

Integrating leisure and learning: a systematic review of the role of digital games in the educational process

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Abstract: This research aimed to analyze the role of digital games in integrating leisure and learning in the educational process. To this end, a systematic review was carried out on the Scielo and Google Scholar platforms, under the guidance of the PRISMA guidelines. For the survey of articles, keywords were used in association with Boolean operators "AND" and "OR", in order to select only scientific articles of Brazilian nationality associated with the central theme of this research, as well as published between the years 2020 and 2023. As a result, it was found that the systematic analysis of the impact of digital games on the integration of leisure and learning in education highlights their remarkable ability to engage students in different educational contexts. As well as overcoming the common lack of motivation in traditional environments, the research identifies innovative pedagogical practices that transcend conventional criticisms of "serious games". Despite concerns raised about the negative impact, there is evidence to support benefits, especially for more introverted students. The discussion on the virtual expression of violence as an escape valve highlights the crucial need for dialog between educators, students and parents. The studies analyzed emphasize the transformative potential of digital games in various educational areas, taking advantage of children's familiarity with technology. The inclusive approach highlights the versatility of these tools to meet the needs of individuals with different disabilities. The effective strategy of gamification is recognized as a means of providing a new perspective on life, allowing individuals to become active participants in social life. The integration of leisure and learning, by transforming the educational process into a playful experience, not only makes learning more engaging, but also encourages active student participation. This contemporary approach presents itself as an effective and innovative response to current educational challenges, highlighting digital games as crucial elements in promoting a stimulating and efficient educational environment.

Key Word: Digital games; education; technology; teaching; learning.

Date of Submission: 08-12-2023

Date of Acceptance: 18-12-2023

I. Introduction

In recent years, there has been a transformation in teaching approaches, driven by the need to engage students in an increasingly digital and interactive world. Educators recognize the importance of incorporating innovative methods that stimulate students' interest and active participation. In this scenario, digital games emerge as a dynamic and effective response to contemporary demands, promoting a personalized and adaptive approach to the teaching-learning process (CIPRIANI; EGGERT, 2017).

As Vasconcellos et al. (2017) reiterate, the convergence of leisure and learning represents a response to the growing need to adapt educational practices to the new social, technological and cognitive contexts of the 21st century. Traditionally, the school environment was perceived as strictly formal and distant from playful activities, relegating pleasure to the purely recreational sphere. However, current understanding emphasizes that student engagement is not only desirable, but essential for the full development of their abilities.

In this sense, the integrative approach seeks to break down the dichotomy between learning and fun, recognizing that the educational process can be enriched when playful elements are incorporated, such as digital games, which act as bridges between the pleasure inherent in leisure and the search for knowledge. This paradigmatic transformation highlights a holistic conception of education, where the act of learning is perceived as an engaging and continuous journey, capable of stimulating the acquisition of knowledge, as well as the development of socio-emotional skills and the formation of critical and autonomous individuals (CRUZ JUNIOR, 2017).

Digital games stand out as an effective solution because they combine the element of play with cognitive challenges, providing an immersive learning experience. The nature of educational games allows students to learn in a more enjoyable and intuitive way. By presenting complex concepts in a fun and contextualized way, games are able to overcome traditional barriers of resistance to learning (COX; BITTENCOURT, 2017).

Given this context, the aim of this research was to analyze the role of digital games in integrating leisure and learning in the educational process. It is hoped that the results of this research will contribute to understanding the potential of digital games as innovative educational tools. In addition, it seeks to provide theoretical and practical support on how these technologies can be incorporated into the educational environment, promoting not only student engagement, but also the construction of knowledge in a playful and stimulating way.

II. Material And Methods

The methodology section of this article adopted the systematic review approach, focusing on analyzing the role of digital games in integrating leisure and learning in the educational process. The choice of this type of research was motivated by its potential to provide an impartial and organized synthesis of the available literature on the subject in question.

As Brizola and Fantin (2016) reiterate, a systematic review is characterized by its methodical and rigorous approach to the selection, analysis and synthesis of available evidence on a given topic. This research method is recognized for following specific guidelines, such as those established by PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses), in order to ensure transparency, replicability and impartiality in the process.

From this perspective, the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines were followed for the development of the systematic review, thus guaranteeing a transparent and consistent method in the selection and analysis of the included studies. These guidelines helped to ensure the methodological quality of the review, promoting transparency, replicability and impartiality in the process of analyzing the existing literature on the role of digital games in integrating leisure and learning in education.

The search for articles was conducted on the Scielo and Google Scholar platforms, recognized for their breadth and relevance in indexing a wide range of scientific articles. Using strategically chosen keywords such as "digital games", "leisure", "learning", "teaching" and "education", the search process sought to ensure a comprehensive and accurate analysis of the studies related to the topic.

Boolean operators "AND" and "OR" were used to optimize the search. These operators made it possible to effectively combine the keywords, enabling a refined and precise search. The use of these operators, together with the keywords chosen, aimed to ensure that the results included relevant studies that addressed both the leisure and learning aspects of digital games, thus enriching the analysis and understanding of the role of these games in the educational context.

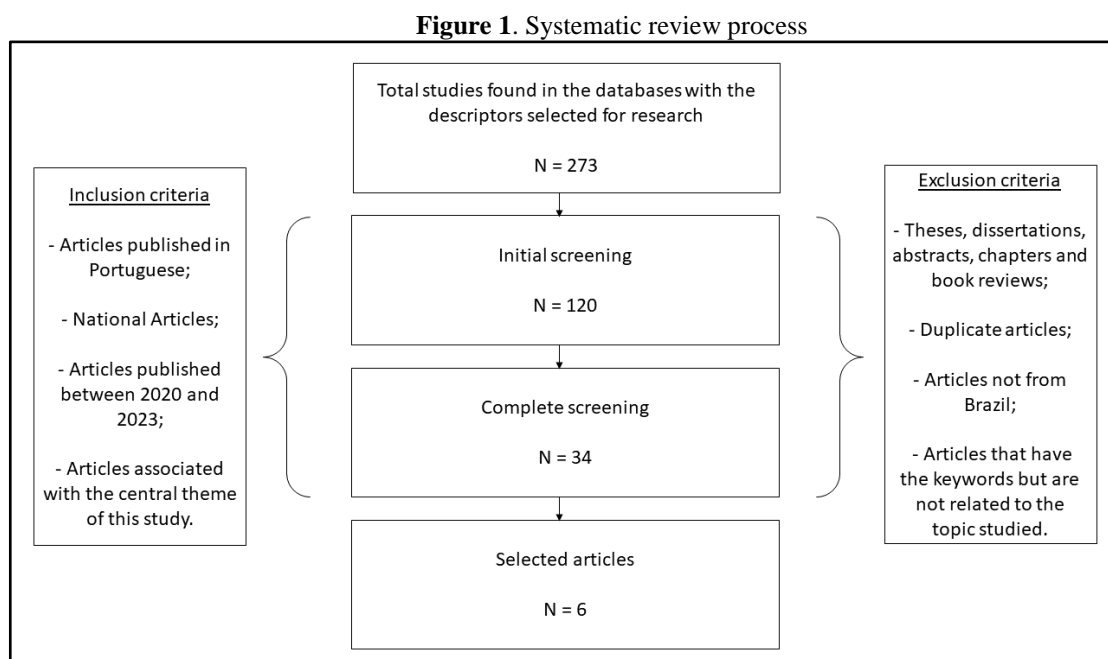
The inclusion criteria adopted included the selection of Brazilian articles, published between 2020 and 2023, and directly associated with the theme of integrating leisure and learning through digital games. This temporal and geographical delimitation aimed to provide a contextualized and specific analysis of educational practices in the recent Brazilian scenario, contributing to the depth and relevance of the research.

Thus, studies that did not meet the established inclusion criteria were excluded, such as those not directly related to the theme of integrating leisure and learning through digital games, as well as articles from other nationalities and published outside the defined time interval (2020 to 2023). Theses, dissertations, monographs and expanded abstracts were also excluded.

The articles were systematically and carefully analyzed in two different screening phases: initial screening and full screening. During the initial screening, the abstracts and titles were read and evaluated to

determine their thematic relevance, while the publication sites were examined to ensure that they were in scientific journals, maintaining methodological uniformity. The studies selected at this stage underwent a thorough analysis, in which each article was examined in detail to assess its adherence to the inclusion criteria and to extract pertinent information. This analysis included a review of the methods used, results achieved, discussions presented and conclusions reached.

As a result, a sample of 6 articles was obtained, as shown in figure 1.



Source: Research data (2023).

III. Result

After carrying out the systematic review, it was possible to select 6 scientific articles, as shown in Table 1.

Table 1. Articles selected in the systematic review

Authors	Research objective	Methodology	Conclusion of the research
Ferraz and Sant'Anna (2020)	Investigating the role of digital games as differentiated pedagogical practices.	Action research with a qualitative approach	The text highlights the relationship between digital games and language education in English, countering discourses on violence and the excessive time spent by young people in front of digital devices. It highlights research that shows benefits, especially for introverted or excluded students, allowing them to express violence virtually, with an awareness of its fictitious nature. The article problematizes the time dedicated to games, highlighting the need to understand the reasons for this fixation and to involve parents in this dialogue. It highlights the lack of motivation at school compared to the attractiveness of digital games, arguing that these common games can effectively contribute to young people's engagement in language learning. It presents a pedagogical practice with the Sim City game as an example, showing that it is possible to integrate language activities with broader themes of citizenship and social criticism. It emphasizes the importance of going beyond the "serious games" recognized in the educational field.
Ichiba and Bonzanini (2022)	To present a digital educational game for children's education on the subject of vermicomposting, discussing the limits and possibilities of its use in promoting	Applied research with a qualitative approach	The text highlights the importance of assessment in Early Childhood Education as a necessary and permanent practice. It highlights the potential of digital games, such as "Learning Vermicomposting", to promote knowledge in Environmental Education, making them a valuable tool, especially in times of social distancing. It addresses children's familiarity with technology, emphasizing that the game is playful and familiar. In the context of assessment, it highlights the need to rethink teaching practices and the use of different teaching resources. The game is presented as an interactive and playful instrument that can serve as an assessment tool, in line with the identity and curriculum of Early

	environmental education.		Childhood Education.
Soares and Oliveira (2023)	Analyzing the use of digital games in financial education, which is gaining prominence as an innovative and effective approach that promotes the learning of financial concepts in a practical and engaging way.	Literature review	The conclusion highlights that Digital Educational Games (DEGs) applied to the teaching of finance play a crucial role in the teaching and learning process. This monograph seeks to consolidate information on this subject, filling a gap in the bibliography. It highlights the importance of continuing to research and explore new perspectives in this dynamic and constantly evolving field. Furthermore, it should be emphasized that JEDs are not just technological tools, but pedagogical resources that can be adapted to the specific needs of each student and educational context. Using JEDs to support teaching creates more dynamic and effective experiences, involving students actively in the learning process. It is concluded that Digital Educational Games play a relevant role in contemporary education, promoting a stimulating, inclusive and effective learning environment for students, preparing them for the challenges of the ever-changing digital world.
Rocha, Correia and Santos (2021)	Reflect on the possibilities of digital games in/for inclusive education	Bibliographic survey	The study analyzes the academic output of Brazilian public universities over the last decade, reflecting on the possibilities of digital games in inclusive education. The concept of a digital game adopted by the researchers highlights its plurality and numerous potentialities for expanding learning. The research addresses disabilities, in line with the principles of inclusion, where society must adapt to provide accessibility for all. The researchers, from various universities, propose rethinking methodologies, using digital games as an ally to foster cognitive, social and affective skills in subjects with different disabilities, respecting their individuality. As well as denouncing social inequalities, the research indicates a new approach to interacting with diverse subjects, believing in everyone's ability to learn. Digital games, by incorporating playfulness, provide a new perspective on life for previously segregated individuals, making them active participants in social life. The study highlights the need for future research to deepen the discussion on the possibilities of digital games in inclusive education.
Queiroz et al. (2023)	To propose an example of a playful pedagogical practice that can be used in the final years of primary education, serving as inspiration for the development of new educational practices that place the culture of play as a way of teaching in schools.	Qualitative research	The study highlighted the importance of play in Early Childhood Education, incorporating digital technology to create educational proposals. Collaboration with educators resulted in a gamified didactic sequence that was well accepted at CIEP. The results indicate that the material developed achieved its objective, being considered applicable by educators for playful pedagogical practices in Early Childhood Education. The research seeks to inspire the continued adoption of gamified approaches, fostering a culture of play and promoting future research into their impact on student learning.
Santos and Prado (2021)	Analyze the current use of digital games in mathematics education	Systematic review	Game-based learning (GBL) and digital game development in education (DJDE) are essential to teaching and learning processes. Both methodologies offer educational gains, but the relationship between learning mathematical concepts and digital games is influenced by several factors, including individual student differences and teacher training. The main challenge is to improve the acceptance of games as educational tools and to integrate them effectively into schools. Digital games, even non-educational ones, provide a challenging environment for players, promoting experiential, active and critical learning. However, the effective integration of games into education is complex and requires significant efforts to bring about a change in the school paradigm, as highlighted by Gee (2003). For future research, it is necessary to examine how games facilitate the acquisition of mathematical skills in different fields and to explore the role of teacher training programs in effectively incorporating digital games into teaching, learning and assessment.

Source: Research data (2023).

Based on the systematic review, the role of digital games in integrating leisure and learning in the educational process was observed. The study by Ferraz and Sant'Anna (2020) highlights that the lack of motivation at school is contrasted with the attractiveness of digital games, defending the idea that these common games can effectively contribute to young people's engagement in language learning. The study goes beyond

criticizing the "serious games" recognized in the educational field, presenting a specific pedagogical practice with the Sim City game as an example. This practice highlights the possibility of integrating language activities with broader themes of citizenship and social criticism, demonstrating that digital games can be used effectively in the educational context.

The authors, however, also demonstrate a common concern about the negative impact of digital games on young people, contrasting this view by presenting research that points to benefits, especially for introverted or excluded students. The possibility of expressing violence virtually, with an awareness of its fictitious nature, is discussed as a form of outlet for these young people. A critical approach is taken to the time spent playing games, suggesting the importance of understanding the reasons for this fixation and involving parents in this dialog.

The study by Ichiba and Bonzanini (2022) proposes the presentation of a digital didactic game aimed at Early Childhood Education, addressing the theme of vermicomposting and discussing the limits and possibilities of its use to promote Environmental Education. The research, of an applied nature and qualitative approach, emphasizes the ongoing importance of evaluation in Early Childhood Education as an essential practice. The text highlights the potential of digital games, exemplified by the game "Learning Vermicomposting", as a valuable tool for promoting knowledge in Environmental Education, especially in times of social distancing. The approach highlights children's familiarity with technology, emphasizing that the game is not only playful, but also familiar to children, considering this generation's natural affinity with digital devices.

In the context of assessment, the study points to the need to rethink teaching practices and explore the use of different teaching resources. The game is presented as an interactive and playful instrument that can serve as an assessment tool, in line with the identity and curriculum of Early Childhood Education. In this way, it proposes an innovative approach to assessment, incorporating digital elements in an integrated way into the educational process, taking advantage of children's familiarity with technology and promoting the learning of environmental concepts in an engaging and effective way.

The conclusion of the work by Soares and Oliveira (2023), which deals with the application of digital games in financial education, highlights the growing relevance of this innovative and effective approach. The analysis carried out highlights that Digital Educational Games (DEGs) play a crucial role in the teaching and learning process, providing a practical and engaging way of approaching financial concepts.

In addressing the literature review, the conclusion emphasizes the importance of filling gaps in the literature on the subject. The monograph aims to consolidate information, contributing to a deeper understanding of the use of JEDs in financial education. It highlights the ongoing need for research and exploration of new perspectives in this dynamic and constantly evolving field.

A crucial observation made in the conclusion is that JEDs are not just technological tools, but pedagogical resources that can be adapted to the specific needs of each student and educational context. The approach of using these games to support teaching aims to create more dynamic and effective experiences, involving students actively in the learning process.

In this scenario, Digital Educational Games play an important role in contemporary education, especially in promoting a stimulating, inclusive and effective learning environment. This approach prepares students for the challenges of the ever-changing digital world, consolidating itself as an innovative and necessary pedagogical strategy for financial education.

The work by Rocha, Correia and Santos (2021) significantly addresses the implications and potential of digital games in inclusive education, offering valuable insights through a bibliographic survey centered on the academic productions of Brazilian public universities over the last decade.

The concept of a digital game adopted by the researchers highlights its plural nature and the countless possibilities it offers to enhance learning. The study reflects on the relevance of these games as versatile teaching tools, capable of meeting the needs of people with different disabilities. In line with the principles of inclusion, the research points to society's responsibility to adapt to ensure accessibility for all.

The study's approach focuses on analyzing how digital games can foster cognitive, social and affective skills in individuals with various disabilities, while respecting their individuality. The researchers, from various universities, propose a re-evaluation of educational methodologies, highlighting digital games as an ally in this process of transformation.

As well as highlighting existing social inequalities, research indicates a new approach to interacting with diverse subjects, based on the belief in everyone's ability to learn. Incorporating the element of play into digital games is highlighted as an effective strategy for providing a new perspective on life for previously segregated individuals, allowing them to become active participants in social life.

The conclusion of the study highlights the need for future research to deepen the discussion on the possibilities of digital games in inclusive education. This highlights the dynamic and constantly evolving nature of this field of study, encouraging the search for increasingly effective strategies to promote inclusion and maximize the learning potential of all students.

The study conducted by Queiroz et al. (2023) offers a valuable perspective on the integration of playful pedagogical practice in Early Childhood Education, highlighting the use of digital technology to create innovative educational proposals. The research, based on a qualitative approach, had the main objective of proposing a concrete example of playful pedagogical practice that could serve as inspiration for the development of new educational practices, emphasizing the culture of play as an effective way of teaching in schools, especially in the final years of Early Childhood Education.

Close collaboration with educators resulted in the creation of a gamified didactic sequence, which was successfully implemented in the context of the Integrated Center for Public Education (CIEP). The results obtained indicate that the material developed achieved its objective, being perceived as applicable and effective by educators who incorporated it into their playful pedagogical practices in Early Childhood Education.

The emphasis on gamification, which involves applying elements typical of games in the educational context, highlights the importance of innovative approaches to engaging students and promoting a culture of play in the school environment. The research not only highlights the effectiveness of the gamified didactic sequence developed, but also seeks to inspire the continued adoption of similar approaches, encouraging educators to explore and integrate play culture more broadly into their practices.

The study also points to the need for future research into the impact of these gamified approaches on student learning. This research perspective indicates a continued commitment to reflection and the improvement of educational practices, contributing to the building of a more robust body of knowledge on the effectiveness and benefits of gamified pedagogical strategies, especially those that incorporate digital technology in a creative and relevant way.

The work by Santos and Prado (2021) carries out a comprehensive analysis of the current state of digital games in mathematics education through a systematic review. The study highlights the importance of both Game-Based Learning (GBL) and Digital Game Development in Education (DJDE) in teaching and learning processes, emphasizing that both methodologies offer substantial educational benefits.

The relationship between the learning of mathematical concepts and digital games is recognized as being influenced by various factors, including the individual differences of students and teacher training. The primary challenge identified in the study is the need to improve the acceptance of games as educational tools and effectively integrate them into school practices. Despite the benefits provided by digital games, even those that are not strictly educational, in terms of promoting a challenging environment for players and stimulating an experiential, active and critical learning approach, the effective integration of these games into education is considered complex.

The paper highlights the complexity of the task, pointing out that a significant effort is needed to bring about a change in the school paradigm. The need for future research is identified to examine how games facilitate the acquisition of mathematical skills in different contexts and to explore the role of teacher training programs in effectively incorporating digital games into the teaching, learning and assessment process.

IV. Conclusion

Based on this systematic review, the aim of which was to analyze the role of digital games in integrating leisure and learning in education, it was possible to verify the ability of digital games to engage students in different educational contexts. The studies examined highlight the attractiveness of digital games as pedagogical tools, overcoming the lack of motivation perceived in traditional learning environments. Specific pedagogical practices that go beyond criticism of "serious games" are highlighted, exemplifying the successful integration of language activities with broader themes of citizenship and social criticism.

At the same time, the authors also express concerns about the negative impact of digital games on young people. However, they balance this view by presenting research that indicates benefits, especially for introverted or excluded students. The discussion on the virtual expression of violence as a form of outlet for young people highlights the importance of understanding the reasons for this fixation and involving parents in this dialog.

The studies highlight the potential of digital games as tools to promote knowledge in various areas, adapting to children's familiarity with technology. The inclusive theme is explored, highlighting digital games as versatile pedagogical tools capable of meeting the needs of individuals with different disabilities. Gamification is emphasized as an effective strategy to promote a new perspective on life for previously segregated individuals, allowing them to become active participants in social life.

Digital games play a key role in integrating leisure and learning, providing an innovative and engaging approach in the educational context. By transforming the learning process into a playful experience, these games manage to capture students' attention in a unique way, promoting engagement and motivation. The harmonious fusion between the leisure component and the transmission of knowledge not only makes learning more enjoyable, but also stimulates active student participation, offering a contemporary and effective approach to tackling educational challenges.

Thus, the analysis of the current state of digital games highlights the importance of Digital Game-Based Learning and Digital Game Development in Education. Despite the benefits provided by digital games, the effective integration of these tools into education is considered complex, requiring significant efforts to bring about a change in the school paradigm.

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