IOSR Journal of Business and Management (IOSR-JBM)
e-ISSN:2278-487X, p-ISSN: 2319-7668. Volume 25, Issue 12. Ser. 3 (December. 2023), PP 01-08
www.iosrjournals.org

Exploring The Potential Of Gamification For The Teaching Process In Educational Institutions: A Systematic Review

Lucas Alves De Oliveira Lima[1], Lissandro Botelho[2], Thamylles França Moita Brasil[3], Inacio Muniz Franco Neto[4], Helena Maria Ribeiro[5], Victor Carvalho Sousa Vasconcelos[6], Francisco Coutinho De Assis Curcino[7], Fernanda Da Cruz Lameira[8], Madson Cantuário De Assunção[9]

[1]*(University Federal Rural Of Rio De Janeiro, Brazil)*
[2]*(Federal Institute Of Amazonas, Brazil)*
[3]*(Ibiapaba College, Brazil)*
[4]*(University Of Brasília (Unb), Brazil)*
[5]*(Must University Florida, Brazil)*
[6]*(Federal University Of Piauí, Brazil)*
[7]*(Federal Rural University Of Pernambuco, Brazil)*
[1]*(Iteramerican Faculty Of Social Sciences, Brazil)*
[1]*(Iteramerican Faculty Of Social Sciences, Brazil)*

Abstract:
This research aimed to analyze the potential of gamification for the teaching process in educational institutions. To this end, a systematic review was carried out on the Scielo and Google Scholar platforms, under the guidance of the PRISMA guidelines. The systematic review included scientific articles published in Brazil between 2022 and 2023. As a result, it was found that the studies examined consistently reveal that gamification plays a significant role in promoting the engagement, attractiveness and effectiveness of the educational process in various subjects, such as technical education, English language, math, Physical Education and Biology. Gamification has demonstrated positive impacts on both teachers' views and students' performance, providing an effective active methodology that contributes to the development of professional competences. Despite the inherent challenges, the benefits perceived by teachers and students emphasize the importance of gamification as a valuable tool for improving the quality of education. In addition to the motivational boost and engagement, gamification also stands out in promoting conceptual understanding and the practical application of content, consolidating knowledge more solidly and translating it into better academic performance.

Key Word*: Gamification; teaching; learning; technologies; education.*

Date of Submission: 01-12-2023 Date of Acceptance: 10-12-2023

I. Introduction

Over the last few decades, technology has become a transformative force, significantly molding the way people communicate and, above all, learn. The rise of digital devices, educational software and the ubiquity of the internet has marked a profound transition in the educational landscape. This technological revolution has not only brought about changes in school infrastructure, but has also profoundly influenced the dynamic between educators and students (HABOWSKI; CONTE; TREVISAN, 2019).

According to Klein et al. (2020), the growing presence of technology in schools marks a significant transition in the way educators approach the learning process. In the contemporary scenario, where technology permeates every aspect of society, classrooms are not immune to this revolution. The integration of digital devices, educational software and online resources not only redefines the school environment, but also triggers a transformation in the pedagogical approach.

In this scenario, gamification in schools represents an innovative approach that uses elements characteristic of games to transform the learning environment. By introducing mechanics such as points, challenges and rewards, this strategy aims to engage students in a more dynamic and participatory way. By adopting gamification, classrooms become spaces where healthy competition, collaboration and intrinsic stimulation intertwine, providing a unique educational experience (COSTA et al., 2020).

The contemporary educational landscape is marked by the ubiquitous presence of technology, with students immersed in a digital world from an early age. Gamification capitalizes on this familiarity, introducing

game dynamics into the educational context to engage, motivate and enhance the learning process. By incorporating elements such as challenges, rewards and competitions, gamification aims to create an engaging atmosphere that transcends traditional didactic approaches (FRAZÃO; NAKAMOTO, 2020).

Given this context, this research aimed to analyze the potential of gamification for the teaching process in educational institutions. By analyzing how gamification impacts student engagement, motivation and performance, the research seeks to provide subsidies for the effective implementation of this innovative approach in educational institutions. It is hoped that the results will contribute to building pedagogical practices that are better adapted to the digital reality, preparing students not only with knowledge, but also with essential skills.

II. Material And Methods

This research is characterized as a systematic review, a method that stands out for its meticulous and structured approach to collecting and analyzing relevant scientific evidence on a specific topic. The choice of this type of research provided an in-depth investigation into the role of gamification in the educational context, allowing for a critical and comprehensive analysis of the available literature (GALVÃO; RICARTE, 2019).

The systematic review was conducted in accordance with the guidelines established by PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses), a widely recognised protocol that aims to guarantee the transparency, quality and replicability of the review process (GALVÃO; TIGUMAN; SARKIS-ONOFRE, 2022). The use of PRISMA provided a solid structure, guiding each phase of the review, from the formulation of the research question to the synthesis of the results.

During the process, inclusion criteria were established for the selection of studies, with the aim of including relevant research and minimizing bias. Articles that addressed gamification in the educational context were considered, with a focus on different subjects and teaching levels. In addition, the systematic review sought to explore the specific contributions of each study to the overall understanding of the impact of gamification in education.

The survey of articles was carried out on the Scielo and Google Scholar platforms, ensuring a comprehensive search open to different academic sources. This diverse approach to article selection contributes to the representativeness of the review, covering a variety of perspectives and results in the educational gamification scenario.

In the process of surveying the articles, relevant and specific keywords were used to refine the search and ensure the inclusion of studies relevant to the scope of the research, such as "gamification", "teaching", "learning" and "school". The keywords were used in association with Boolean operators "AND" and "OR" in order to delimit and broaden the search results respectively. The choice of these keywords reflects the intention to address central aspects of the relationship between gamification and education, including the teaching process, learning and the school context.

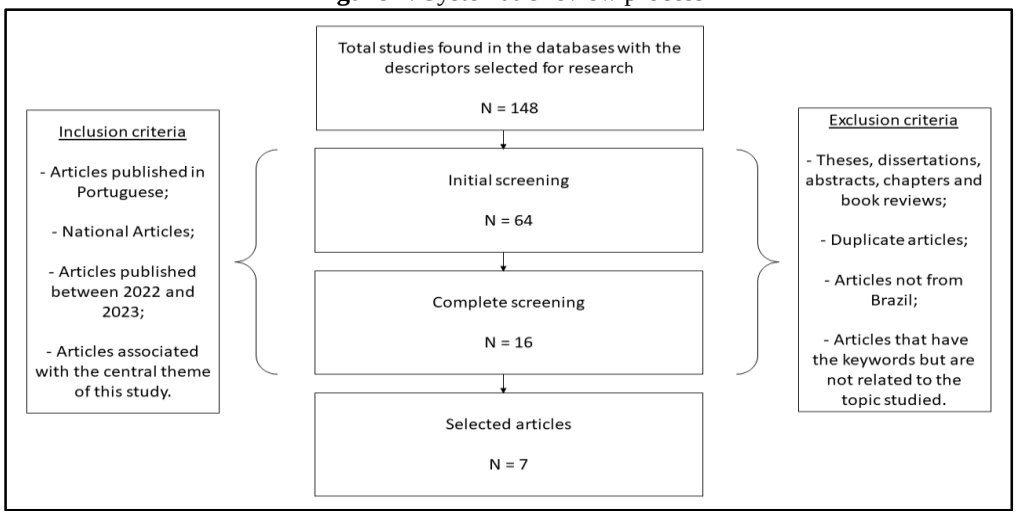
The inclusion criterion was that the selected studies should originate from the Brazilian context. This choice aims to provide a specific approach to the country's educational reality, considering the particularities of the education system, the pedagogical practices adopted and the cultural nuances. The inclusion of Brazilian articles contributes to a more contextualized and relevant analysis, allowing the identification of aspects that can be applied effectively in the national educational scenario.

The articles were published between 2022 and 2023. This time restriction was established to ensure that the systematic review incorporated the most recent evidence available. In this way, the research prioritizes studies that reflect current trends and the latest research on gamification in the Brazilian educational context. The inclusion of articles from this period allows for a contemporary and up-to-date view of the application and results of gamification in education in Brazil.

The exclusion criteria were theses, dissertations, monographs and duplicate articles, as well as articles not associated with the research topic. In addition, articles from other nationalities were also discarded in order to keep only Brazilian studies.

The critical analysis and synthesis of the results were carried out systematically and impartially, following a rigorous approach. This made it possible to draw well-founded conclusions and identify patterns and trends in the findings of the studies reviewed. Figure 1 shows the systematic review process adopted.

Figure 1. Systematic review process



Source: Research data (2023).

III. Result

As a result of the systematic review, 7 scientific articles were obtained, as shown in Table 1.

Table 1. Articles selected in the systematic review

Authors	Research objective	Methodology	Conclusions
Espíndola and Ferreira (2022)	To analyse how gamification has been used and perceived by technical education teachers as an active learning methodology for developing professional competences.	Qualitative research	The adoption of gamification in technical education institutions shows positive results, both in the perception of teachers and in student performance. Gamification is recognised as an effective active learning methodology, promoting engagement, attractiveness and effectiveness in the educational process. Despite the difficulties, such as the long preparation time, the benefits perceived by teachers and students indicate that gamification contributes significantly to the development of professional competences. The conclusion highlights the importance of gamification as a participatory and effective approach, especially in technical courses, offering suggestions for simplifying technological tools and providing training that is more in line with teachers' needs, with a view to more efficient and successful application.
Borges and Corrêa (2023)	To analyse the influence and collaboration of gamification through the object of study called Free Fire as an online mobile game in the teaching and learning of the English language.	Exploratory research with a quantitative and qualitative approach	The results obtained reveal a significant engagement provided by Free Fire in the English language teaching-learning process. Through mixed reports and questionnaires, students emphasized improvements in language skills such as reading, writing and speaking. In addition, they emphasized the ability of games to stimulate learning unconsciously, providing motivation throughout the teaching process. These results emphasize the importance of considering the opportunities offered by gamification, including digital games, to enhance student participation in English language learning.
Malagueta et al. (2023)	Analysing the influence of gamification on maths teaching in the early grades of primary school.	Bibliographical research	The research highlights the positive influence of gamification on math teaching in the early grades of primary school. The interaction between a fun environment and mathematical learning proved to be effective in engaging students and arousing their interest in the subject. Gamification not only works as a motivational tool, but also promotes conceptual understanding and practical application of mathematical content. The results indicate a significant increase in student engagement, reflected in better performance in assessments and a reduction in dropout rates. However, the importance of a balanced approach when applying gamification is emphasized, carefully planning games and activities according to the educational objectives and considering the specificities of each group of students. The conclusion

			emphasizes that gamification contributes to improving math teaching in the early years, expanding possibilities and preparing students for contemporary challenges in a creative and autonomous way, and its incorporation into educational practices is recommended.
Souza, Feliciano and Teles (2023)	Investigating the effectiveness of gamification as an innovative approach to teaching maths	Qualitative research	The "Maths Treasure Hunt" activity demonstrated the effectiveness of gamification as a valuable tool for making math teaching more engaging and practical. Despite providing benefits such as greater student engagement, collaboration and boosting self-confidence, gamification should not be seen as a complete replacement for traditional teaching. The most effective approach is a balanced combination of traditional methods and gamification elements, ensuring a solid understanding of concepts while making learning math more attractive. In short, gamification is a valuable tool when used in a complementary way to traditional teaching, aiming to enhance the educational experience and meet the diverse needs of students.
Darolt and Campbell (2023)	Developing gamification in the conception of teachers in order to contribute to the expansion of knowledge regarding the use of game elements during Physical Education classes.	Qualitative research	The study addresses changes in teaching, highlighting that knowledge is still centered on the teacher, with hierarchical classes that reproduce without prioritizing students' creativity and autonomy. Although the changes are taking place slowly, gamification as a teaching methodology has proved to be versatile and adaptable to different realities, increasing teachers' enthusiasm and students' interest in the activities. Innovative methodologies, including gamification, are considered innovations in education, promoting the perspective of the active student and protagonist of knowledge. Participating teachers report improvements in interpersonal relationships, dynamic and attractive lessons, giving meaning to the content. The research indicates that gamification has contributed positively to the pedagogical practice of primary school Physical Education teachers, showing positive changes in lessons, planning and student participation. However, some challenges were identified, such as the need for support and planning time. It is recommended that teachers continue to take part in training and that the state offers ongoing support to maintain and improve the use of gamification throughout their professional careers.
Almeida, Santos and Silva (2023)	To analyse how gamification can motivate students and improve engagement in school activities, thus enhancing learning.	Literature review and descriptive study with a qualitative approach	In short, gamification is a pedagogical strategy of great value in the educational context. By cohesively integrating playful elements with educational objectives, this approach accelerates young people's motivation, stimulating learning and promoting the development of cognitive and socio-emotional skills that are essential for their intellectual and personal growth. Gamification prepares students for the challenges of an increasingly interconnected world, making it easier for them to adapt to the information age. It is clear that its implementation in secondary education not only improves the educational process, but also consolidates its relevance, promoting teaching excellence and engagement, and contributing to the formation of citizens capable of facing the complex dilemmas of the new generation.
Serafim and Lopes (2022)	Checking the effectiveness of the flipped classroom strategy combined with gamification of content as a way of stimulating the teaching and learning process in a post-pandemic scenario	Exploratory research with a qualitative approach	Faced with the Covid-19 pandemic, the suspension of face-to-face classes has led teachers to reinvent themselves and develop new teaching strategies, including the use of gamification. The full return of face-to-face classes in Rio Grande do Sul has driven adaptations, highlighting the importance of gamification in teaching. The study emphasizes the need to understand the design and support characteristics for effective implementation of gamification in teaching. It addresses the relationship between games and education, considering aspects such as enjoyment, state of flow and game characteristics. It emphasizes the importance of dealing with failure and taking risks in a safe environment, as well as mentioning the formative potential of games in contemporary times. The challenge proposed is the search for new ways to relate games to knowledge objects and adapt their characteristics to gamification. The study highlights the engagement of students in gamified activities, demonstrating the effectiveness of the strategy for teaching biology. It concludes that gamification combined with the flipped classroom can make the student an active subject in

			their learning, leaving room for future studies in this context.

Source: Research data (2023).

Based on the systematic review carried out, it was possible to understand the potential of gamification for teaching in educational institutions. As Espíndola and Ferreira (2022) point out, the adoption of gamification in technical education institutions has a positive impact on both teachers' views and student performance. Gamification is recognised as an effective active methodology, demonstrating its ability to promote engagement, attractiveness and effectiveness in the educational process. Despite the challenges, such as the lengthy preparation time, the benefits perceived by teachers and students indicate that gamification plays a significant role in the development of professional competences.

The authors conclude by emphasizing the importance of this participatory and effective approach, especially in technical courses, where it stands out as a valuable tool for improving the quality of education. In addition, the research suggests that simplifying technological tools and providing training that is more in line with teachers' needs can optimize the application of gamification, making it more efficient and successful. Thus, the conclusions point not only to the validity of gamification in the context of technical education, but also to the need for support and improvement in the conditions of implementation in order to maximize its educational benefits.

In the study conducted by Borges and Corrêa (2023), which aimed to analyze the influence and collaboration of gamification, specifically using the online mobile game Free Fire, in the teaching and learning of the English language, the results obtained reveal significant impacts on student engagement in this educational process. It was observed that gamification provided substantial improvements in language skills such as reading, writing and speaking, highlighting the potential of Free Fire as an auxiliary tool in the development of these competences.

In addition, the participants emphasized the ability of games, particularly digital games, to stimulate learning unconsciously, providing motivation throughout the teaching process. It is important to consider the opportunities offered by gamification, including the use of digital games such as Free Fire, to improve student participation and performance in English language learning. Gamification emerges as an effective strategy for making the teaching-learning process more engaging and motivating, harnessing the potential of digital games to stimulate interest and the development of language skills.

The bibliographical research carried out by Malagueta et al. (2023) revealed a significant positive influence of gamification on math teaching in the early grades of primary school. The finding that the interaction between a playful environment and mathematical learning proved to be effective highlights not only the motivational potential of gamification, but also its ability to arouse students' interest in the content. This finding is supported by the results, which indicate a significant increase in student engagement, evidenced by higher performance in assessments and a significant reduction in dropout rates.

However, it is crucial to emphasize that the success of gamification in the educational context is intrinsically linked to a balanced approach. The importance of carefully planning games and activities, strategically aligning them with specific educational objectives. Taking into account the particularities of each group of students is highlighted as a fundamental aspect of maximizing the benefits of gamification, ensuring that it adapts effectively to students' individual needs and characteristics.

In addition to the motivational boost and student engagement, the research points to a notable impact of gamification in promoting conceptual understanding and practical application of mathematical content. The results indicate that students not only benefit from the recreational aspect of the games, but also internalize the concepts covered in a more solid way, translating this knowledge into better academic performance. This finding highlights gamification as a multifaceted tool, capable not only of arousing initial interest, but also of consolidating the understanding and effective application of mathematical concepts.

In conclusion, the research by Malagueta et al. (2023) corroborates the relevance of gamification as a significant contribution to improving math teaching in the early years of primary school. Their recommendation for the incorporation of gamification into educational practices reflects not only the empirical validation of the benefits observed, but also the view that this creative and autonomous approach effectively prepares students for contemporary challenges, stimulating critical thinking and problem-solving in an innovative way.

Authors such as Souza, Feliciano and Teles (2023) highlight the effectiveness of gamification as an innovative approach to teaching math, with a special focus on the "Maths Treasure Hunt" activity. The results show that gamification is a valuable tool for making the learning process more engaging and practical, providing benefits such as greater student engagement, fostering collaboration and boosting self-confidence. These elements contribute significantly to creating a more stimulating and participatory educational environment.

However, the research emphasizes that gamification should not be seen as a complete substitute for traditional teaching. On the contrary, the researchers advocate adopting a balanced approach that combines traditional methods with elements of gamification. This combination aims to ensure a solid understanding of mathematical concepts, while at the same time making learning more attractive and dynamic. The conclusion

emphasizes that complementarity between traditional and gamified approaches is essential to meet the diverse needs of students, offering a more complete and effective educational experience.

Therefore, the research suggests that gamification, when used in a complementary way to traditional teaching, can be considered a valuable tool in the educational context. The balanced approach proposed by the researchers seeks to optimize the benefits of both methodologies, providing a learning environment that not only promotes in-depth understanding of the content, but also encourages active student participation. In short, gamification is presented as a resource capable of enhancing the educational experience, making maths teaching more accessible, engaging and adapted to the varied needs of students.

Darolt and Campbell (2023) conducted a qualitative study with the aim of developing gamification in the conception of teachers, in order to contribute to the expansion of knowledge about the use of game elements during Physical Education classes. The study highlights changes in teaching, noting that knowledge often remains centralized in the teacher, with hierarchical classes that reproduce without prioritizing students' creativity and autonomy. However, the introduction of gamification as a teaching methodology proved to be a versatile and adaptable approach, capable of increasing teachers' enthusiasm and arousing students' interest in the proposed activities.

The work shows that, although transformations in teaching are taking place gradually, gamification, along with other innovative methodologies, is considered a real innovation in education. This approach promotes the perspective of the student as an active agent and protagonist of knowledge, contrasting with more traditional practices. The teachers taking part in the study reported improvements in interpersonal relationships, dynamic and attractive lessons, giving deeper meaning to the content taught.

The research highlights the positive contribution of gamification to the pedagogical practice of primary school PE teachers. Positive changes were observed in lessons, planning and student participation. However, some challenges were identified, such as the need for support and planning time. It is therefore recommended that teachers continue to take part in specific training courses on gamification and that the state offers ongoing support to maintain and improve the use of this approach throughout their professional careers. This guidance emphasizes the importance of continuous investment in training and institutional support to ensure the effectiveness and sustainability of gamification in the educational context of Physical Education.

The research conducted by Almeida, Santos and Silva (2023) through a literature review and descriptive study with a qualitative approach, highlights gamification as a pedagogical strategy of great value in the educational context. The cohesive integration of playful elements with educational objectives proves to be a powerful catalyst for accelerating student motivation, establishing an intrinsic connection between fun and learning. This link promotes the development of cognitive and socio-emotional skills that are fundamental to young people's intellectual and personal growth, transcending the mere transmission of knowledge to cultivate essential competencies for their academic life and beyond.

By preparing students for the challenges of an increasingly interconnected world, gamification emerges as a tool that facilitates adaptation to the information age. The approach not only makes the educational process more attractive, but also proves to be a crucial vector for developing an adaptable and resilient mindset. In this sense, the research highlights gamification as an ally in providing the resources and strategies needed to face the complexities of contemporary society.

It is clear that the implementation of gamification in secondary education not only improves the educational process, but also consolidates its relevance. The engagement generated by the approach not only positively influences students' attitudes towards school activities, but also contributes to excellent teaching. The context of gamification not only expands the possibilities for learning, but also fosters creativity, collaboration and problem-solving, which are essential aspects for the integral formation of students.

Thus, the research suggests that gamification not only enhances the learning experience, but also plays a crucial role in shaping citizens capable of facing the complex dilemmas of the new generation. By providing a stimulating educational environment, gamification not only facilitates the absorption of knowledge, but also cultivates skills and attitudes that are fundamental to students' success in a constantly evolving world. Ultimately, the effective implementation of gamification stands out as a valuable pedagogical strategy for promoting meaningful learning and preparing young people for contemporary challenges.

The research by Serafim and Lopes (2022), conducted using an exploratory qualitative approach, aims to verify the effectiveness of the flipped classroom strategy combined with content gamification as a way of stimulating the teaching and learning process, especially in a post-pandemic scenario. The study emphasizes that the suspension of face-to-face classes during the Covid-19 pandemic led teachers to seek new teaching strategies, highlighting gamification as a valuable tool in this context.

The full return of face-to-face classes in Rio Grande do Sul has brought to light the need for adaptations, emphasizing the continued importance of gamification in teaching. The research highlights the importance of understanding the design and support features for effective implementation of gamification. In addition, the relationship between games and education is explored, considering elements such as enjoyment, the state of flow

and the intrinsic characteristics of games. The study emphasizes the need to create an educational environment that allows students to deal with failure and take risks, all within a safe context provided by gamification. It emphasizes the importance of adapting the characteristics of games to gamification, seeking new ways of relating games to knowledge objects. The proposed challenge is therefore not only to implement gamification, but also to integrate it meaningfully into the curriculum content.

The results indicate that the gamification strategy combined with the flipped classroom was effective in stimulating the biology teaching process, demonstrating student engagement in gamified activities. The conclusion emphasizes that this approach can transform the student into an active subject in their learning, providing a more participatory and engaging experience. Finally, the study points to the need for future research in this context, indicating a promising path for the development and improvement of pedagogical practices in the post-pandemic scenario.

IV. Conclusion

From the systematic review carried out on gamification in the educational context, it is possible to draw comprehensive conclusions that highlight the relevance and potential of this approach in improving teaching. The studies examined consistently reveal that gamification plays a significant role in promoting the engagement, attractiveness and effectiveness of the educational process in various subjects, such as technical education, English language, math, physical education and biology.

Gamification has shown positive impacts on both teachers' views and students' performance, providing an effective active methodology that contributes to the development of professional competences. Despite the inherent challenges, the benefits perceived by teachers and students emphasize the importance of gamification as a valuable tool for improving the quality of education. The conclusions highlight the need for support and improvement in the conditions of implementation, emphasizing the importance of simplifying technological tools and providing training aligned with the needs of educators.

Specific research shows that gamification, whether through digital games such as Free Fire or activities such as the "Maths Treasure Hunt", promotes substantial improvements in learning, arousing students' interest and stimulating linguistic, mathematical and cognitive skills. A balanced approach, combining traditional and gamified methods, is seen as essential to ensuring a solid understanding of concepts, making learning more attractive and dynamic.

In addition to the motivational boost and engagement, gamification also stands out in promoting conceptual understanding and the practical application of content, consolidating knowledge more solidly and translating it into better academic performance. Gamification is recognised as a multifaceted tool, capable not only of arousing initial interest, but also of preparing students effectively for contemporary challenges, stimulating critical thinking and problem-solving in an innovative way.

The research reveals that gamification should not be seen as a complete substitute for traditional teaching, but rather as a complementary tool that, when used in a balanced way, enriches the educational experience. The gamified approach, when applied in a complementary way to traditional teaching, emerges as a valuable strategy for promoting meaningful learning and preparing students for the challenges of contemporary society.

In the face of changes in teaching, especially driven by the pandemic, gamification presents itself as an innovation in education, capable of transforming the student's perspective as an active agent and protagonist of knowledge. The research highlights improvements in interpersonal relationships, dynamic and attractive classes, emphasizing the positive contribution of gamification to teaching practice.

To summarize, the studies reviewed highlight gamification as a pedagogical strategy of great value, capable of promoting education that is more stimulating, participatory and adapted to the varied needs of students. The effective implementation of gamification stands out as a valuable tool for promoting meaningful learning and preparing young people for contemporary challenges, consolidating its relevance in 21st century education.

References

[1]. Almeida, B. A.; Santos, T. D. V.; Sila, W. P. A Gamificação No Ensino Médio: Uma Abordagem Inovadora Para A Educação. Revista Jrg De Estudos Acadêmicos, Ano 6, Vol. Vi, N.13, Jul.-Dez., 2023.
[2]. Borges, K. S.; Corrêa, R. E. C. Free Fire: Gamificação Como Proposta De Ferramenta De Apoio O Ensino-Aprendizagem De Língua Inglesa Em Uma Escola De Ensino Fundamental Do Baixo Tocantins/Cametá/Pa. Revista Campo Do Saber, V. 9, N. 1, 2023.
[3]. Costa, C. E. S. Et Al. Aplicabilidade Da Gamificação Em Sala De Aula Em Períodos De Pandemia. Brazilian Journal Of Development, V. 6, N. 10, 2020.
[4]. Darolt, V.; Campbell, C. S. G. Experiências Formativas De Gamificação Como Estratégia Inov-Ativa No Ensino Fundamental. Educere - Revista Da Educação Da Unipar, V. 23, N. 1, 2023.
[5]. Espíndola, M. A.; Pereira, F. C. M. Uso Da Gamificação No Ensino Técnico: Estudo Sobre A Percepção De Docentes De Uma Escola De Ensino Técnico-Profissional De Divinópolis-Mg. Recc, Canoas, V. 27 N. 1, 01-19, Fevereiro, 2022.
[6]. Frazão, L. V. V. D.; Nakamoto, P. T. Gamification And Its Applicability In High School: A Systematic Review Of Literature. Research, Society And Development, [S. L.], V. 9, N. 8, P. E141985235, 2020.
[7]. Galvão, M. C. B.; Ricarte, I. L. M. Revisão Sistemática Da Literatura: Conceituação, Produção E Publicação. Logeion: Filosofia Da Informação, Rio De Janeiro, Rj, V. 6, N. 1, P. 57–73, 2019.

[8]. Galvão, T. F.; Tiguman, G. M. B.; Sarkis-Onofre, R. A Declaração Prisma 2020 Em Português: Recomendações Atualizadas Para O Relato De Revisões Sistemáticas. Epidemiologia E Serviços De Saúde, Brasília, 31(2):E2022364, 2022.
[9]. Habowski, A. C.; Conte, E.; Trevisan, A. L. Por Uma Cultura Reconstrutiva Dos Sentidos Das Tecnologias Na Educação. Educ. Soc., Campinas, V.40, E0218349, 2019
[10]. Klein, D. R. Tecnologia Na Educação: Evolução Histórica E Aplicação Nos Diferentes Níveis De Ensino. Educere - Revista Da Educação, Umuarama, V. 20, N. 2, P. 279-299, Jul./Dez. 2020
[11]. Malagueta, A. S. Et Al. A Influência Da Gamificação No Ensino Da Matemática Nas Séries Iniciais Do Ensino Fundamental. Revista Ibero-Americana De Humanidades, Ciências E Educação, São Paulo, V. 9, N. 09, Set. 2023.
[12]. Serafim, M. V. V.; Lopes, L. A. Proposta De Gamificação Alinhada À Estratégia Sala De Aula Invertida No Cenário Pós Pandemia. Ritecima, Foz Do Iguaçu, V. 2, P. 45-61, Jan./Dez. 2022.
[13]. Souza, J. A.; Feliciano, S. M.; Teles, R. N. Gamificação: Uma Abordagem Inovadora No Ensino Da Matemática. Revista Ibero-Americana De Humanidades, Ciências E Educação. São Paulo, V.9. N.09. Set. 2023