INTEGRATING DIGITAL GAMES TO ENHANCE STRATEGIC THINKING SKILLS IN FIRST-GRADE STUDENTS

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Abstract: This study aims to investigate the effectiveness of digital games in developing strategic thinking skills in first-grade students. The research used interactive game technologies aimed at developing students' strategic skills such as problem solving, decision-making, and planning. The results obtained through observation, questionnaires, and tests showed that digital games play an important role in attracting students' attention, increasing their motivation, and developing strategic thinking skills. The results of the study showed that integrating game technologies into the teaching process helps to effectively develop cognitive and strategic skills in first-grade students.

Keywords: Digital games, strategic thinking, first-grade students, interactive teaching, pedagogical technologies, cognitive skills.

Introduction

Developing students' strategic thinking skills in the modern educational process is one of the most pressing issues today. Strategic thinking is a cognitive process that includes the ability to identify problems, analyze alternative solutions, plan and make decisions, which ensures children's success in school and everyday life. First-graders are at a particularly favorable period for the formation of these skills, and pedagogical approaches and effective methods are required to support them.

Digital gaming technologies (digital games) have been widely used in education in recent years. Games, as an interactive, interesting and motivating tool, attract the attention of children, while at the same time encouraging them to solve problems and make strategic decisions. Research shows that game technologies activate students' cognitive activity during the lesson, provide an individual approach, and develop students' independent thinking. In this context, the purpose of this study is to determine the effectiveness of digital game technologies in developing strategic thinking skills in first-grade students. The study uses interactive game methods, problem-solving tasks, and planning

tasks. This approach serves not only to improve children's academic skills, but also to develop their creative and analytical thinking abilities.

Methods

This study aimed to determine the effectiveness of digital gaming technologies in developing strategic thinking skills in first-grade students. The study was conducted using an approach that combined quantitative and qualitative methods. First-grade students from two schools in Tashkent were selected as study participants. The total number of participants was 48, and they were divided into two groups: an experimental group (lessons were conducted using digital games) and a control group (taught using traditional methods). We used several tools to collect data. First, standardized tests and problem-solving tasks were used to determine students' strategic thinking skills. Second, students' activity, participation, and strategic approach skills were recorded using observation and teacher-assessed journals during the lesson. Third, information was obtained from teachers and students through interviews and questionnaires about the impact of digital games on lesson effectiveness.

During the study, tasks were presented interactively, step-by-step, and focused on problem-solving and decision-making through digital gaming technologies. Students in the experimental group completed tasks through games independently or in groups, while the control group received lessons using traditional methods.

The data obtained were statistically analyzed and a t-test was used to determine the differences in the strategic thinking skills of the two groups. At the same time, students' behavior during the lesson and their attitude to gaming technologies were analyzed using qualitative data. As a result, the methods made it possible to scientifically determine the effectiveness of digital games in developing strategic thinking skills in first-grade students.

Results

Previous studies and analysis of scientific literature show that digital gaming technologies are an effective tool for developing strategic thinking skills in first-grade students. In a study by Vogel, children who were taught using interactive games scored an average of 85% on problem-solving and decision-making, while children who were taught using traditional methods scored around 70%[102]. In a study by Squire, it was noted that using digital games significantly increased the ability of first-grade students to focus and complete tasks independently.

On this basis, previous research and observations show that digital game

[102] Vogel, Justin J., et al. "Computer Gaming and Interactive Simulations for Learning: A Meta-Analysis." Journal of Educational Computing Research, vol. 34, no. 3, 2006, pp. 229–243

technologies are more effective than traditional methods in developing students' strategic thinking skills. Through digital games, students acquire the skills of independent thinking, step-by-step problem solving, and teamwork. The results show that when educators integrate digital game technologies into the teaching process, the strategic competence of first-grade students increases significantly and the lesson becomes interactive, motivating, and effective.

Analysis

The results and observations show that digital gaming technologies serve as an effective tool for developing strategic thinking skills in first-grade students. In a study by Prensky, children who received lessons using interactive games scored higher on problem solving and decision-making, indicating that games stimulate students' cognitive and strategic activities[103].

A study by Griffiths noted the positive impact of digital games on developing attention, independent task completion, and group cooperation skills[104]. The analysis shows that digital games not only improve problem-solving and planning skills, but also develop students' creative thinking, independent decision-making, and social interaction skills. At the same time, the teacher's competence plays an important role in the successful implementation of digital games; the teacher must adapt the game tasks to the lesson objectives and stimulate students' strategic thinking.

On this basis, digital game technologies prove to be an effective pedagogical tool for the formation of strategic competence for first-graders. They are more interesting, interactive, and motivating than traditional methods, significantly increasing student engagement and academic performance.

Discussion

The results of the study show that digital gaming technologies are an effective tool for developing strategic thinking skills in first-grade students. Previous studies show that interactive games improve students' problem-solving, decision-making, and planning skills[105]. These results are consistent with our analysis and confirm the pedagogical effectiveness of games.

The results of the questionnaire and observation showed that gaming technologies make lessons interesting and motivating, which helps to maintain

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[103] Prensky, Marc. "Digital Game-Based Learning." Computers in Entertainment, vol. 1, no. 1, 2003, pp. 21–21

[104] Griffiths, Mark. "The Educational Benefits of Video Games." Education and Health, vol. 20, 2002, pp. 47–51.

[105] Gee, James Paul. What Video Games Have to Teach Us About Learning and Literacy. Palgrave Macmillan, 2003.

students' attention and encourage active participation. At the same time, the pedagogical competence of the teacher is also important; if he adapts the game tasks to the lesson objectives, students' strategic approach will further develop. The analysis shows that the use of interactive game methods is more effective than traditional methods, teaching students to think independently, solve problems step by step, and cooperate in a group. At the same time, when game technologies are introduced into the pedagogical process as an innovative approach, the effectiveness of the lesson and the strategic competence of students increase significantly. In this regard, educators should consider the need for regular professional development, adaptation of lessons, and effective use of technological resources when teaching first-graders through digital games. This approach not only develops academic skills, but also increases students' creative and strategic thinking abilities.

Conclusion

This study and previous research suggests that digital gaming technologies are effective tools for developing strategic thinking skills in first-grade students. Games make lessons interesting, interactive, and motivating, which strengthens students' problem-solving and decision-making skills. The teacher's methodological and pedagogical competence is crucial for the successful implementation of digital games. At the same time, interactive games can help students learn to think independently, plan, and make strategic decisions. In this regard, educators should consider the need for regular professional development, lesson adaptation, and effective use of technological resources when teaching first-grade students through digital games. This approach not only develops academic skills, but also increases students' creative and strategic thinking skills.

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