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INTERACTIVE TECHNOLOGIES IN THE DEVELOPMENT OF STUDENTS' CREATIVE ACTIVITY BASED ON AN INTEGRATIVE APPROACH

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Abstract. This article explores the role of interactive technologies in enhancing students' creative activity within the framework of an integrative approach. Modern education requires not only the acquisition of knowledge but also the development of creativity, problem-solving abilities, and innovative thinking. The effective use of interactive technologies, such as digital platforms, multimedia tools, simulation models, and collaborative applications, opens new opportunities for fostering creativity. An integrative approach allows the combination of different subjects, skills, and competencies into a unified educational process, thereby reinforcing students' motivation and engagement.

Keywords: Interactive technologies, creative activity, integrative approach, digital education, innovative pedagogy, student-centered learning, creativity development.

INTRODUCTION

The 21st century is characterized by rapid changes in science, technology, and social life. These transformations demand new competencies from young generations: the ability to think critically, solve non-standard problems, and generate innovative ideas. Creativity is no longer a privilege but a necessity for success in the knowledge-based economy. Educational institutions, therefore, must create conditions that stimulate and develop students' creative activity. One of the most effective means of achieving this is the application of interactive technologies within an integrative pedagogical approach.

Interactive technologies refer to a wide range of digital and pedagogical tools that ensure active student participation, real-time feedback, and collaborative knowledge construction. They include interactive whiteboards, online discussion forums, gamified platforms, virtual and augmented reality applications, and project-based learning tools. An integrative approach, in turn, emphasizes the interconnectedness of disciplines and skills, enabling students to transfer knowledge across different fields. The combination of these two elements provides a powerful basis for stimulating creative activity.

MATERIALS AND METHODS

The development of students' creativity through interactive technologies requires a shift from traditional teacher-centered instruction to a student-centered learning environment. Interactive technologies promote active participation by allowing learners to manipulate content, explore alternatives, and make decisions. For example, digital storytelling platforms enable students to combine visual, textual, and auditory elements to produce unique narratives, thereby exercising their imagination and innovative thinking. Similarly, virtual labs in physics, chemistry, or biology allow learners to conduct experiments that would otherwise be impossible due to financial or safety constraints, stimulating curiosity and creative problem-solving.

The integrative approach provides the necessary pedagogical framework for using these technologies effectively. Creativity does not flourish in isolation; it emerges at the intersection of knowledge, skills, and experiences from various domains. Integrative learning connects art with

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science, technology with humanities, and theory with practice. For instance, when students design a multimedia project that combines coding, graphic design, and storytelling, they not only acquire technical competencies but also develop creative collaboration skills. Interactive technologies serve as the bridge that unites these disciplines, making integrative learning both feasible and engaging.

RESULTS AND DISCUSSION

Equally significant is the gamification of learning. Games have long been recognized as powerful motivators, and when integrated into educational contexts, they stimulate creativity by presenting challenges, rewarding innovative solutions, and encouraging experimentation. Gamified platforms such as Kahoot!, Quizizz, or Minecraft: Education Edition enable learners to explore concepts playfully while developing strategic and creative thinking. The integrative approach ensures that gamification is not limited to entertainment but serves as a meaningful educational strategy across disciplines.

Moreover, interactive technologies provide opportunities for personalized learning pathways, which are crucial for nurturing creativity. Students differ in cognitive styles, interests, and talents. Adaptive learning platforms that use artificial intelligence (AI) can analyze students' progress and offer tailored tasks that challenge their creativity at an appropriate level. This personalization empowers learners to pursue projects aligned with their passions, thereby unlocking their creative potential [3].

However, integrating interactive technologies for creativity development is not without challenges. Teachers must be adequately trained to employ these tools not as add-ons but as integral parts of the curriculum. Pedagogical design must balance technology with meaningful learning outcomes. Additionally, issues of digital inequality must be addressed to ensure that all students, regardless of their socio-economic background, have access to the benefits of interactive technologies.

From a methodological perspective, evaluating creative activity in students requires more than standard testing. Innovative assessment methods, such as project-based evaluation, digital portfolios, and peer review, provide more accurate insights into students' creative growth. Interactive technologies can support such assessments by offering platforms for documentation, collaboration, and feedback.

In the context of globalization, integrating international practices in the use of interactive technologies also enriches local educational systems. Case studies from Finland, Singapore, and South Korea demonstrate that the combination of integrative curricula and advanced digital tools leads to significant improvements in creativity, critical thinking, and problem-solving skills among students. These experiences highlight the universal value of interactive technologies while allowing adaptation to national educational priorities [4].

CONCLUSION

Interactive technologies, when combined with an integrative approach, create powerful conditions for developing students' creative activity. They transform the classroom into a dynamic learning space where students not only consume knowledge but also actively produce, share, and reframe it. Through collaborative learning, gamification, personalized pathways, and cross-disciplinary projects, students cultivate creativity that prepares them for real-world challenges. To achieve this, educators must adopt innovative pedagogical designs, policymakers must ensure equitable access to digital tools, and schools must encourage a culture of experimentation and collaboration. By

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aligning technology with integrative pedagogy, education can move closer to its ultimate goal: nurturing creative, independent, and socially responsible individuals.

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