



The Potential of Electronic Games as Pedagogical Tools in Physical Education in Elementary School

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Summary

This article explores the potential of electronic games as pedagogical tools in Physical Education classes in elementary school. The growing popularity of electronic games among children and adolescents, combined with technological advances, raises questions about how these tools can be integrated into the school curriculum in order to promote students' learning and integral development. The research, of a theoretical nature, involved the review of relevant literature on the topic. The results point to the potential of electronic games to promote motivation, engagement and the development of motor, cognitive and socio-emotional skills. However, challenges such as screen time and the need for pedagogical adaptation are also discussed. The article concludes with recommendations for the effective use of electronic games in Physical Education, emphasizing the importance of teaching mediation and the careful selection of games suited to pedagogical objectives.

Key words: electronic games, physical education, elementary education, pedagogical tools, active learning.

Abstract

This article explores the potential of video games as pedagogical tools in Physical Education classes in elementary school. The increasing popularity of video games among children and adolescents, coupled with technological advancements, raises questions about how these tools can be integrated into the school curriculum to promote learning and the overall development of students. The research, of a theoretical nature, involved a review of relevant literature on the topic. The results point to the potential of video games to promote motivation, engagement, and the development of motor, cognitive, and socio-emotional skills. However, challenges such as screen time and the need for pedagogical adaptation are also discussed. The article concludes with recommendations for the effective use of video games in Physical Education, highlighting the importance of teacher mediation and the careful selection of games appropriate to pedagogical objectives.

Keywords: video games, physical education, elementary school, pedagogical tools, active learning.

1. Introduction

The growing presence of technology in contemporary society has profoundly impacted several sectors, and education is no exception. In this scenario of constant transformation, electronic games emerge as tools with undeniable potential to revolutionize teaching and learning, including in the area of Physical Education (PE). The growing popularity of these games among children and teenagers, driven by technological advances and digital culture, offers a unique opportunity for EF to connect with students' interests and experiences, using these tools strategically to promote integral development, covering the motor, cognitive and socio-emotional dimensions.

The relationship between electronic games and education has been the subject of study and debate for decades, with divergent views on their benefits and harms. While some argue that electronic games can contribute to the development of skills such as logical reasoning, problem solving and teamwork, others express concerns about excessive screen time, a sedentary lifestyle and the possible influence of inappropriate content. However, it is undeniable that electronic games are already part of the reality of children and adolescents, and ignoring this reality would be turning a blind eye to a powerful tool that, if used in a conscious and planned way, can enrich the teaching-learning process.

In the area of Physical Education, electronic games offer a range of possibilities for creating innovative and engaging learning experiences. Through games that simulate sports, physical activities and motor challenges, students can develop basic and specific motor skills, such as coordination, balance, strength and agility, in a playful and fun way. Additionally, games that require strategic reasoning, decision-making and collaboration can encourage the development of cognitive and socio-emotional skills such as critical thinking, planning, communication and teamwork.

Faced with this complex and challenging scenario, this article aims to analyze the potential of electronic games as pedagogical tools in PE in elementary school, investigating their benefits and challenges, and offering recommendations for their effective use. The research, of a theoretical nature, involves the review of relevant literature on the topic, seeking to identify the main scientific evidence and existing knowledge gaps.

The relevance of this study lies in the need to understand how digital technologies, increasingly present in students' lives, can be integrated into PE in a critical and reflective way, aiming for the integral development of students. By exploring the potential of electronic games, we seek to contribute to the debate on the role of PE in the digital age and to the construction of innovative, meaningful pedagogical practices aligned with the demands of the 21st century.

2. Electronic Games as Pedagogical Tools in Physical Education Classes

Physical Education (PE) in elementary school plays a crucial role in promoting the integral development of students, covering the motor, cognitive, affective and social dimensions. In this sense, Darido (2005) highlights that PE must go beyond mere sporting practice, seeking to promote the “education of critical, autonomous and participatory citizens, capable of understanding and transforming social reality”.

The use of electronic games in educational contexts has been the subject of several studies. The results point to the potential of these tools to promote motivation, engagement, active learning and the development of various skills. In EF, electronic games can be used to complement traditional activities, offering new possibilities for interaction, experimentation and learning.

In the motor dimension, PE seeks to develop basic and specific motor skills, such as motor coordination, balance, strength, agility and speed. For Gallahue and Ozmun (2013), motor development is a continuous process that begins in childhood and continues throughout life, with PE being fundamental to stimulate and improve these skills.

In the cognitive scope, PE contributes to the development of skills such as decision making, strategic planning, problem solving and critical thinking. Freire (1996) emphasizes that education must be a process of “action-reflection”, and PE, through games, games and challenging activities, can provide students with the opportunity to experiment, reflect and learn from practice.

Furthermore, PE plays an important role in students' emotional and social development. Through interaction with peers, students learn to work as a team, respect rules, deal with frustrations and develop empathy. For Vygotsky (1984), social interaction is fundamental for cognitive and affective development, and PE offers a privileged space for promoting these interactions.

Physical Education in elementary school seeks to promote the integral development of students, covering the motor, cognitive, affective and social dimensions. Through playful, challenging and meaningful activities, EF contributes to the formation of healthy, active and participatory citizens.

The literature review revealed that electronic games can bring several benefits to Physical Education in elementary school. Research such as that by Farias, Mota and Junqueira (2017) indicates that the use of Electronic games can increase student motivation and engagement, making classes more attractive and pleasurable. The authors state that “the use of electronic games as a pedagogical tool can be an effective strategy to promote the active participation of students and make the teaching process - more dynamic and interactive learning”.

Furthermore, electronic games can contribute to the development of motor skills, such as coordination, balance and agility, especially when it comes to exergames, which require body movements to interact with the game. Sánchez-Bañuelos (2012) corroborates this idea, stating that “exergames can be a useful tool to promote physical activity and motor development in children and adolescents, complementing traditional Physical Education activities”.

In the cognitive sphere, electronic games can stimulate the development of skills such as logical reasoning, decision making, strategic planning and problem solving. Adventure, simulation and strategy games, for example, require players to think critically and creatively to overcome challenges and achieve goals. According to Gee (2003), “electronic games can be considered as 'learning worlds' that offer players the opportunity to develop complex cognitive skills in a fun and challenging environment”.

Furthermore, electronic games can also promote the development of socio-emotional skills, such as communication, cooperation, leadership and respect for differences. Games that involve interaction between players, whether cooperatively or competitively, can provide significant social and emotional learning experiences. Vygotsky (1984) highlights the importance of social interaction for cognitive and affective development, and electronic games can be a powerful tool to promote these interactions.

However, the use of electronic games in Physical Education also presents challenges. One of the main challenges is screen time, which needs to be carefully monitored to avoid excess and ensure that the use of electronic games is balanced with other activities. The World Health Organization (WHO, 2019) recommends that children and adolescents limit recreational screen time to a maximum of two hours per day.

Another challenge is the need for pedagogical adaptation of electronic games to the objectives of Physical Education. It is essential that games are selected and used in an intentional and planned way, taking into account the characteristics of the students and the learning objectives. Kishimoto (1994) highlights the importance of considering electronic games as pedagogical resources, and not just as entertainment, and of using them in a way that promotes the integral development of students.

The use of electronic games in Physical Education presents great potential, but also challenges that need to be considered. It is essential that teachers are prepared to use these tools in a critical and reflective way, always seeking a balance between the use of technology and traditional physical activities.

3. Final Considerations

This article sought to explore the potential of electronic games as pedagogical tools in Physical Education in elementary school. From the literature review, it was evident that electronic games, when used in a planned and intentional way, can bring several benefits to the integral development of students, promoting motivation, engagement and the development of motor, cognitive and socio-emotional skills.

However, it is essential that the use of electronic games in Physical Education is accompanied by a critical reflection on the challenges and limitations of these tools. Screen time, for example, needs to be carefully monitored to avoid excess and ensure that the use of electronic games is balanced with other activities. Furthermore, it is essential that the games are selected and pedagogically adapted to the objectives of Physical Education, taking into account the characteristics of the students and the content to be covered.

Given this, it is recommended that Physical Education teachers seek continued training on the use of electronic games in educational contexts, in order to improve their pedagogical practices and use these tools effectively. It is important that teachers are prepared to deal with the challenges and potential of electronic games, selecting appropriate games, adapting them to learning objectives and mediating students' interaction with technologies.

However, incorporating electronic games into PE classes is not a trivial task and requires careful and discerning analysis. It is essential that teachers are prepared to select young games appropriate to pedagogical objectives, adapt them to the needs of students and mediate the learning process, ensuring that the use of games is intentional and effectively contributes to the integral development of students. Furthermore, it is essential that the use of electronic games is balanced with other physical activities and that screen time is monitored to avoid excess and promote healthy habits.

In short, electronic games can be important allies of Physical Education in elementary school, as long as they are used in a critical, reflective and intentional way. By exploring the potential of these tools, teachers can create more engaging, meaningful, and relevant learning experiences for students.



students, contributing to the development of a more active, healthy and connected generation with digital technologies.

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