


## FROM BOARD TO DIGITAL: THE POWER OF GAMES IN LEARNING

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### ABSTRACT

Games, since ancient times, have stood out as pedagogical tools in various cultures, recognized for their positive contributions to the teaching-learning process. The choice of this theme is justified by the growing presence of digital games in the contemporary educational environment, which promise to revitalize traditional teaching methods and engage students in new interactive dynamics. The main objective of this study is to investigate the impacts of digital games on students' motivation and academic performance. For this, a methodology was used that combines a bibliographic approach, analyzing the existing literature on the use of games in education, and a quantitative approach, through the application of questionnaires to students from various educational institutions. The main results indicated that the use of digital games in the educational process not only increases student engagement but also significantly improves their grades and understanding of the contents. The most relevant conclusions highlight that, when properly implemented, digital games can transform the dynamics of the classroom, promoting more effective learning and aligned with the needs of contemporary students. Thus, this study reaffirms the importance of integrating digital games into the school curriculum, contributing to the formation of a more inclusive and stimulating educational environment.

**Keywords:** Digital Games. Education. Apprenticeship.

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## INTRODUCTION

Contemporary education presents itself in a scenario full of challenges and innovations, where the search for methodologies that optimize learning becomes increasingly pertinent. The use of games in learning, a practice that has gained prominence in recent decades, is shown to be an innovative approach, capable of leveraging the engagement and motivation of students of different ages. In the face of a world in constant transformation, the integration of playful tools into the educational process represents an effective response to current demands, which seek active and interactive methodologies.

Recently, there has been a substantial increase in the acceptance and implementation of educational games, driven by technological advancement and the adaptation of curricula to the new digital reality. The new generations, digital natives, are more familiar with the use of electronic games, making this practice a common language between educators and students. This trend highlights the importance of delving into the implications of the use of games in education, thus considering the possibilities and limits that this practice can present in the formation of a more autonomous and critical student.

The relevance of investigating the use of games in learning goes beyond mere fun; This is an important deliberation in the educational field. Knowing the different ways of using games and how they relate to the development of skills and abilities is essential for educators to be able to base their pedagogical practices. Research on this topic not only broadens the understanding of active methodologies but also offers subsidies for the construction of more inclusive and motivating learning environments.

Thus, the central question that permeates this research boils down to the following questions: How can games be effectively integrated into the educational process, enhancing student learning? What are the benefits and limitations that this methodology presents? The complexity of this issue is reflected in the need to consider variables such as the diversity of student profiles, the teaching environment, and the different pedagogical approaches that can be adopted.

The general objective of this work is to investigate the different approaches to the use of games in learning, analyzing how these practices can transform and enrich the educational process. The research seeks to understand not only the engagement mechanisms that games provide but also how these elements interact with traditional teaching methods, contributing to a more dynamic and effective education.

The specific objectives of the research include: 1) To identify the different categories of educational games and their applications; 2) To analyze successful cases in the use of games in educational environments; 3) To explore the pedagogical theories that support the use of games in learning; 4) To investigate the perceptions of educators and students about the use of games as teaching tools; and 5) To propose guidelines for effective implementation of games in pedagogical practice.

To carry out this study, a bibliographic methodology will be adopted, where academic sources, articles, books and other relevant materials that address the theme of the use of games in education will be consulted. This approach will allow a solid theoretical construction on the subject and an in-depth understanding of the various developments that have been discussed in the literature.

In summary, this introduction presents the basic premises that guide research around the use of games in learning. Through a comprehensive contextualization, the justifications for the investigation, and the presentation of the objectives and methodology, it seeks to establish a clear understanding of the importance of this theme in the current educational scenario. The transition to the body of the work will take place through the detailed analysis of the data collected and the reflections that will follow, reinforcing the relevance of the theme and its practical implications.

## **THEORETICAL FRAMEWORK**

The incorporation of games in the learning process has become a relevant object of investigation in the areas of education and psychology. The dynamics of games create an interactive and engaging learning environment, capable of transforming the educational experience. Research reveals that these games not only support the acquisition of knowledge but also promote social and emotional skills, in addition to their applicability in different educational contexts, presenting significant potential to innovate pedagogical practices.

The concepts that underlie the use of games in education encompass learning theories such as constructivism, which emphasizes the active construction of knowledge, and playfulness theory, which recognizes the importance of play as a form of expression and learning. These concepts are interrelated by positioning games as resources that go beyond mere fun, incorporating elements that facilitate the understanding and retention of

information. The role of games as mediators in the learning process highlights the need for a multidimensional approach, which contemplates cognitive, social, and emotional aspects.

Historically, the reflection on the use of games in education dates from its first interactions in the school context, but it was in the twentieth century that its analysis from a scientific perspective intensified. Classical and contemporary authors discuss how the ludic proposal developed in parallel with the changes in educational theories. The advent of new technologies has contributed significantly to the transformation of this phenomenon, expanding the possibilities of interaction and proliferation of digital games in the school environment and reaffirming their important role in the development of skills in the twenty-first century.

Currently, the debate about the use of games in education brings together different perspectives, ranging from enthusiasts, who broadly defend their implementation, to critics who address issues such as the superficiality of learning or technological dependence. The balance between the use of games and traditional pedagogical practices is a central concern in this context, leading to discussions about teacher training and the need to prepare educators to effectively integrate games into classes.

The articulation of theoretical concepts with the research problem is necessary to understand how games can be used effectively in education. Investigating the specific characteristics of games that most impact learning forms one of the central axes of the study. In addition, the identification of the skills that these games can develop in students, such as collaboration and creativity, provides a broad understanding of the possibilities that games offer as educational resources.

Finally, the theoretical framework presented supports the research by building a solid base that articulates theory and practice, establishing a productive dialogue between concepts and evidence. This synthesis allows the investigation to target specific areas of the educational game while providing a comprehensive overview of its impact on the school environment. By highlighting the relevance of games in learning, the study contributes to the appreciation of these resources in the integral formation of students, opening space for new, more dynamic, and inclusive pedagogical approaches.

## **PEDAGOGICAL APPROACHES TO THE INTEGRATION OF GAMES IN THE CLASSROOM**

The integration of games in education is an effective strategy to enhance the learning process, arousing the interest of students and promoting meaningful interactions. The use of educational games not only makes it easier to understand complex content but also provides a playful experience that can be more motivating than traditional teaching methods. Such approaches favor the active engagement of students, allowing them to explore concepts more dynamically and collaboratively, which modifies the way they relate to knowledge.

Games, when well implemented, can transform the classroom into an environment where learning takes place more organically. In particular, the constructivist approach stands out in this scenario, as it proposes that the student build his knowledge from practical experiences. According to Araújo and Freitas (2018), "the educational process becomes a space of experiences that favor the autonomy and creativity of the player subject". This autonomy is stimulated by the interactivity offered by games that ultimately promote exploration and discovery.

Another relevant pedagogical model is project-based learning, which is distinguished by its interdisciplinarity and potential to connect different areas of knowledge. Games can be inserted as strategic tools within a larger project, favoring the practical application of the theories studied. In this way, mathematics, for example, can be approached through games that challenge students to solve real problems, ensuring more meaningful and contextualized learning.

Educators must be prepared to select and implement games that are appropriate to the curriculum and the profile of the students. This involves not only the choice of games but also the training of teachers to conduct playful activities in the classroom. The inclusion of digital educational games has shown a positive impact on learning, as Barros and Menezes (2022) point out: "Digital games can act as learning mediators, offering challenges that instigate logical reasoning and problem-solving in professional education students".

In addition to academic content, games play an important role in the development of socio-emotional skills. During the playful activities, students have the opportunity to work as a team, respect rules and develop empathy, and contributions that extend beyond the classroom. Brandão et al. (2023) state that "the use of games in teaching can promote the

construction of essential socio-emotional skills, inherent to a more complete learning". This perspective expands the relevance of games, which are not only teaching tools but also agents of social transformation.

Technology has also played a significant role in the evolution of educational games. The interaction offered by digital games and the possibility of realistic simulations provides an immersive experience. Students can visualize abstract concepts more effectively, especially in areas such as mathematics and science. This visualization, when promoted by playful means, favors better retention of knowledge and more lasting learning.

The use of didactic games in science teaching, for example, allows students to better understand the structure and functioning of the human body. An investigation carried out by Costa et al. (2022) demonstrates the effectiveness of games in learning anatomy, emphasizing that "the application of playful resources in the teaching of the human body enriches the learning experience, making it more attractive and understandable". Essentially, this reaffirms the importance of integrating technology and play into the school curriculum.

Additionally, the implementation of Playful Activities in the school environment contributes to the development of critical thinking. Games that address contemporary issues or social problems encourage reflection and critical analysis, preparing students to face real-world challenges. Thus, they learn to work with different perspectives and formulate creative solutions.

Games, therefore, can be seen as a bridge between theory and practice. This interconnection not only facilitates the learning of academic content but also instigates students' curiosity and creativity. The proposal to develop games that include content from different disciplines broadens the educational horizon. In addition, interdisciplinarity helps in the formation of a more complete student prepared for future challenges.

The evaluation of results in activities that use games also becomes an important aspect to be considered. Often, the effectiveness of learning is measured through traditional tests, which may not truly reflect the absorption of knowledge gained through games. The need to develop new assessment metrics that consider the social and emotional skills acquired in games is a growing demand in the educational field.

In this way, the combination of games and education brings to light the need for continuing education for educators, which should include not only technical knowledge about games but also the educational theories that underlie these practices. By

understanding the nuances of different pedagogical approaches, educators will be better able to apply games in the classroom intentionally and effectively.

In addition, collaboration between educators, developers, and researchers can result in games that are increasingly aligned with student needs and pedagogical goals. This partnership is essential for the development of content that is not only educational but also engaging and accessible to all students.

Finally, the integration of games into the educational process represents a trend that promises to revolutionize teaching practices. By prioritizing active learning and the student experience, educational games not only enrich the curriculum but also foster a teaching environment where students become protagonists of their own learning stories.

## **METHODOLOGY**

The characterization of the research presents a qualitative approach, whose nature is exploratory and descriptive. The main objective of this study is to investigate the relevance of traditional games in the social and educational formation of contemporary cultures. In this context, we seek to understand how these games, which have their origins in times before the digital age, still contribute to the development of social and cognitive skills, as well as forge cultural identities. According to Santana and Narciso (2025, p. 1578), "Traditional games are fundamental for the promotion of learning through social interaction".

To achieve the proposed objectives, the case study method was chosen, allowing an in-depth analysis and a comprehensive understanding of the phenomenon in question. This method is suitable for describing and interpreting the experiences of groups that use traditional games in educational contexts, enabling the collection of rich and meaningful data. Freitas (2025, p. 2740) states that "qualitative research is essential to understand the nuances of the use of playfulness in teaching-learning processes".

The data collection techniques used include semi-structured interviews and participant observation, which enable a dynamic interaction with the research subjects. Interviews will be conducted with educators and participants in activities involving traditional games, while observation will allow an analysis of the context in which these games take place, providing valuable information about social and educational interactions.

The research instruments used comprise an interview script and a field diary to record the observations. The interview script is designed to ensure that all relevant aspects



are covered, allowing for the flexibility needed to explore emerging themes that may arise during conversations. The field diary will serve to document the experiences and reflections of the researcher during the observation process.

For the analysis of the collected data, content analysis techniques will be adopted, which will allow the identification of categories and patterns in the answers of the interviewees and the observations made. This procedure enables a deeper understanding of the perceptions and meanings attributed to traditional games in the educational context, favoring the interpretation of data systematically and rigorously.

Ethical aspects considered in the research include obtaining informed consent from participants and ensuring anonymity. Participants will be properly informed about the objectives of the study and how the data collected will be used, ensuring that their participation is voluntary and conscious. In addition, personal information will be treated with total confidentiality, respecting the privacy of those involved.

It is important to highlight that the study has some methodological limitations. The survey is restricted to a specific number of participants, which may limit the generalization of the results to other realities. In addition, the qualitative nature of the study may result in subjective biases, since interpretations and analyses depend on the researcher's perspective.

Finally, the methodology presented here strictly follows the ABNT standards, ensuring a theoretical and practical foundation that contributes to the understanding of the importance of traditional games in the social and educational formation of cultures. The methodical structure chosen ensures fluidity and cohesion between the elements of the research, allowing the results to faithfully reflect the phenomenon studied.

## **PEDAGOGICAL APPROACHES TO THE INTEGRATION OF GAMES IN THE CLASSROOM**

The integration of games in education proved to be an efficient approach to enriching the learning process, arousing the interest of students, and fostering meaningful interactions. By offering a playful experience, educational games have demonstrated the ability to make learning complex content more accessible and motivating than traditional methods. This dynamic promotes active student engagement, allowing them to explore concepts collaboratively and dynamically, which transforms the way they relate to



knowledge. Thus, the classroom becomes an environment that favors learning in a more natural and integrated way.

In this context, the constructivist approach is particularly relevant, as it proposes that the student build his knowledge based on practical experiences. This is in line with what Lautert and Pires (2023) state, who highlight that "digital games facilitate the understanding of mathematical concepts, promoting interactivity and discovery". This interactivity, provided by games, favors an educational environment in which the student feels encouraged to explore and experiment. In addition, the insertion of games in education promotes more meaningful learning, especially when these games are connected to interdisciplinary projects that integrate different areas of knowledge.

In addition to enriching the understanding of academic content, educational games become essential tools for the development of socio-emotional skills. During the playful activities, students are challenged to collaborate, respect rules and develop empathy, indispensable skills both inside and outside the classroom. As Lima and Negrão (2022) point out, "the use of electronic games can be a transforming agent in the process of teaching and learning mathematics, improving group dynamics among students". This approach highlights the importance of games not only as facilitators of content but also as promoters of an integral formation of the student.

Technology, in turn, has played a significant role in the evolution of educational games. The interactivity provided by digital games and simulation resources is particularly effective in facilitating the visualization of abstract concepts, such as those that are often addressed in mathematics and science. This visualization, mediated by games, contributes to a more effective retention of knowledge. According to Medeiros et al. (2023), "the inclusion of playful resources in science classes makes the learning experience more engaging and understandable for students".

In addition, the use of playful activities in science teaching allows students to understand more clearly the structure and functioning of the human body. Research by Costa et al. (2022) reveals that "the application of games in the teaching of anatomy enriches learning, making it more attractive". This validation reinforces the need to integrate the available technologies into the teaching methodology, creating an environment that favors learning.

On the other hand, the implementation of games can also encourage the development of critical thinking. Games that address contemporary social issues stimulate

students' reflection and critical analysis, preparing them for real-world challenges. This ability to work with diverse perspectives and formulate creative solutions is increasingly valued in today's education. Thus, games become a bridge that connects theory to practice, facilitating not only the assimilation of academic content but also curiosity and creativity.

The proposal to develop games that include content from various disciplines broadens the educational horizon. This interdisciplinarity not only favors a more complete education but also prepares students for future challenges. However, the evaluation of results in activities that use games becomes a fundamental and often neglected aspect. It is necessary to rethink the forms of evaluation, considering that traditional tests may not reflect the true acquisition of knowledge that takes place through games.

In this sense, the continuing education of educators becomes essential. This training should encompass not only technical knowledge about the use of games but also about the educational theories that underlie these practices. By understanding and applying different pedagogical approaches, educators will be empowered to intentionally and effectively incorporate games into their lessons. Therefore, collaboration between educators, developers, and researchers is also a vital strategy. This partnership can result in the development of games that are aligned with the real needs of the students and the pedagogical objectives.

Finally, the integration of games into the educational process represents a trend that promises to transform teaching practices. By prioritizing active learning and the student experience, educational games not only enrich the curriculum but also foster a teaching environment where students become protagonists of their learning stories. They are not only consumers of knowledge, but actively and creatively involved in the construction of it. This paradigm shift in education is essential to prepare students for a dynamic future full of challenges, where the ability to adapt and innovate will be indispensable.

## **CHALLENGES AND OPPORTUNITIES**

The incorporation of games into the educational environment has proven to be an interesting strategy to diversify teaching methods and engage students. This phenomenon occurs at a time when traditional didactic approaches are insufficient to serve an increasingly diverse student body. Thus, the dynamics provided by games enable more active learning, where students become protagonists in their learning process. In this

sense, the creation of virtual environments that encourage interaction and collaboration is essential.

For this integration to occur effectively, there must be careful planning. Educators need to understand how games can be aligned with curricular content, respecting the established learning objectives. As observed by OLIVEIRA, C. and FERREIRA, W., "the digital game quiz pg in mathematics classes presents enriching possibilities for the teaching and learning of mathematical concepts" (2021). This demonstrates that when well applied, games not only stimulate curiosity but also facilitate the understanding of complex content.

Another point to be considered is the need to include all students in the learning process through games. Each student brings their particularities, and a good educational game must be able to adapt to different learning rhythms. Creating activities that contemplate multiple intelligences can be an effective way to ensure that all students have the opportunity to engage. In addition, games can be a valuable tool for developing socio-emotional skills, as they promote cooperation and conflict resolution playfully.

However, the resistance of some educational institutions to adopt new methodologies can be a considerable obstacle. This factor highlights the need for adequate training for teachers, who must feel prepared to implement games in their classes. PAIVA, M. et al. state that "games play a central role in the learning process, stimulating creativity and innovation" (2023). Therefore, investing in teacher training is a necessary action for the introduction of games in the school environment to be successful.

In addition to teacher training, there must be a constant dialogue between educators and game developers. This collaboration can generate innovative solutions that respect the specificities of the school environment and the demands of students. The compatibility between the contents covered in the classroom and the playful proposals must be guaranteed, establishing a clear link between theory and practice. It is at this intersection that games become a bridge, promoting the contextualization and relevance of the knowledge acquired.

The design of educational games should take into account student feedback, allowing for adjustments that meet their needs. The learning experience should be continuous and dynamic, allowing students to feel motivated to explore new challenges. In this way, the use of games can contribute to a more collaborative and innovative school environment, where students see learning as a fun journey, full of discoveries.

Finally, it should be considered that games do not replace the teacher's mediation, but complement it. The role of the educator is fundamental to guiding students in interactions with games and promoting reflections that enrich learning. The incorporation of games as an effective pedagogical strategy requires a joint commitment between the entire school community, including management, teachers, students, and their guardians.

In short, the use of games in learning opens up a range of possibilities that must be explored responsibly and creatively. It is a way to meet the demands of the twenty-first century, where interactivity, collaboration, and technology go hand in hand. Therefore, a careful look at the specificities of each group of students and a continuous effort to review and rethink pedagogical practices are essential for this innovation to materialize fruitfully in the school environment.

## **FINAL CONSIDERATIONS**

The present study aimed to investigate the effectiveness of the use of games in promoting learning, highlighting their contributions to the educational process and their impact on students' interaction with knowledge. The research sought, therefore, to understand how the different types of games, whether traditional or digital, can influence the motivation and academic performance of students, in addition to promoting social and emotional skills.

The main results obtained show that the implementation of games in the school environment provides a significant increase in student engagement, in addition to favoring the construction of a collaborative learning environment. The data indicate that the playful activities stimulated not only the retention of information but also the development of critical thinking and problem-solving. This perspective reaffirms the relevance of games as pedagogical tools, which go beyond the recreational function and become effective teaching instruments.

When interpreting the findings, it is evident that the interaction provided by the games contributes to a greater assimilation of the contents addressed. The students were more motivated and willing to participate in the activities, which resulted in more meaningful learning. The relationship between the results and the initial hypotheses was confirmed since the research maintained that playfulness could play a transformative role in the way students relate to knowledge.

The contributions of the study to the educational area are significant since they offer subsidies for the application of teaching methodologies that integrate playfulness into the school routine. These practices can be explored by educators in the search for more dynamic and attractive approaches, promoting active learning that respects the particularities of students. Thus, the research reaffirms the need to reevaluate traditional pedagogical practices.

However, it is important to recognize the limitations of the research, which include the restricted sample size and the need for long-term follow-up to verify the effectiveness of the proposed interventions. In addition, understanding the emotional and social impacts of games still requires further investigation, to offer a complete overview of its implications for education.

For future studies, it is suggested to expand the sample and include different educational contexts to enrich the understanding of the use of games in teaching. The exploration of new technologies and gaming platforms could also bring valuable insights into the adaptation and evolution of pedagogical practices. Thus, additional research could focus on evaluating the effectiveness of specific types of games for different disciplines and age groups.

In the final reflection, it is possible to state that the research has a significant impact by highlighting the use of games as a viable and pertinent alternative to enrich the learning experience. The consolidation of this practice in the school routine can contribute to a more integral formation of students, making them more critical, creative, and collaborative citizens.

Thus, the relevance of this work extends beyond the academic sphere, proposing a reconfiguration of teaching methodologies that contemplates the contemporary reality of students. The use of educational games, by promoting a more active and pleasurable learning environment, stands out as a strategy that can transform education, preparing students for the challenges of the twenty-first century.

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