Motivation in foreign language learning. Gamification, Personal Learning Environments and higher education. Design of a pedagogical proposal

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Motivación en el aprendizaje de lenguas extranjeras. Gamificación, Entornos Personales de Aprendizaje y educación superior. Diseño de una propuesta pedagógica

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Abstract

The article "Motivation in Foreign Language Learning: Gamification, Personal Learning Environments and Higher Education" presents an innovative pedagogical proposal integrating gamification and Personal Learning Environments (PLEs) to improve students' motivation and academic performance in higher education. The paper details how gamification, by incorporating elements and techniques of video games in the educational environment, encourages active participation and increases student motivation. In parallel, PLEs allow students to personalize their educational process, adapting it to their interests and capabilities, which promotes autonomy and responsibility. The proposal is structured in several stages, from skills diagnosis to implementing and evaluating the pedagogical strategy, using practical tools such as the gamification platform Gimkit and motivation surveys such as "The Instructional Materials Motivation Survey" (IMMS). The expected results include increased motivation, academic performance, and the development of self-directed and personal learning management skills. This practical approach ensures that the proposed strategy can be easily implemented and its effectiveness can be measured. This approach seeks to respond to the need for innovation in teaching methods and aligns with the demands of an increasingly digitized and student-centered educational environment. Combining gamification and PLEs is a powerful strategy to enhance the learning process, making it more engaging, interactive, and tailored to each learner's needs.

Key words: motivation, Foreign language learning, Gamification, Personal Learning Environments (PLEs), Higher Education.

Resumen

El artículo presenta una propuesta pedagógica innovadora que integra la gamificación y los Entornos Personales de Aprendizaje (EPAs) para mejorar la motivación y el rendimiento académico de los estudiantes en la educación superior. El documento detalla cómo la gamificación, al incorporar elementos y técnicas de los videojuegos en el ámbito educativo, fomenta una participación activa y aumenta la motivación de los estudiantes. Paralelamente, los EPAs permiten a los estudiantes personalizar su

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proceso educativo, adaptándolo a sus intereses y capacidades, lo que promueve la autonomía y la responsabilidad. La propuesta se estructura en varias etapas, desde el diagnóstico de habilidades hasta la implementación y evaluación de la estrategia pedagógica, utilizando herramientas como la plataforma de gamificación Gimkit y encuestas de motivación como "The Instructional Materials Motivation Survey" (IMMS). Los resultados esperados incluyen un aumento en la motivación y el rendimiento académico, así como el desarrollo de habilidades autodirigidas y de gestión personal del aprendizaje. Este enfoque no solo busca responder a la necesidad de innovación en los métodos de enseñanza, sino que también se alinea con las demandas de un entorno educativo cada vez más digitalizado y centrado en el estudiante. La combinación de gamificación y EPAs se presenta como una estrategia poderosa para mejorar el proceso de aprendizaje, haciendo que sea más atractivo, interactivo y adaptado a las necesidades individuales de cada estudiante.

Palabras clave: motivación, aprendizaje de lenguas extranjeras, gamificación, entornos personales de aprendizaje (PLE), educación superior.

Introduction

This paper aims to provide a thorough and comprehensive description of the impact of gamification and Personal Learning Environments (PLEs) on students' motivation, performance, and overall development. It underscores the need to establish a pedagogical design that is deeply student-centric, significantly increasing academic performance and fostering motivation, interest, and educational commitment. By emphasizing the student-centric nature of this design, we highlight the importance of putting students at the center of education, an essential aspect of their success and development.

Gamification is an innovative and effective method that combines video game aspects and techniques in the educational environment. It promotes student active participation and creates a highly motivating, interactive, and enriching learning environment (Trejo-González, 2020).

Implementing these gamified components promotes renewed interest and dedication in students, stimulating their creativity, analytical thinking, problemsolving, and collaboration (Orellana et al., 2024).

In parallel, PLEs offer students a unique and invaluable opportunity to personalize and adjust their educational process to their interests, capabilities, and individual learning methodologies. This empowers them, encouraging their independence, responsibility, and self-knowledge, enabling the acquisition of self-management and self-regulation skills crucial for their personal and academic development. By stressing the significant benefits of these methods on students' personal and academic development, we underline the importance of implementing them in educational practices.

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PLEs also optimize the management of resources, tools, and educational content, facilitating access to various information sources and forming learning and collaboration networks between students and teachers (Pallares Contreras, 2022).

The strategic and harmonious conjunction of gamification and PLEs emerges as a transformative and promising resource, igniting students' interest, motivation, and involvement in their academic progress. These learner-centered and cutting-edge methodologies offer a dynamic and seductive approach that amplifies students' active learning, autonomy, creation, and success, equipping them with the tools to confidently tackle the challenges of the contemporary and upcoming world and excel academically.

Immersed in contemporary education, this proposal focuses on the critical relevance of student motivation and performance. A decrease in students' stimulation has been observed, negatively impacting their dedication and commitment to training. Several analyses have shown reduced student interest, which is reflected in lower participation in educational activities and poor performance (Cortés Barré, 2015). This trend generates concern since motivation is essential for active learning and achieving educational goals. Lack of motivation affects the quality of the educational process and can lead students to a cycle of frustration and distrust in their abilities, worsening the problem (Cortés Barré, 2015).

Therefore, it becomes urgent to implement innovative methods that encourage student participation and interest. Gamification and PLEs are presented as cutting-edge approaches capable of changing this dynamic. Through gamification, the aim is to take advantage of the ludic aspects to increase the motivation and participation of students in their training process. On the other hand, PLEs allow students to personalize the educational process according to their demands and interests, thus stimulating their independence and responsibility. Combining these two streams in a pedagogical approach aims to enrich the student's learning experience and promote more successful academic performance.

The goals of the didactic proposal are focused on two key elements: to amplify the students' motivation and to enhance their academic performance. With this purpose, we contemplate elaborating a design that harmoniously integrates the elements of gamification and PLEs effectively. Regarding motivation, the aim is to generate a more involved and active educational atmosphere where students are involved and committed to their education. Regarding academic performance, the proposal is expected to encourage students to acquire skills and knowledge more efficiently and fine-tune evaluation and feedback strategies. In summary, the proposal aims to boost students' motivation and academic performance through gamification and PLEs.

This pedagogical proposal's theoretical foundations are based on combining two key concepts: gamification in education and Personal Learning Environments (PLEs). Both theories aim to improve students' motivation and academic performance. Gamification in education refers to applying game elements and techniques in educational contexts to

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promote participation, motivation, and meaningful learning (Blanco-Arana & Salazar-Picó..., 2020). On the other hand, PLEs are personalized learning environments in which students are responsible for their learning process, selecting and managing the resources and tools that best suit their needs (Rué, 2020). Combining these two theories can further enhance individuals' motivation and academic performance.

Gamification in education is a pedagogical strategy that applies game elements and techniques in the educational context. By incorporating elements such as rewards, challenges, levels, and competition in teaching, it seeks to encourage active participation, motivation, and meaningful learning of students. Gamification has emerged as an innovative teaching strategy that enhances foreign language learning by increasing students' motivation levels. This methodology integrates game elements into educational contexts, increasing student participation and engagement. As a crucial component in the learning process, gamification significantly influences motivation, as this strategy promotes a more interactive and engaging learning environment. Recent studies have shown that gamification not only improves learners' intrinsic motivation towards learning a new language but also facilitates the acquisition of language skills in a more effective and lasting way (Pérez Giraldo, 2019).

In addition, gamification promotes the development of cognitive and socioemotional skills, such as critical thinking, problem-solving, and teamwork. The interaction generated through playful activities and gamified challenges contributes to a more dynamic and stimulating learning environment, where students feel more motivated to explore and learn about the new language and culture. By offering rewards and recognition for effort and achievement, gamification positively reinforces the learning process, resulting in greater language knowledge and skills retention. Evidence suggests that this methodology improves students' motivation and enriches their educational experience, making it more meaningful and rewarding (Molina-García & Gentry-Jones, 2021).

Gamification can be adapted to teaching any area of knowledge if technological resources allow virtual interaction. Its use in the classroom also requires the ideal articulation of the objectives and contents of the program to be taught, with the satisfaction of the student's needs, motivations, and tastes (Latorre Méndez and Marín Juanías, 2024).

Regarding Personal Learning Environments, it is critical to understand the importance of PLEs in education. Personal Learning Environments (PLEs) are personalized environments in which students have the freedom and responsibility to manage their learning process. These environments are based on the idea that each individual is unique and has different needs and abilities. Learners can select and manage the resources and tools that best suit their learning preferences and goals. PLEs encourage self-learning, collaborative work, and autonomy, allowing students to learn more personally and meaningfully. By integrating PLEs into the pedagogical proposal, we seek to empower students and allow them to develop self-learning and information

management skills. By allowing students to manage their learning, PLEs (Personal Learning Environments) contribute significantly to strengthening communicative skills, as students can focus on specific areas of interest or difficulty, practice at their own pace, and use authentic resources that are more engaging and relevant to them (Marín & Cabero-Almenara, 2019).

In addition, PLEs positively impact students' motivation levels when learning foreign languages. By providing a more flexible learning environment tailored to their preferences, PLEs empower learners to make strategic decisions about their education, which increases their intrinsic motivation and engagement in learning. The ability to connect with native speakers and participate in online learning communities can also increase extrinsic motivation as learners see practical, realworld applications of their language skills. The autonomy and personalization offered by PLEs are therefore critical to maintaining motivation over time and for students to become self-directed, competent learners of a new language (Dabbagh & Kitsantas, 2012).

Examining the relationship between gamification in education and Personal Learning Environments (PLEs) is essential, as both aim to motivate students and enhance academic performance. Gamification can be integrated into PLEs. taking advantage of their flexibility and adaptability to enhance student motivation and engagement further. Gamification elements and techniques, such as incorporating rewards, challenges, and competitions, can be customized into PLEs, providing students with a more engaging and interactive learning experience. The relationship between gamification and PLEs creates a learning environment that promotes active participation, autonomy, and the development of critical skills in the 21st century.

The relationship between gamification and Personal Learning Environments (PLE) in the learning process is synergistic and enhances student personalization and engagement with their education. By incorporating game elements into learning, gamification increases student motivation and engagement, while PLEs provide a personalized framework that allows students to manage and direct their learning. Integrating gamification into PLEs can enrich the learning experience, making it more engaging, interactive, and tailored to the individual needs of each learner. This combination promotes greater learner engagement and motivation and facilitates the development of self-directed skills and the ability to learn effectively in a personalized environment. Therefore, gamification within PLEs is presented as a powerful strategy to enhance the learning process by combining the benefits of learning personalization with the motivational and engagement aspects provided by the playful elements (Dabbagh & Kitsantas, 2012; Marín & Cabero-Almenara, 2019).

Methodology and procedures

The disseminated findings originate from scientific research methodologies involving documentary review, analysis and synthesis of information, and diagnostic observation to model the suggested strategy. During the formulation of the pedagogical proposal,

gamification tools were meticulously chosen for the educational process. These tools included games, rewards, challenges, and tournaments to stimulate student engagement. PLEs were integrated into the initiative, providing learners with digital resources for autonomous and adapted learning. Consequently, these learning tools are intended to increase motivation and academic performance through strategies for overcoming objectives, collaboration, and uninterrupted feedback. The evaluation of the results is carried out with an implementation scheme that evaluates the impact on the motivation and academic results of the students.

Results

The design of this pedagogical initiative aims to forge an avant-garde and stimulating educational space by incorporating gamification and PLEs as central axes to increase students' motivation and academic performance. Activities and didactic tools that embrace gamified dynamics, such as competition, collaboration, and goal achievement, are formulated. Likewise, implementing PLEs is encouraged, promoting self-management and personal adaptation of learning. This will enable learners to consolidate skills and knowledge more transcendently and effectively (Garzón & Romero, 2021).

The pedagogical proposal, based on gamification and Personal Learning Environments (PLEs), aims to have a decisive impact on the motivational aspects and academic performance of Brazilian students in the Spanish as a foreign language course. The initiative has been strategically structured in stages reflecting technological awareness's evolution in training. It considers significant contributions from doctoral research in pedagogical sciences, emphasizing Intriago (2016) and Avila (2021) and adapting them to the pedagogy in question. The stages facilitate the transition from diagnosis, awareness, and training through the planning and execution of actions to the evaluation and improvement of the strategy, contributing to the promotion of technological awareness and management of digital tools in the training process (Vergara Novoa & Latorre Mendez, 2022). The corresponding stages are detailed below:

Stage 1:

The first phase of the pedagogical proposal, called "DIAGNOSTIC INPUT KNOWLEDGE," focuses on evaluating students' comprehension (listening and reading comprehension) and production (oral and written production) skills. A written and oral diagnostic test will be administered to evaluate these skills in this phase.

Comprehensive skills will be diagnosed through the Gimkit gamification platform, and students will have to overcome various learning challenges to advance in the presentation of the diagnostic test.

This gamification approach allows students to interact dynamically and challenge themselves with the content, which facilitates the evaluation of their comprehension skills in a more engaging and motivating way. Additionally, a written progress test will be

implemented to determine the proficiency level of the students and an oral test to determine the students' listening comprehension and oral production levels.

Objective: Design and implement a comprehensive diagnostic assessment plan to determine students' comprehension and production skills levels.

This objective focuses on using a combination of assessment strategies, including the Gimkit gamification platform written and oral tests, to obtain a comprehensive diagnosis of students' strengths and weaknesses in the following areas:

- Listening comprehension
- Reading comprehension
- Oral production
- Written production

Some key actions to achieve this objective could include:

1. Design and structure written and oral diagnostic tests, ensuring they comprehensively assess students' comprehension and production skills.
2. Implement the Gimkit gamification platform for evaluating comprehensive skills, taking advantage of its interactivity and challenging approach.
3. Establish clear and objective evaluation criteria to determine students' performance levels in each skill.
4. Analyze the results obtained in the different evaluations, identifying patterns, strengths, and areas of opportunity at an individual and group level.
5. Classify students according to their performance levels in order to be able to design and implement personalized intervention strategies in the next phase.
6. Document and systematize the diagnostic evaluation process, including the instruments used, the results obtained, and lessons learned.

This objective will allow us to obtain a comprehensive diagnosis of the student's skills, which will be fundamental to designing and implementing an effective intervention plan in the next phase of the pedagogical proposal.

Stage 2:

The second phase of this pedagogical proposal focuses directly on the training of the platform for the management of Personal Learning Environments, Interaction in the Learning Community, and gamification methodology in the training sessions in which the following elements should be taken into account:

Objective: Design and implement a comprehensive training program on effectively using Personal Learning Environments, Learning Community Interaction, and gamification methodology.

This objective focuses on preparing students to successfully implement the strategies and tools used in the pedagogical proposal to enhance the teachinglearning process. Some key actions to achieve this objective could include:

1. Define the profile of the participants (teachers and students) and their training needs, considering their interests, tastes, and expectations.

2. Establish the expected behaviors of participants during and after the training, identifying areas for improvement.

3. Design the training's components, mechanics, and dynamics, incorporating gamification elements that encourage active participation and meaningful learning.

4. Implement the training program, providing participants with the tools, resources, and support to effectively manage Personal Learning Environments, Learning Community Interactions, and gamification methodology.

5. Establish management and follow-up mechanisms to monitor participants' progress, identify potential risks, and make timely adjustments.

6. Ensure the training's aesthetics and visual identity are attractive, motivating, and aligned with the pedagogical proposal.

7. Evaluate the training's impact on developing participants' competencies and document lessons learned to improve future iterations.

This objective will prepare teachers and students to effectively implement the key strategies and tools of the pedagogical proposal, laying the groundwork for the success of the following phases.

Stage 3:

Implementation of the pedagogical proposal: Teaching Spanish as a foreign language (SFL) constantly challenges keeping students motivated and engaged in their learning. In this context, gamification and Personal Learning Environments (PLEs) emerge as innovative strategies that can transform the educational experience, making learning more interactive, personalized, and motivating. The following is a pedagogical proposal that integrates these elements and is structured in crucial moments for the development of each class session.

Previous Context

Before each session, students will explore authentic materials related to the topic to be covered. This includes news, articles, and videos from internet sources in Spanish, selected by the teacher and the students through their PLEs. This activity aims to familiarize students with the cultural and linguistic context of the session's topic, fostering their curiosity and preparing them for active learning. The use of authentic materials and audiovisual resources is critical to the development of comprehension and

productive skills. Videos and television series from Spanishspeaking countries are suggested to expose students to everyday conversational situations. In addition, platforms such as Gimkit review learning related to the generative topics developed constantly.

Classroom Dynamics

The session will begin with a brief introduction to the topic, followed by an explanation of the classroom dynamics, which will be based on Werbach's DMC (Dynamics, Mechanics, Components) model, adapted to Spanish as a Foreign Language (SFL) teaching. The learning objectives will be presented and explained, along with how gamification will facilitate the achievement of these objectives through challenges, points, medals, and leaderboards.

Communicative Situation

Audiovisual resources, such as videos and television series in Spanish, will be used to present real communicative situations. Students will actively participate by answering questions and performing comprehension and oral production exercises based on the videos. This activity seeks to develop communication skills in authentic contexts.

Training

The training should include the participation of guests (e.g., course alums or native speakers) who share experiences and applicability of what they have learned. This allows students to interact and receive recognition for their participation.

Group and Individual Learning Evidence

After the training, group and individual activities will be carried out on the gamification platform to evaluate learning. These activities will serve as evidence of the knowledge and skills acquired by the students.
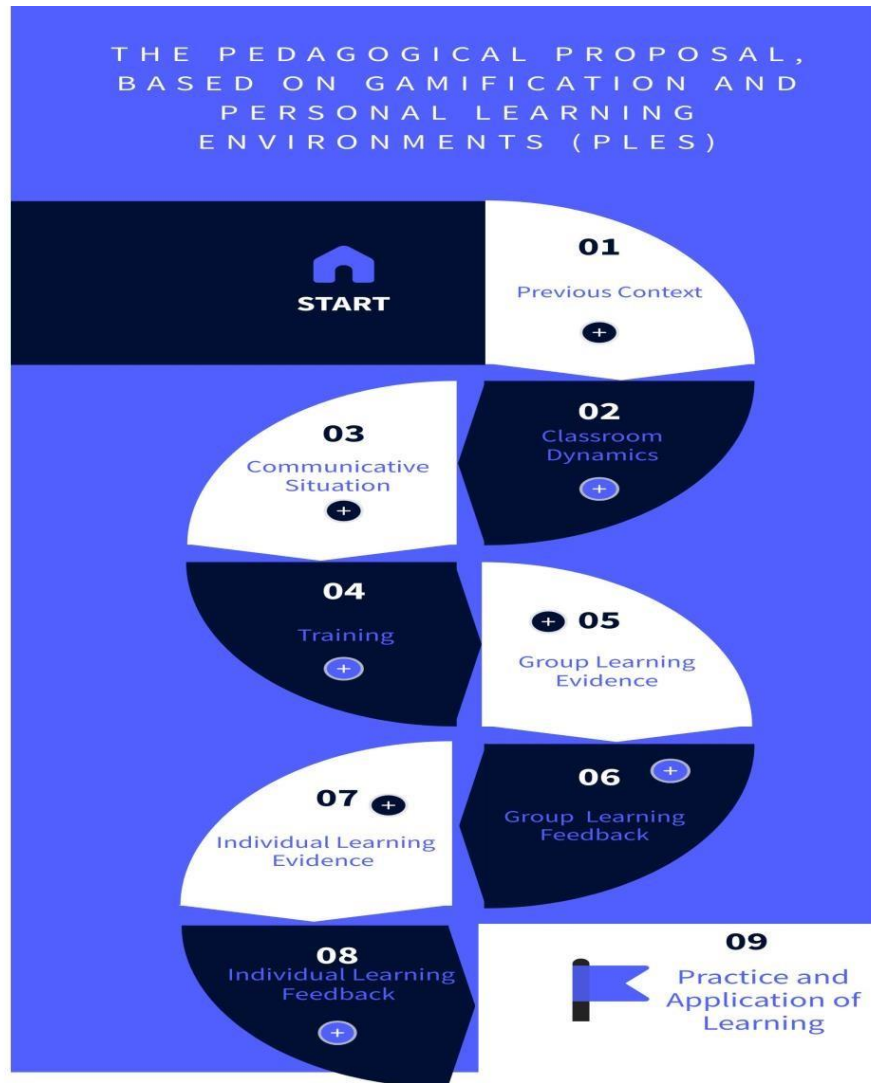
Group and Individual Learning Feedback

Immediate feedback will be provided after evidence of learning activities, highlighting achievements and areas for improvement. Using data collected through the gamification platform, feedback will be customized to each student and group's performance.

Practice and Application of Learning

Finally, students will apply what they have learned by interacting with native Spanish speakers through learning communities in different social networks. This activity will allow students to practice Spanish in genuine contexts and receive authentic feedback from native speakers.

This pedagogical design seeks to improve students' language skills and increase their motivation and engagement through gamification and using PLEs effectively. It creates a dynamic and contextualized learning experience that prepares students to use Spanish in the real world.

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Source: Own elaboration.

Stage 4:

The purpose of this study is to evaluate the impact of the pedagogical proposal on student motivation by applying the Instructional Materials Motivation Survey (IMMS).

This objective focuses on measuring and analyzing student motivation toward the materials and strategies implemented in the pedagogical proposal to identify improvement areas and ensure the teaching-learning process's effectiveness. Some key actions to achieve this objective could include:

1. Apply the Instructional Materials Motivation Survey (IMMS) to the students participating in the pedagogical proposal.

2. Analyze the results of the IMMS survey, identifying students' motivation levels in the following dimensions:

- Attention

- Relevance

- Trust

- Satisfaction

3. Compare the IMMS survey results with the data obtained in the previous phases of the pedagogical proposal, such as the diagnosis of knowledge and the evaluation of learning.

4. Identify patterns, trends, and specific areas of strength and weakness regarding student motivation.

5. Design and implement improvement strategies to strengthen the aspects of the pedagogical proposal that positively impact student motivation.

6. Monitor and evaluate the impact of improvement strategies on student motivation by periodically applying the IMMS survey.

7. Document and systematize the results obtained, lessons learned, and recommendations for future iterations of the pedagogical proposal.

This objective will allow us to obtain valuable information on student motivation, which is fundamental to guaranteeing the effectiveness and impact of the pedagogical proposal in the teaching-learning process.

Stage 5

Evaluate the impact of the pedagogical proposal on strengthening students' comprehension and production skills.

This objective focuses on using a combination of assessment strategies, including the gamification platform Gimkit written and oral tests, to determine the level of development of the following skills of the students after the implementation of the pedagogical proposal:

- Listening comprehension

- Reading comprehension

- Oral production

- Written production

Some key actions to achieve this objective could include:

1. Design and structure exit diagnostic tests, both written and oral, to comprehensively assess students' comprehension and production skills.

2. Implement the Gimkit gamification platform to evaluate comprehensive skills using this tool's interactivity and challenging approach.

3. Establish clear and objective evaluation criteria that allow us to determine students' performance levels in each skill evaluated and compare them with the initial diagnosis results.

4. Analyze the results obtained in the different evaluations, identifying patterns, progress, and areas of opportunity at the individual and group levels.

5. Compare the exit diagnosis results with those of the initial diagnosis to determine the impact of the pedagogical proposal on strengthening the students' skills.

6. Classify students according to their final performance levels to design and implement follow-up and accompaniment strategies.

7. Document and systematize the entire exit diagnostic evaluation process, including the instruments used, results obtained, and lessons learned.

This objective will allow a comprehensive evaluation of the impact of the pedagogical proposal on the development of students' comprehension and production skills, which will be fundamental to determining the success of the intervention and guide future iterations.

In choosing gamification components, various alternatives applicable to the design of the pedagogical initiative will be explored in depth. The aim is to discern those elements that optimize student motivation and engagement in their educational process. Possible elements include adopting scoring systems, stratification by levels and awarding prizes, implementing competitive rankings, and launching challenges and missions. Components will be selected based on the pedagogical objectives and particularities of the students, intending to encourage their active participation and generate a stimulating and entertaining learning climate.

Incorporating PLEs into the pedagogical approach is oriented toward providing students with a personalized and adaptive learning context. The use of digital technologies that empower students to build and direct their learning environments, customized to their preferences and requirements, will be encouraged. To this end, tools and resources will be offered to simplify information gathering, structuring, reflection, interaction, and communication with other learners and teachers. Implementing the PLEs will enable students to exercise greater control over their educational process and develop self-regulation, independence, information tracking, and management skills.

Pedagogical strategies to motivate and improve school performance will focus on stimulating students' enthusiasm and commitment to learning. Various tactics will be employed, such as setting clear and achievable goals, providing constant and constructive feedback, and recognizing and celebrating individual and collective achievements (López Vega, 2022). Emphasis will be placed on creating a trusting and supportive environment, fostering self-confidence and self-esteem. Likewise, the

connection between the curricular contents and the reality lived by the students will be promoted, highlighting the relevance and applicability of the knowledge acquired. These strategies seek to generate a motivating climate conducive to developing students' academic potential (Torres et al., 2023).

Discussion

Integrating gamification and Personal Learning Environments (PLEs) in pedagogical design represents a promising strategy to address contemporary educational challenges, particularly in student motivation and academic performance. This approach responds to the need for innovation in teaching methods and aligns with the demands of an increasingly digitized and learnercentered educational environment.

Impact of Gamification on Motivation and Academic Achievement

By incorporating playful elements in the educational process, gamification has proven effective in increasing student motivation and engagement. According to a recent study, gamification significantly improves academic performance, evidencing a positive correlation between these ludic elements and improved grades and knowledge retention López López, Félix González, Castro Sánchez, Álvarez Rosas & Lizárraga Chávez (2023). In addition, a meta-analysis has confirmed that gamification in university contexts increases motivation in approximately 85% of the cases studied, with a positive impact also on academic performance in about 76% of the studies analyzed Robles-Ortega (2022).

Contributions of Personal Learning Environments (PLEs)

On the other hand, PLEs offer a personalization of the learning process that allows students to manage and direct their education. This personalization fosters autonomy and enhances intrinsic and extrinsic motivation by allowing students to focus on areas of personal interest and practice at their own pace (Dabbagh & Kitsantas, 2012). In addition, PLEs promote the development of self-management and self-regulation skills, which are fundamental for lifelong learning (Marín & Cabero-Almenara, 2019).

The synergy between Gamification and PLEs

The combination of gamification and PLEs offers a robust pedagogical approach that can transform the educational experience, making it more engaging, interactive, and tailored to each student's needs. This synergy promotes greater student engagement and motivation and facilitates the development of selfdirected skills and the ability to learn effectively in a personalized environment (Marín-Díaz & Cabero-Almenara, 2019).

Challenges and Future Considerations

Despite the apparent benefits, implementing gamification and PLEs is challenging. It is crucial to ensure that gamification does not divert attention away from learning objectives and that PLEs do not overload learners with too many options, which could lead to paralysis by analysis. In addition, the effectiveness of these strategies must be

continually evaluated through empirical research that measures both academic and student psychological and social outcomes.

In addition, implementing this pedagogical proposal goes beyond merely applying technological tools. It focuses on students' integral development, fostering critical thinking, problem-solving, and collaborative work skills. This more effectively prepares them to face the challenges of the contemporary world.

Conclusions

The pedagogical proposal presented in this article, based on gamification and PLEs, represents an innovative and promising approach to improving students' motivation and academic performance. Its careful and systematic implementation, as detailed in the different stages, can make a difference in the quality and impact of the teaching-learning process. Future research should delve into longitudinal evaluation of the results of this initiative in order to further refine the strategies and maximize their effectiveness. Similarly, focus on exploring effective strategies for large-scale implementation of these approaches and evaluating their long-term impact in diverse educational contexts.

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