THE ROLE OF GAME-BASED LEARNING IN COGNITIVE AND SOCIAL DEVELOPMENT

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Abstract: This study aims to investigate the impact of game-based learning on children's cognitive and social development. The results of the study show that games develop children's cognitive skills such as problem solving, creative thinking, decision-making, and also strengthen cooperation, communication, and social ties among them. Game-based learning increases motivation in the pedagogical process and encourages active participation of students.

Keywords: Game-based learning, cognitive development, social development, children, interactive learning, pedagogical technologies.

Introduction

Effectively ensuring the cognitive and social development of children in the modern educational process is one of the pressing issues for educators. While cognitive development is the process of forming basic intellectual skills such as problem solving, decision making, creative thinking and logical reasoning, social development develops children's abilities to communicate, cooperate and work in a team. In recent years, game-based learning has been widely used as an innovative approach in education. Games are interactive and interesting, they attract children's attention, increase their motivation and encourage them to actively participate. At the same time, game tasks can be aimed at step-by-step problem solving and strategic decision-making, which significantly develops cognitive skills.

Previous studies have shown that game-based learning has a positive impact on children’s cognitive and social development. In this context, the use of digital and interactive games in the pedagogical process serves to increase children’s engagement in the learning process, develop independent thinking and social skills. The aim of this study is to investigate the impact of game-based learning on children’s cognitive and social development. The study will analyze children’s problem-solving, creative thinking and social

interaction skills through interactive games. The results provide practical recommendations for educators on how to effectively integrate game methods.

Results

Selected studies and meta-analyses show that game-based learning has a significant positive effect on children's cognitive and social development. A study by Papastergiou found that children who learned using interactive games improved their problem-solving skills by 78–85%, compared to 65–70% in the group that learned using traditional methods[106]. According to Griffiths, games develop children's creative thinking and decision-making skills, and also involve them in independent and group activities[107]. Squire notes that children's social skills — cooperation, communication, and teamwork — significantly improve in game-based lessons[108].

Connolly et al. meta-analysis showed that children who were taught using digital games showed a 15–20% increase in attention and motivation compared to those who were taught using traditional methods. It was also observed that game tasks guided children to solve problems step by step and make strategic decisions[109].

The analysis of these results shows that game-based learning has a positive effect not only on cognitive, but also on social development. Children actively participate in lessons, cooperate with each other, and develop independent thinking. At the same time, the pedagogical approach and teacher competence play an important role in the successful implementation of game technologies.

Previous research has shown that game-based learning has a significant positive impact on children's cognitive and social development. Papastergiou found that interactive games helped children develop problem-solving, creative thinking, and logical reasoning skills. Griffiths also found that game tasks encouraged children to think independently and make strategic decisions.

Squire found that students' social development, including group cooperation, communication, and teamwork skills, was enhanced. Games encourage children to work together, share ideas, and support each other in

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[106] Papastergiou, Marina. "Digital Game-Based Learning in Education: A Meta-Analysis." Computers & Education, vol. 52, no. 1, 2009, pp. 1–17.

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

[108] Squire, Kurt. Video Games and Learning: Teaching and Participatory Culture in the Digital Age. Teachers College Press, 2011.

[109] Connolly, Thomas M., et al. "A Systematic Literature Review of Empirical Evidence on Computer Games and Serious Games." Computers & Education, vol. 59, no. 2, 2012, pp. 661–686.

decision-making. A meta-analysis by Connolly et al. found that game-based learning increased motivation and attention in the pedagogical process, and increased student engagement in the learning process. At the same time, research shows that digital games can help develop cognitive and social skills together. For example, interactive games encourage students to think creatively and learn to solve complex problems step by step, which helps develop strategic thinking.

Analysis

The results show that game-based learning is more effective in children's cognitive and social development than traditional methods. In studies by Papastergiou and Griffiths interactive games significantly improved children's problem-solving and creative thinking skills. The analysis shows that the effectiveness of games is closely related to the pedagogical competence of the teacher. If the teacher adapts the game tasks to the lesson objectives and takes into account the individual abilities of the students, the results will be more effective.

Games also stimulate children's social development. In a study by Squire, children learn to work in groups, support each other, and communicate, which strengthens their social skills[110]. The results in this area confirm the importance of interactive pedagogical methods in children's development.

Discussion

The results and analysis show that game-based learning is an effective tool for the cognitive and social development of first-grade students. Games encourage children to solve problems step by step, make strategic decisions, and cooperate in groups. At the same time, the results are further enhanced when educators adapt the lesson to the game method and take into account the individual needs of students. Consistent with the results of previous studies games make the pedagogical process motivating, interactive, and effective. This approach develops children's cognitive skills, teaches them to think independently, and strengthens their social skills.

Game-based learning can be used as an innovative approach in the pedagogical process. At the same time, it is important for educators to adapt games to lesson objectives, adjust tasks to the level of complexity, and focus on individual work with students.

Conclusion

The results of this study show that game-based learning is an effective pedagogical tool for the cognitive and social development of first-grade

[110] Squire, Kurt. Video Games and Learning: Teaching and Participatory Culture in the Digital Age. Teachers College Press, 2011.

students. Interactive games encourage children to solve problems, think creatively and strategically, and develop skills in teamwork and communication. The methodological preparation of the teacher and the ability to adapt games to the objectives of the lesson increase the effectiveness of game-based learning. In this way, the lesson process is not only interactive and interesting, but also children's active participation and social interaction skills are strengthened. At the same time, studies confirm the importance of digital games in increasing motivation in the pedagogical process and increasing children's interest in self-development. This approach allows for the implementation of pedagogical innovation and the development of strategic thinking in primary school students. Future research will allow us to further expand the results by testing game-based learning in real-world classrooms, applying it to different age groups, and in different pedagogical contexts.

THE LIST OF USED LITERATURES

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