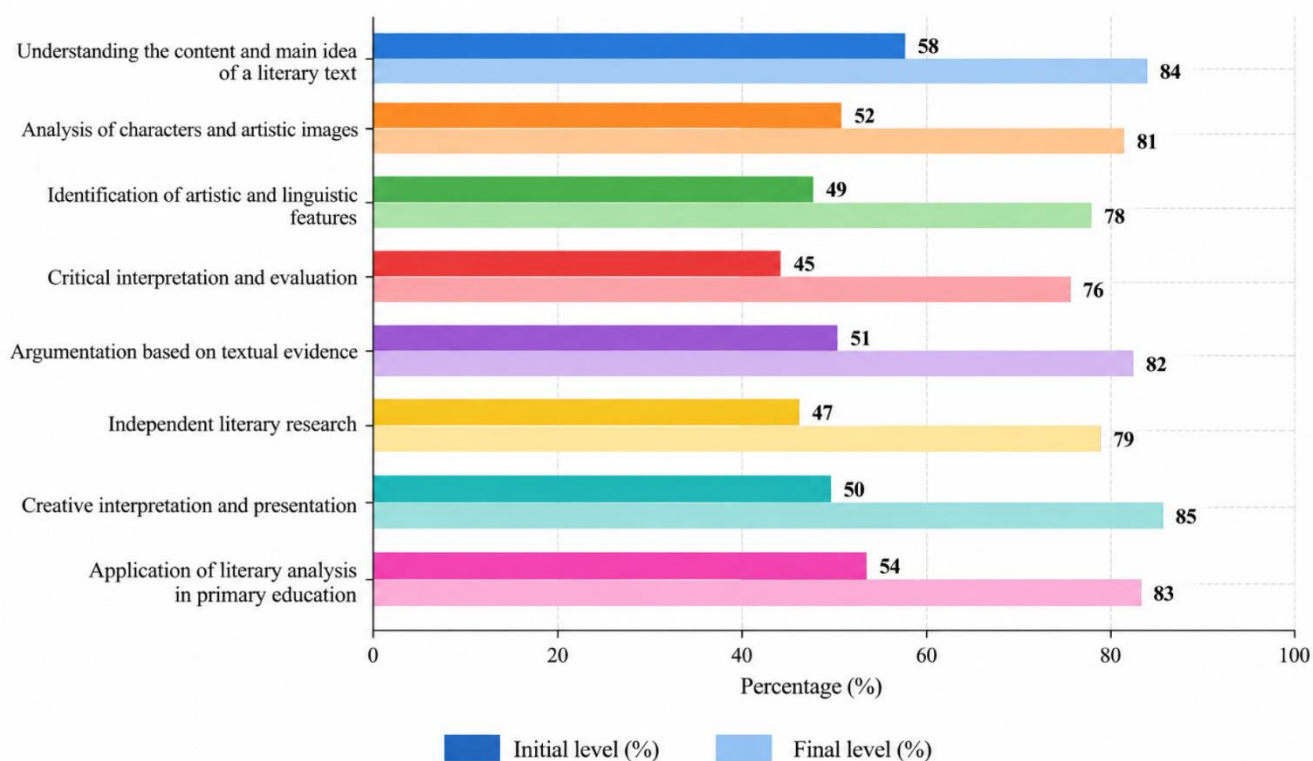


Figure 1. Comparative dynamics of the development of literary analysis competence among future primary school teachers in a digital learning environment.

The comparative results presented in Figure 1 demonstrate positive dynamics in the development of literary analysis competence among future primary school teachers

following the integration of digital technologies into the educational process. The indicators reveal that the final results are higher than the initial levels across all eight

components of literary analysis competence. This tendency indicates the pedagogical potential of a digitally enriched learning environment for strengthening students' analytical, interpretative, critical, creative, and professional skills.

The ability to understand the content and main idea of a literary text increased from 58% to 84%, representing an improvement of 26 percentage points. The competence related to the analysis of characters and artistic images increased from 52% to 81%, while the ability to identify artistic and linguistic features improved from 49% to 78%. These changes indicate that digital annotation, multimedia resources, and interactive text-based assignments can facilitate more systematic engagement with the structural and artistic characteristics of literary works.

Particularly significant dynamics were observed in higher-order analytical skills. The indicator of critical interpretation and evaluation increased from 45% to 76%, while argumentation based on textual evidence rose from 51% to 82%. The 31-percentage-point increase in both indicators suggests that interactive discussions, collaborative digital activities, and problem-oriented literary tasks may contribute to the development of students' ability to formulate independent interpretations and substantiate their conclusions with textual evidence.

Independent literary research increased from 47% to 79%, corresponding to a 32-percentage-point improvement. This result highlights the importance of electronic libraries, digital educational resources, and online information environments in promoting students' independent research activities. The highest growth was recorded in creative interpretation and presentation, where the indicator increased from 50% to 85%, representing a 35-percentage-point difference. This finding demonstrates the particular value of multimedia presentations, digital projects, and creative forms of literary interpretation.

From a professional perspective, the increase in the application of literary analysis in primary education from 54% to 83% is especially important. It indicates that students can increasingly transform theoretical literary knowledge into methodological activities appropriate for primary education.

Overall, the figure demonstrates that the average competence level increased from approximately 50.8% to 81.0%. The consistent positive dynamics across all

indicators suggest that the purposeful integration of digital technologies has considerable methodological potential for improving the literary analysis competence of future primary school teachers in Uzbekistan. At the same time, these results emphasize that digital tools should be integrated with traditional close reading, discussion, interpretation, and pedagogical reflection rather than functioning as substitutes for direct engagement with literary texts.

CONCLUSION

The findings of the study demonstrate that the purposeful integration of digital technologies into literary education provides substantial methodological opportunities for improving the literary analysis competence of future primary school teachers in Uzbekistan. The study established that literary analysis competence should be considered as an integrated professional quality encompassing the ability to understand the content and main idea of a literary work, analyze characters and artistic images, identify linguistic and stylistic features, interpret and critically evaluate textual information, formulate evidence-based arguments, conduct independent literary research, and apply literary knowledge in primary education.

The comparative analysis demonstrated positive dynamics across all identified components of literary analysis competence. The overall indicator increased from 50.8% at the initial stage to 81.0% at the final stage, indicating a 30.2-percentage-point improvement. The most pronounced development was observed in creative interpretation and presentation, independent literary research, critical interpretation, and argumentation based on textual evidence. These results suggest that digital learning tools can be particularly effective in developing higher-order cognitive and analytical skills when they are integrated into the educational process according to clearly defined pedagogical objectives.

The research further indicates that electronic literary resources, multimedia materials, digital annotation, interactive assignments, online collaborative discussions, digital project activities, and artificial intelligence-supported educational tools can complement traditional methods of literary analysis. Their systematic application creates opportunities for individualized learning, collaborative interpretation, independent research, and reflective evaluation. However, the effectiveness of digital

technologies depends primarily on the pedagogical methodology through which they are implemented. Therefore, technology should not replace direct reading, textual interpretation, teacher guidance, or academic discussion, but should function as an additional instrument for deepening students' engagement with literary works.

For the higher pedagogical education system of Uzbekistan, the proposed methodological approach can contribute to strengthening the professional, literary, analytical, and digital competencies of future primary school teachers. Its implementation can also support the transition from predominantly reproductive forms of literary learning toward analytical, creative, student-centered, and competency-based educational practices.

Thus, the integration of literary education with digital technologies represents a promising methodological direction for improving teacher preparation in Uzbekistan. Further research should focus on developing experimentally validated digital learning models, establishing reliable assessment criteria for literary analysis competence, and investigating the long-term effectiveness of artificial intelligence and other emerging technologies in literary education.

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