Latin teaching, edugame and inclusion: what interconnection?

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Abstract: In recent years, the scientific debate has emphasized the formative importance of studying the Latin language, not only as a means of improving mastery of one's mother tongue but also as a tool for personal development and critical awareness.

However, despite widespread agreement on the educational and formative value of Latin, its teaching faces significant challenges, such as a progressive decline in interest among students, society, and politicymakers in countries like Italy, other parts of Europe, and the United States. Furthermore, Latin studies are often viewed as outdated and impractical. Considering that teaching Latin requires a strong focus on student-centered approaches and their specific needs to achieve authentic learning and recognizing the necessity for more effective inclusive teaching strategies for Latin, the aim of this paper is to conduct a systematic review of the literature on how gamification supports Latin learning from an inclusive perspective.

Following the steps of research, selection, data extraction, and analysis, it emerges that gamification promotes Latin learning. Although there are no explicit studies addressing inclusion, it can be inferred that a gamified approach to Latin positively impacts students in terms of motivation, engagement, and satisfaction.

Keywords: gamification; latin; education; edugame; inclusion

1. Introduction

In recent years, the scientific debate has emphasized the formative importance of studying the Latin language, not only as a means to improve mastery of one's mother tongue (Preti, 2015) but also as a tool for personal development and critical awareness. Numerous studies suggest that Latin offers a model for linguistic and cultural reflection that fosters a deeper understanding of oneself and the historical-linguistic context. In this sense, Latin education represents a "school of freedom" (Balbo, 2023), an educational path that, through analytical rigor and focus on linguistic structure, aims at personal growth and recognition of the value of others (Cacciari, 2002). This conception of Latin as a vehicle for self-improvement aligns with the views of scholars and educators who see teaching as a meeting point between tradition and innovation (Balbo, 2009).

At the heart of effective Latin teaching lies the need for educators to combine disciplinary skills with methodological and didactic skills, valuing the individuality of students and personalizing the teaching approach. Teaching Latin requires a deep

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[1] The article is the result of a joint collaboration among the authors. However, Rita Colace wrote paragraphs 2 and 3; Michele Domenico Todino wrote the paragraph 1; Iolanda Zollo is scientific coordinator of the research.

attention on the centrality of the student and their unique characteristics, a crucial element for authentic learning.

However, despite widespread agreement on the educational and formative value of Latin, its teaching faces significant challenges, such as the gradual decline in student interest in countries like Italy, Europe, and the United States, or the perception of Latin studies as outdated and impractical in favor of disciplines deemed more "useful" or "relevant." International and national studies confirm the enduring vitality of the Latin language and its influence on contemporary scientific and legal terminology, with a significant percentage of English and other European languages' vocabulary directly derived from Latin.

In this context, addressing the need for more effective inclusive teaching strategies for Latin, the aim of this paper is to provide a systematic review of the literature on how gamification fosters Latin learning from an inclusive perspective. The goal is, therefore, to identify the most effective educational practices that can promote a learning environment where Latin is not merely a relic of the past but an active and integrated element in the education of tomorrow's citizens—an educational practice capable of bridging tradition and modernity.

The choice of educational gamification is based on the idea that a game environment is a safe space for mastering a topic, offering opportunities to repeat an activity without significant penalties for mistakes. For this reason, games can influence the emotional development of players by removing the sense of failure. For example, experiencing failure in a contained gaming environment encourages players to adopt a more optimistic approach to potential failure in the real world (McGonigal, J., 2011).

2. Latin edugames: a systematic literature review

This contribution aims to explore, through a review of national and international scientific literature, alternative pathways for teaching Latin, particularly focusing on the opportunities provided by the use of edugames and gamification in general. The objective is to enhance student enrollment, inclusion, motivation, and active participation in Latin courses and to examine how gamification facilitates Latin learning, both inclusively and otherwise.

Currently, a variety of terms accompany the concept of "literature review," such as systematic review, meta-analysis, meta-synthesis review, network meta-analysis, reviews of systematic reviews, rapid review, integrative review, traditional literature review, narrative review, research synthesis, structured review, mapping review, and scoping review. These terms describe approaches that share essential features: collecting, evaluating, and presenting research evidence. Each review method provides tools that researchers can appropriately adapt to their purposes.

After reviewing these types of literature reviews, the study focused particularly on systematic reviews and scoping reviews to conduct the investigation. However, there is a risk that reviews labeled as "systematic" might not consistently adhere to the high standards required to mitigate bias and assess the quality of selected primary research.

Given that an "ideal" systematic review does not exist and that all literature review methods provide tools that researchers must use appropriately, the study decided to adopt a literature review inspired by the PRISMA statement 2020 conceptual framework (Page, McKenzie, Bossuyt, Boutron, Hoffmann, Mulrow, et al., 2020).

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Additionally, following the recommendations of the Cochrane[2] research group, this review was conducted in four stages:

1. Search (Phase 1): Identifying relevant studies and sources.
2. Screening (Phase 2): Selecting studies based on defined criteria.
3. Data extraction (Phase 3): Collecting key information from selected studies.
4. Analysis (Phase 4): Reviewing and synthesizing the included studies.

This systematic approach ensures a structured and comprehensive exploration of how gamification supports Latin education and its potential inclusivity benefits.

FIG.1 PRISMA flow chart
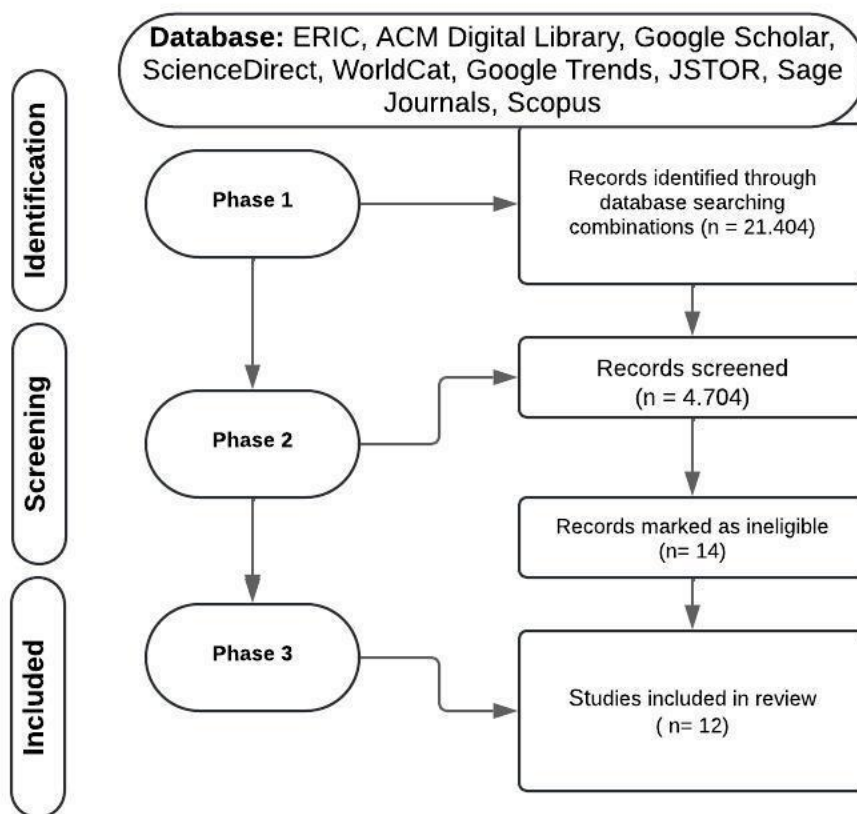
2.1 Phase 1: Search

The first phase involved conducting a bibliographic search across nine international databases: ERIC, ACM Digital Library, Google Scholar, ScienceDirect, WorldCat, Google Trends, JSTOR, Sage Journals, and Scopus.
Search Keywords and Strategy

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[2] Higgins, Thomas, Chandler, Cumpston, Li, Page, Welch, 2024 available from www.training.cochrane.org/handbook.

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The following keywords were used: "edugame" AND "Latin", "gamification" AND "Latin", "AI generative" AND "didactics" AND "inclusion" AND "Latin", "gamification" AND "in" AND "Latin" AND "education".

The Boolean operator "AND" was exclusively employed to focus the search on specific macro-categories and ensure precision in retrieving relevant bibliographic resources.

Database Results

ERIC: Using the keywords "edugame" AND "Latin", "gamification" AND "Latin" ERIC returned two results. Only the first result was relevant, focusing on education through technology, particularly in the context of teaching creative careers during the pandemic. However, it primarily addressed tools used by university instructors rather than gamification in Latin education.

Other Databases: Similar outcomes were observed across the remaining databases when searching with the same keywords, yielding limited relevant findings. Searches using "AI generative" AND "didactics" AND "inclusion" AND "Latin" produced comparable results.

Successful Results: Scientifically valid findings emerged when the search keywords "gamification" AND "in" AND "Latin" AND "education" were used.

Inclusion Criteria

Results had to contain the keyword "Latin" along with at least one of the other keywords.

The temporal range for included studies was 2014–2024.

All languages were considered, without exclusion.

All publication types were included, including grey literature, except literature reviews.

This approach ensured a comprehensive exploration of the available literature while maintaining focus on studies directly relevant to the research questions.

2.2 Phase 2: Screening

During the second phase, duplicate entries were removed, and the most relevant contributions were identified based on an analysis of the title, keywords, publication year, abstract, and, subsequently, the full content of the contribution. Below are the detailed results obtained from the databases listed in Phase 1 and the selection of relevant contributions.

A total of 21,404 results were obtained; there were 4 duplicate contributions (2 from World Cat and 2 Scopus); there were 12 useful contributions for review. The screening phase was carried out, in detail, as follows.

From the **ERIC** database no.2 results retrieved, of which:

the first was related to education through technology, focusing on teaching creative careers during the pandemic, particularly tools used by university instructors in Latin America. This was deemed potentially relevant but ultimately excluded due to its lack of focus on gamification or Latin education;

the second, titled "Impact of Nutritional Education Intervention on Food Choice Motivations and Eating Behaviors Among Latin American University Students", was excluded as it addressed nutrition education rather than Latin language learning.

No article was deemed useful for review.

From **EBSCO**: n.4 results

The results obtained are:

3 online articles:

"The e-learning market is expected to grow at a CAGR of over 14% during the period 2019–2025"

"Massive Open Online Course (MOOC): Market Analysis and Forecasts 2015–2020"

"Badgeville Widens the Gap: Gamification Pioneer Posts Second Year of Triple-Digit Growth";

1 conference proceeding:

"Developing a Gamification Concept for Promoting Innovation in Microbusinesses".

All results focused on commercial enterprises operating in Latin America in various ways, so no contributions were chosen.

From **Google Scholar**, the search results for Gamification in Latin Education totaled 20,700, with about 5,000 reviewed. Among these, five articles were considered.

The first one is *"Gamification in a Year 10 Latin Classroom: Ineffective 'Edutainment' or a Valid Pedagogical Tool?"* (Evans, 2016).

The purpose of this study is to evaluate the pedagogical validity of introducing a general gamified approach to the structure of a Year 10 Latin lesson in the English school system. In particular, it aims to assess its effectiveness by examining the entertainment value and the attitudes of students towards studying Latin. Gamification can be simply defined as the process by which game design elements (e.g., competition and scoring) are incorporated into non-game contexts, including education (Yee, 2013).

The class where the experiment took place was very small, with only seven students, but heterogeneous, including one student with dyslexia and dyspraxia, one who disrupted lessons when feeling the work was inaccessible, and another who had transferred from a different school earlier in the year. The specific goal described by the study was to teach the perfect and pluperfect passive.

An example of incorporating games into Latin learning had already been developed by Pike (2015a), who described his gamified Latin course and its effect on student learning and motivation. After analyzing the literature, the author focused particularly on Latin gamification methods developed by Pike and L. Glyon in 2015. The study also drew on the concept of the "playful learning space" by A. Kolb & D. Kolb (2010) and J. McGonigal's idea of "fun failure" (2011). The author suggests a wide variety of potential benefits that gamification could provide, not only for improving students' classroom performance but also for their general approach to learning. Gamification can offer a flexible approach where students are given greater responsibility in their learning.

After defining gamification as the process by which game elements are incorporated into non-game contexts, the author describes his project: a gamified classroom program called *Insignia*, consisting of a sequence of lessons, including scoring elements and the use of a leaderboard. The goal was to earn points for satisfactory completion of classroom work. The program was based on a badge system. Each lesson followed a similar structure and focused on a specific grammatical point, such as understanding what an auxiliary verb is and its function

in a sentence or recognizing the perfect passive tense in Latin. Typically, after an initial activity, a review of key terms, and an introduction to the topic, students were given an *Insignia* activity sheet, containing a variety of matching, morphological, and translation tasks. Students were allowed to complete the tasks in any order they felt comfortable with. This decision was made to promote *Insignia* as a "safe space" where students could make mistakes and develop intrinsic motivation, similar to the "playful learning space" described by Kolb & Kolb (2010, p. 47). Each task was worth a specific number of points, which students earned upon completing the activity. A scoreboard was maintained and displayed in the classroom to measure the effect of the competition element on student motivation (Yee, 2013, p. 343). Students also had the option to complete a self-selected *Insignia* task at home to increase their score.

In conclusion, students found the gamified lesson motivating due to the clear communication and formal reward system embedded into each lesson. This increase in motivation helped them become more productive and engaged during lessons, facilitating their ability to meet lesson objectives.

The second article considered is: "Gamification in the Latin Classroom" (Pike, 2015).

The article details a gamified model for learning Latin in a seventh-grade class (ages 12–13) at the Harvard-Westlake School in Los Angeles. Each module includes a vocabulary quiz, a grammar quiz, and a cultural project, structured according to the game requirements described by McGonigal.

One of the game's goals is to build a persona reflecting the student's identity, which follows a path through a series of design projects focused on Roman culture. Before addressing gamification for Latin learning and describing his project, Pike draws on the considerations of Koster, one of the most influential thinkers on game design for fun and engagement within an educational context. Koster argues that "games are now an important cultural force" (Koster, 2004, p. 10).

The author continues by illustrating the importance of gamification and Game-Based Learning (GBL) in education, referencing McGonigal (2011), a pioneer of games as mechanisms not only for engagement and education but also for social change. McGonigal builds on Koster's ideas and psychology, which considers games to address authentic human needs, advocating for their broader application. Starting from the premise that the basic principles of games are four (goal, rules, feedback system, voluntary participation), that a game can be simple, complex, and abstract, and considering psychological studies related to gaming, Pike argues that gamification and GBL could play a central role in the learning process, especially in language study.

Pike's gamified Latin course is divided into eight modules or game levels. Each module features basic grammar content (e.g., vocabulary, verb forms, case usage, etc.) paired with a central cultural theme. For the cultural component, students engage in project-based work centered around their ideas, such as ancient geography. Moreover, each project activity is designed to require students to consider ancient perspectives using modern tools. To complete a module, students must finish the interactive cultural project on the civilization topic and demonstrate mastery through vocabulary and grammar quizzes. Just like level-based applications, such as *Candy Crush Saga*, students can attempt the level multiple times until they achieve the "mastery" required by the module. They can also replay the same level

to improve their score and replace the previous one in the gradebook. Feedback on the cultural project is provided by peers who interact with all other students' projects within a given module.

The cognitive benefits and non-cognitive skills acquired are readily apparent, with much higher levels of engagement and a better understanding of errors through the gamified system of "trial and error," allowing students to learn from failure rather than being punished for it.

For instance, after learning about ancient geography and construction through a collaboratively created map (Pike, 2014), students are asked to imagine living in one of the locations on the map. They then develop a shared identity through an infographic in which they explore daily life in the Roman world by creating a persona and investigating how it might have interacted with others.

Using this identity in subsequent projects, students' progress through a series of other tasks that provide opportunities to interact with classmates in an ancient world space the class has created for itself. With only a few rules, students must engage with the module's theme by creating something for their peers. Using their infographics, they consider how Romans interacted socially and exchanged ideas, while creating social media profiles based on their personas. They explore questions such as how Roman politicians, small business owners, etc., might have used social media to promote their ideas.

Later, students explore how their characters would interact with physical space, using Minecraft or SketchUp to reconstruct important or commonly used Roman structures (as detailed in Pike, 2015). This approach allows students to reflect on the social value of storytelling by creating and sharing digital stories.

Students feedback was overwhelmingly positive, especially due to the repetition of levels, which allows them to identify and correct mistakes. This process increases self-esteem, enabling students to learn from their errors and strive to do better, particularly in achieving grammatical and project-related goals.

Additionally, the gamified approach proved effective in fostering a collaborative atmosphere. It encouraged students to listen to one another's ideas and work together on projects without falling into the typical "trap" of traditional group work.

The article "*Companions of Aeneas: Gamifying Intermediate Latin*" by M.T. Paule (Paule, 2016) explores the introduction of role-playing game elements into a traditional Latin class, it was taken into consideration.

To enhance cultural content about Roman civilization in an intermediate Latin course focused on Virgil's *Aeneid* at Earlham College in Richmond, Indiana, the author incorporated elements of role-playing games (like *Dungeons & Dragons*) into a traditional translation course. This was designed to encourage students to delve deeper into Roman culture. Students individually developed characters informed by weekly research projects on various aspects of Roman culture. An additional ranking system was also included, allowing students and their characters to track progress.

The article begins by noting that the traditional method tends to emphasize grammar, style, and philology over culture, often subordinating the context and content of literature to more technical concerns, such as the double dative or Virgilian uses of the Greek accusative. In response, the author decided to gamify the *Aeneid* course so that, beyond translation, students could create classically inspired characters whose attributes would evolve based on their performance in the course and regular research projects centered on specific aspects of Roman culture.

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The model for this approach was Ted Gellar-Goad (Poovey, 2015) and his innovative work in gamifying a Latin prose composition course, which inspired Paule to consider how he might use games as a means to introduce additional cultural content.

This article is significant because it explains how relatively simple gamification elements were incorporated into a pre-existing Latin translation course with minimal adjustments to the syllabus and without requiring specialized software.

After explaining the implementation and mechanics of this gamification strategy, the author concludes that adding some gamified courses to classical curricula could be useful. The strengths of gamification (increased cultural content and student motivation) compare favorably with its weaknesses (reduced linguistic focus, increased lesson preparation time), especially in departments with limited course offerings.

Of particular interest is the coexistence of traditional teaching methods with gamification, demonstrating that even small changes can lead to significant benefits without replacing the foundational aspects of the curriculum.

Another relevant article is *"Gamification exercises in e-learning course through Moodle to raise Latin learning motivation"* (Larionova, 2023), which focuses on increasing student motivation for studying Latin at a Russian medical university. This was achieved by integrating gamified tasks, created using online application services such as LearningApps and HotPot, into an e-learning course delivered through the Moodle LMS platform.

From the proceedings of the same conference, another article, *"Effectiveness of Using Digital Educational Technologies in Teaching Latin at Medical Universities"* (Chistyakova, 2023), aimed to evaluate the effectiveness of an online course on the Moodle LMS platform in the educational process for the subject *"The Latin Language"* at a medical university. The course included grammatical guides and gamified activities developed using various digital educational platforms (e.g., https://learningapps.org, https://quizlet.com). A total of 45 first-year students participated in the experiment over the course of a semester. The educational process consisted of three phases: weekly practical sessions and extracurricular independent work; an online course on the Moodle LMS platform used as a digital tool to develop practical skills in bidirectional translation of medical terms. The third phase of the study involved an anonymous survey as a form of subjective evaluation and an analysis of students' overall academic performance based on intermediate and final tests, providing an objective evaluation of the effectiveness of using online courses in teaching Latin.

The analysis of both subjective and objective assessments confirmed the effectiveness of using an online course on the Moodle LMS platform. A comparison of students' performance at the beginning and end of the experiment indicated a high level of effectiveness in using online courses to develop practical skills in the use of Greco-Latin medical terminology in theoretical and clinical disciplines, as well as in future professional activities.

The article *"Gamification in Classics"* by Moss Pike could have been considered, but it lacks precise bibliographic elements and therefore cannot be included. The citation provided in APA style is simply, "Pike, M. Gamification in Classics."

Some findings were not considered because they involve case studies unrelated to the focus of our research or examine the use of gamification in non-educational sectors and in Latin American countries. Other potentially relevant results, but ultimately deemed unhelpful, include articles on systematic literature reviews. These reviews investigate the impact of gamification in education, emphasizing its use to enhance student motivation and engagement. However, such studies were often conducted on very narrow samples regarding the number of participants, disciplines, educational institutions, geographic areas, and levels of education.

Most of the studies considered relevant but not usable for this review focus on evaluating the effects of classroom gamification, particularly as a method to increase student engagement and motivation. Some bibliometric analyses show that the most frequently used keywords are gamification, higher education, and motivation (Irwanto, Wahyudiati, Saputro, & Laksana, 2023). Spain, followed by the United States and the United Kingdom, emerges as one of the leading countries in this field, driving research on learning through gamification in higher education contexts (Subhash & Cudney, 2018). A widely used tool is *Classcraft*, a role-playing game that applies game-based learning in schools.

These studies have been conducted in various countries worldwide, including the United States, India, and Saudi Arabia: Alsadoon (2023), Saxena & Mishra (2021).

SCIENCE DIRECT produced 179 results spanning from 2014 to 2024, but they are not useful since 69 belong to Social Sciences, 38 to Computer Science, 32 to Medicine and Dentistry, 25 to Business, Management, and Accounting, 24 to Psychology, 13 to Engineering, 12 to Decision Sciences, 8 to Energy, and 7 to Arts and Humanities.

The seven articles within the Arts and Humanities section are not valid because they do not meet the inclusion criteria outlined in Phase 1.

The **WORLD CAT** database produced 368 results, covering various fields such as Education, Computer Science, Engineering and Technology, Physical Education and Recreational Activities, Language, Linguistics and Literature, Political Science, and Business and Economics. Among these, seven articles were considered, and five were analyzed, as two were already found through searches in other databases.

One of these is *"Proposte di consolidamento lessicale in vista della certificazione di lingua latina"* (Consalvi & Viganò, 2022). The aim is to provide ideas for digital tools designed to consolidate lexical knowledge in preparation for the Latin language certification, the ultimate goal of the EULALIA (European Latin Linguistic Assessment) project. A comprehensive word list has already been compiled, created by digitizing the *Vocabulaire de base du latin*, published in 1984. Once available, thematic units can be organized according to CEFR levels, facilitating the memorization of terms to enable students to independently master basic terminology without frequent recourse to a dictionary. For the practical proposals included in the article, the gamification methodology was employed. The use of game-based teaching techniques has shown excellent results in fostering motivation, as these techniques activate a range of transversal skills and playful aspects that students engage with unconsciously.

The platform H5P (HTML5 Package), an open-source tool for creating interactive and mobile-friendly content based on JavaScript (e.g., videos,

presentations and quizzes), was utilized. Importantly, advanced IT skills are not required for its use. Moreover, while some digital resources show positive aspects, they often fall short of the standards seen in online offerings for other subjects, despite the importance of technology in modern teaching practices. Various exercises were proposed, including:

- Dialog Cards
- Flashcards
- Mark the Words
- Image Hotspot
- Image Sequencing
- Crossword

To assess word learning, drag-and-drop exercises were used. A dictation exercise helped consolidate spelling and oral comprehension skills. In the latter, the teacher records their voice and embeds it in one of the compatible audio formats, allowing students to listen at two speeds: normal and, if needed, slowed down for better comprehension.

The importance of studying classical languages is today at the heart of a profound didactic-methodological reflection. The EULALIA certification seeks to leverage new exogenous and endogenous motivational factors that could prove pivotal in learning. Thus, educators are encouraged to use technology to create a learning environment tailored to each student and the society of tomorrow.

The appropriate use of new technologies in the classroom has the clear advantage of reaching every student, making them active protagonists in their educational journey. An immediate consequence is the realization of personalized teaching, capable of creating appropriate pathways according to the competencies each student must develop to enter the workforce.

The article *"Fugae Conclave: una experiencia didáctica para Cultura Clásica"* (Calderón, 2023), written in Spanish in 2023, is of particular interest. It discusses the use of an escape room, *Fugae Conclave*, for learning Latin. Starting with an analysis of the difference between game-based learning and gamification, the article concludes that these innovative methods are viable and effective in the student learning process. However, they should not be detached from tradition. Today, classical studies teachers must adapt to changes in youth and education. Innovation and tradition must converge to achieve the best possible outcomes.

The experiment was conducted in a fourth-year secondary school class (ESO 4°) in Valladolid, in the Castile and León region of Spain, equivalent to the second year of Italian high school. The idea emerged from the Latin motto *Mens sana in corpore sano*, developing content and culture related to medicine in antiquity while connecting it to the recent COVID-19 pandemic. This sociocultural context encouraged student interest in topics such as the Antonine Plague (165–180 AD).

The project aimed to connect historical medical figures with modern and Greco-Roman medical terminology, drawing parallels between classical antiquity and modernity. Additionally, the active participation of all students fostered the development of interpersonal skills within the class.

It is evident that 21st-century education is undergoing a crisis, partly due to shifting student interests. As such, education must adapt to these changes to support

student development. Gamification and emerging educational strategies with this goal are essential for pursuing improvements in education. Innovation and tradition must coexist and converge, and gamification can be employed as a strategy to motivate students and reignite interest in Latin.

Latin and Greek culture, and classical studies in general, are losing ground to scientific and technological subjects. For this reason, many teachers have decided to teach Latin through gamification or active experiences to better engage young audiences with the classical world. Examples include Lillo Redonet (2012), Gómez Jiménez (2020), and Díaz Granda (2021). The *Fugae Conclave* experience proved to be a successful activity, enabling students to apply classroom theory and their own ingenuity. The escape room—an activity typically associated with leisure—has demonstrated itself as an excellent and dynamic example of educational gamification. This educational approach is also supported by Marqués García (2019), and Recio Muñoz and Paino Carmona (2021).

Given the societal and generational changes, clinging to outdated yet entrenched structures does not support effective educational development but rather hinders improvement. While gamification may not be the only solution, it is a tool that today's teachers cannot ignore. It should be used to deliver quality teaching and genuinely motivate students. As Seneca aptly said: *Homines, dum docent, discount*

The third result is another example of an escape room, but focused on Latin literature, particularly historiography (Jiménez, 2022). Compared to the previously mentioned escape room, this one is structured with greater precision. This difference can be explained by the fact that the first example targeted a second-year secondary school class and dealt with civilization and vocabulary, while this project involved a fifth-year secondary school class, focusing on historiography. The evaluation here encompasses morphology, syntax, historiography, and texts, and aligns with the competencies required by the Region of Murcia, where the school conducting the project is located.

The objective of the scholars behind *Latentes codices* was to combine traditional methodology—which should not be overlooked—with active methodologies, particularly gamification, to increase students' interest in cultural content and improve their academic performance. Through this innovative teaching proposal, students were provided the opportunity to actively learn the content of Roman literature while retaining the positive aspects of traditional methodologies.

The results demonstrated that it is possible to optimize the teaching and learning process by leveraging the most favorable aspects of various methodologies. The use of ICT (Information and Communication Technologies), particularly gamification, created a more positive classroom environment and fostered active participation. This was achieved through competence-based teaching that enhances motivation.

The didactic use of an escape room easily adapts to different classroom contexts and provides numerous benefits for students:
- Acquisition of research guidelines and foundational tools, valuable not only for academic life but also for everyday situations that require filtering through vast amounts of information.
- Knowledge of historical and cultural events from the past, enabling connections with current events and fostering informed decision-making.
- A sense of belonging to European culture, encouraging a feeling of unity.

- Strengthening the understanding of one's native language, in this case Spanish, through the analysis, translation, and engagement with classical texts.
- A redefinition of failure, where mistakes are no longer viewed negatively but instead contribute to the emotional management of setbacks.

This project highlights the use of gamification as an active methodology where students learn by researching, experimenting, making mistakes, and presenting their findings. This approach is not merely entertaining but integrates innovative methodologies to achieve specific goals related to key competencies. At the same time, it underscores that effort, hard work, memorization, and attention remain fundamental elements in the teaching-learning process.

Another article of interest is *Breakout y Webquest con perspectiva de género: Eumachia y Acilia Plecusa, matronas romanas* (Torres González & Pérez Zurita, 2022), written in Spanish. It utilizes an escape room designed with "Genially" and includes activities like webquests and breakouts created by students, focusing on the theme of women in ancient Rome.

Classical authors often present a rather partial and negative stereotype of Roman women, portraying them primarily as caretakers of the home and children, with harsh criticism directed at those who deviated from this strict framework. However, epigraphic sources reveal a different reality, preserving the memory of women who made significant and generous contributions to their communities or were publicly honored with statues in prominent urban spaces.

The study aimed to bring this epigraphic reality into secondary school classrooms, where gender-related content remains underrepresented. Through the creation of the escape room *Las mujeres en la ciudad romana*, centered on four female figures, students are exposed to examples of the public roles women played in various Roman cities. Immersing themselves in a story inspired by epigraphic content, students work toward the primary goal: obtaining the keys to unlock the safe and reveal the final reward.

Following the rules of educational escape rooms and breakout activities, students must demonstrate their acquired knowledge. The Genially platform proves ideal due to its numerous features, including interactive quizzes and integration with other applications like Kahoot or EDpuzzle to ensure varied challenges. Additionally, using the Padlet app, a virtual wall is created featuring the women introduced through the breakout activity, further memorializing these remarkable female figures.

The main objectives of this study include offering gender-focused activities that allow students to simultaneously explore content from subjects such as geography and history, Latin, social change and gender studies, or citizenship education, utilizing gamification and ICT tools. Two digital activity proposals—breakouts and webquests on four Roman female figures—were developed to explore women's history in the Roman city. These activities aim to incorporate gender perspectives into curricula, where applicable, to address related subject matter and foster interdisciplinary skill development.

This approach seeks to demonstrate that Latin and history are not merely static collections of facts but rather dynamic disciplines whose paradigms, such as the perception of women's roles, evolve over time (Picazo Gurina, 2017). The authors

argue that this methodology, designed for secondary school education, could and should be extended to the university level.

Another noteworthy result is K.J. Baglio's *Student Motivation in the Latin Classroom* (Baglio, 2022), which addresses student motivation in learning Latin, focusing on the concepts of intrinsic and extrinsic motivation. This article highlights gamification as a potential solution to enhance students' intrinsic motivation.

The discussion also delves into measures that teachers can adopt to boost motivation and engagement through gaming, such as creating a safe environment for making mistakes and transforming extrinsic motivation into intrinsic motivation. A significant challenge for educators is motivating students, and the author identifies several possible reasons for this difficulty, including the exclusion of Latin teachers from much educational research and the limited studies on student motivation in Latin classes.

Intrinsic motivation is essential for success, particularly in a Latin classroom. Where intrinsic motivation is lacking, the teacher should develop strategies to foster it through habits, instruction, and activities that promote positive connections, autonomy, gamification, and the use of comprehensible and compelling material. Since motivation is directly linked to student success, increasing motivation is essential to improving educational outcomes.

Other articles were excluded from consideration because, although they explored second-language learning through gamification, their focus was on English in Latin American countries (Aldana-Burgos, Gaona-García & Montenegro-Marín, 2023).

The **JSTOR** database produced 37 results distributed across various fields:

- African American Studies (1);
- American Indian Studies (1);
- American Studies (1);
- Archaeology (1);
- Art & Art History (3);
- Asian Studies (1);
- Business (5);
- Classical Studies (1);
- Communication Studies (1);
- Cultural Studies (1);
- Economics (2);
- Education (12);
- Geography (1);
- Health Policy (1);
- History (2);
- History of Science & Technology (1);
- International Relations (1);
- Labor & Employment Relations (2);
- Language & Literature (9);
- Latin American Studies (2);

- Philosophy (1);
- Political Science (1);
- Population Studies (2);
- Science & Technology Studies (1);
- Sociology (1);
- Technology (2).

Three studies were considered relevant, but only one was included in the review.

The study is *"Lingua Vitae: Teaching the Latin Language in Virtual Reality"* by Brian Beams and Lissa Crofton-Sleigh, which describes a virtual reality project initiated in September 2018 at Santa Clara University in Silicon Valley. This project involves completing the task of buying bread as a centurion through a virtual reality experience (Beams & Crofton-Sleigh, 2024). This experiment included a control group and an experimental group, with the post-project questionnaire results showing 100% success in the experimental group and 71.4% in the control group.

Ancient languages, such as Greek and Latin, have long suffered from being considered "dead languages." Due to the perceived distance (chronological, geographical, or metaphorical) between ancient and modern cultures and the absence of native speakers today, some students claim that classical Greek and Latin do not apply to their lives, contributing to declining enrollments in ancient languages at many universities. Traditional learning methods can make student engagement challenging. For instance, several established textbooks, such as *Wheelock's Latin*, tend to emphasize the memorization of vocabulary and grammar. While these skills may be useful for improving students' English vocabulary and writing skills, they can also make the experience feel dry and often frustrating, as little to no emphasis is placed on conversational and creative/narrative writing skills, which are heavily emphasized in modern languages. However, changes in Second Language Acquisition (SLA) and classroom diversity have coincided with new approaches to teaching ancient Greek and Latin, especially at the secondary and post-secondary levels, with the emergence of spoken or "active" Latin movements in particular.

In addition to new and improved teaching strategies, technology is also playing a crucial role in language acquisition and cultural awareness. Websites like *Latinitium* and apps like *Duolingo* have changed how users engage with language. Immersive virtual reality environments, for example, can increase motivation to learn a language through gamification.

Moreover, these virtual experiences facilitate immersion in real-life contexts, enabling students to interact more concretely with typically abstract concepts and develop higher levels of complex thinking. Finally, engaging with the language in a virtual environment allows for self-directed exploration or experimentation, which can lead to reduced anxiety and further motivation and engagement. While these results derive from modern language research, they are also significant for learning an ancient language like Latin, where the distance between modern and ancient cultures can induce anxiety and/or disinterest.

The combination of declining enrollments, evolving teaching strategies, and emerging technologies has motivated the authors to create a project that combines Latin language acquisition with virtual reality. They applied the concept of linguistic

immersion to an immersive virtual space by recreating the Roman Forum in 3D as it would have appeared when Latin was a spoken language. The goal is not necessarily to replace traditional textbooks but to integrate and enhance their teachings using more modern and innovative learning strategies and tools.

By creating an ancient, interactive, and virtual environment, the authors aimed to eliminate the distance students often feel when studying cultures that thrived millennia ago, making them feel as though they had been transported to ancient Rome. A narrative was created in which the player takes on the role of a young poet named Titus, who documents a Roman "triumph," or a military victory ceremony and procession. As the narrative unfolds, the player engages in small conversations with various characters through the use of interactive and narrative design that immerses the player in Latin as a spoken language. Through this project, Beams and Crofton-Sleigh seek to demonstrate that Latin is better understood as a "language of life" (*lingua vitae*).

Both this study and the one using *Reacting to the Past* (Albright, 2017) yielded important results: post-course questionnaires administered to students revealed highly positive feedback. When asked, *"Do you think virtual reality can help in learning Latin?"* the most common responses included:
- *I think interacting with the characters helped increase my active thinking through the meaning of Latin words. I also think that repeating words in different contexts helped me remember and understand their meanings even when I didn't know them.*
- *Nowadays, since it's not possible to immerse oneself fully in a "speaking" Latin environment, virtual reality and simulation help achieve that immersion and personalized language learning.*
- *It's fun to hear phrases that we would never otherwise hear. I also like the setting in the Roman Forum, which adds cultural value in addition to the linguistic aspect.*
- *It's very enjoyable to converse in Latin and use some unknown words simply by deducing their meaning from the context.*

The students would, therefore, like to have greater immersion in a virtual learning environment, adding that it is enjoyable to use Latin in the same way they play video games and to learn Latin during their leisure time.

A second study is *"Harnessing Students' Competitive Spirit: Using Reacting to the Past to Structure the Introductory Greek Culture Class"*, which was not included in the review but is significant as it addresses edugames and the teaching of Greek literature through *Reacting to the Past*. This study focuses on the first game in the series, *Threshold of Democracy*, consistently used throughout the term in which students learn about Athenian democracy, as part of an introductory course on Greek culture during traditional lessons (Albright, 2017). The game, which employs a flipped classroom approach involving role-playing and complex strategies, represents a notable departure from the typical lecture format.

It can be inferred that this was a particularly effective tool, as it fostered intense competition among students, motivating them to research topics in depth and to craft well-reasoned oral and written arguments.

Another interesting article discusses the development of an open digital Greek tutorial aimed at beginners with no prior knowledge of the language, accessible at http://daedalus.umkc.edu/FirstGreekBook. Although the article addresses gamification in teaching classical Greek and offers numerous insights applicable to

Latin as well, it was not included in the review because it did not meet the criteria established in phase 1, primarily because it lacks relevant keywords (Rydberg-Cox, 2016).

The tutorial originated from an analysis of the 2015 report by the Modern Language Association on language course enrollments since 2009, which recorded a 35% decline in ancient Greek and a 16% decline in Latin enrollments. Digital tutoring programs for other languages, such as Duolingo or Rosetta Stone, successfully engage a wide audience outside traditional academic settings, whereas most resources for studying ancient Greek are designed for use in conventional classrooms. Understanding the usage patterns of this digital tutorial will shed light on how pedagogical materials can be developed to engage a broader audience.

The tutorial consists of an interactive version of John William White's *First Greek Book*, reimagining a late 19th-century textbook as a digital workbook. White's original book contains eighty chapters, each introducing an element of syntax and morphology along with vocabulary and guided readings aimed at enabling students to independently read Xenophon's *Anabasis*. The tutorial comprises 84 static HTML pages, preserving the basic structure of the original textbook. The HTML pages also include multiple-choice quizzes that help students memorize vocabulary, declensions, and conjugations. Vocabulary and grammatical paradigms for each chapter are also available for download.

The tutorial includes two types of translation exercises based on White's original sample readings. The first asks users to match Greek words or phrases with their corresponding English translations; the second requires students to identify the grammatical role of each word in sample sentences. Both of these practical translation exercises were inspired by the work of the Alpheios Project (which develops evidence-based open-source software to support the study of classical languages and literatures, utilizing resources such as "The Ancient Greek and Latin Dependency Treebank" and "Digital Latin Library") and the Perseids platform, which encompasses Latin, Greek, and other ancient and premodern world languages.

The article also identifies online resources linked to textbooks, such as *Athenaze* by Maurice Balme and Gilbert Lawall, *Introduction to Attic Greek* by Donald Mastronarde, *An Introduction to Ancient Greek* by Cecelia Luschnig, and *Ancient Greek: A Literary Approach* by Anne Groton

From **PUBMED**, five publications emerged, but none were relevant to the current review.

From **SAGE JOURNALS**, there were 82 results, of which only one was included in the review, while another was excluded as it is a hermeneutical literature review, lacks relevant keywords, and discusses games in the context of arts and humanities.

The included article examines various language-learning apps, though it primarily focuses on English. Among the most popular apps worldwide, only *Duolingo* and *Rosetta Stone* offer Latin courses, whereas *Babbel*, *MemRise*, and *FluentU* do not. Attention was drawn to *Rosetta Stone* because it is also available on PCs, though this version is subscription-based and offers different plans: quarterly, semi-annual, and annual. The quarterly subscription does not include Latin, whereas the semi-annual and annual plans do—possibly because three

months is insufficient to learn the language? Another particularity mentioned is that *Rosetta Stone* is classified in the article as a mobile app; however, at least in Italy, Latin is not among the 24 available languages, which include Hindi, Persian, Greek, and Vietnamese. Latin study is thus only available through the PC version and with a subscription of at least six months.

The data were collected from students enrolled in higher education courses in English, with almost all participants (99%) identifying English as their first language. These findings suggest that native English-speaking participants benefit most from using apps to learn other languages, such as French ($n = 30$), Spanish ($n = 17$), Mandarin Chinese ($n = 6$), German ($n = 4$), and others (e.g., Norwegian, Portuguese, Cantonese, Hungarian, Japanese, Italian, Ukrainian, Dutch, Russian, Wolof, Korean, Swedish, Hebrew, Finnish, Polish, and Latin).

The main feedback on language apps includes a sense of progress or achievement, in-app gamification features, and limitations that lead to negative experiences. Some participants, for example, reported difficulty with the app recognizing their pronunciation, causing frustration and feelings of failure.

Regarding the future use of AI in language learning and education, the article highlights numerous advantages that AI brings to language-learning apps, as well as some challenges and limitations to consider. These include the need for continuous updates and improvements to AI algorithms and ethical considerations regarding potential biases in AI-based language assessments. Such biases must be identified and counteracted to ensure fairness and inclusivity in the design and implementation of AI algorithms. The integration of new AI technologies into educational policies, such as UNESCO's *Guidance for Generative AI in Education and Research* (Holmes & Miao, 2023), can provide insights into best practices for incorporating AI into language learning. Overall, the benefits of integrating AI features into language-learning apps to support student motivation and assessment outweigh the risks. If educators and app developers focus on integrating AI capabilities while adhering to ethical guidelines and policies, the future of AI-enhanced language learning will continue to grow.

This article was included because, based on its data, the review focused attention on apps related to the Latin language (Yuen & Schlote, 2024).

The article *"Playful Approaches to Learning as a Realm for the Humanities in the Culture of Higher Education: A Hermeneutical Literature Review. Arts and Humanities in Higher Education"* did not meet the selection criteria and was therefore excluded (Jensen, Pedersen, Lund & Skovbjerg, 2022).

This article presents play as an emerging approach to learning in higher education, specifically within arts and humanities. It reviews literature suggesting that playful approaches to learning oppose educational cultures focused on speed and student performance. However, the culture of play emphasizes creativity in learning and human development within education. The article raises several questions about social, institutional, and organizational educational cultures, as well as approaches to teaching, learning, humanity, and society. It highlights how playfulness could offer new opportunities for arts and humanities education to explore in the future.

From **SCOPUS**, 27 results emerged, two of which were included. However, these were duplicates of results obtained from other research databases.

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2.3. Phase 3: Data extraction

The articles deemed valid for inclusion in the review are those that meet the following criteria:

- Contain at least two of the three keywords or their synonyms, with "Latin" being mandatory.
- Were published within the time range of 2014 to 2024.

Number	Bibliografic information	Key words	Aim/ Purpose	Gamification type	Recipients /Nation	Key findings
1	Evans, E. (2016). Gamification in a Year 10 Latin Classroom: Ineffective 'Edutainment' or a Valid Pedagogical Tool? (*Journal of Classics Teaching*, 17(34), 1–13. doi:10.1017/S2058631016000192	Gamification; Latin; classroom	The purpose of this study is to evaluate the pedagogical validity of introducing a gamified approach into the structure of a Year 10 Latin lesson in the English school system. Specifically, it seeks to assess the entertainment value and students' attitudes toward studying Latin.	Gamification approach	Year 10 classroom / England	Students find gamified lessons motivating due to clear communication and a structured reward system. This approach has helped them become more productive and engaged in lessons, making it easier for them to achieve lesson objectives.
2	Pike, M. (2015). Gamification in the Latin Classroom. *Journal of Classics Teaching*, 16(31), 1–7. doi:10.1017/S205863101500001X).	Gamification; Latin; classroom	Building on the premise that the four fundamental principles of games are goals, rules, feedback systems, and voluntary participation, Pike argues that gamification and Game-Based Learning (GBL) could play a central role in the learning process, particularly in language studies.	Game Based Learning; Minecraft o Sketchup; Knewton Infographic	Seventh-grade class at the Harvard-Westlake School in Los Angeles	Student feedback has been particularly positive regarding level repetition, which allows them to identify mistakes, boosts self-esteem, and encourages learning from errors. Additionally, the gamified approach has proven effective in fostering a collaborative environment

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						, enabling students to listen to others' ideas and work together on projects.
3	Paule, M. T. (2016). Companions of Aeneas: Gamifying Intermediate Latin. *Teaching Classical Languages*, 6(2), 1-16	gamification, role-playing, *Aeneid*, Latin, translation	The study focuses on introducing role-playing game elements into a traditional Latin lesson to evaluate their usefulness.	Role-Playing Game Based on the Ted Gellar-Goad Course Model, Traditional Lesson and gamification	Earlham College in Richmond, Indiana, USA	Incorporating gamified courses into classical curricula would be beneficial. The strengths of gamification compare favorably with its weaknesses, especially in departments with limited course offerings.
4	Larionova, Y. (2023, September). Gamification exercises in e-learning course through moodle to raise Latine learnig motivation Yuliya Larionova1. In *5th INTERNATIONAL CONFERENCE ON LANGUAGE, EDUCATION AND CULTURE (ICLEC)* (Vol. 28, p. 74).	Gamification, Latine, motivation, LMS	A study conducted at a Russian medical university aimed to increase students' motivation to study Latin by integrating gamified tasks created using online application services into an e-learning course via the Moodle LMS platform.	Gamified task in e-leraning course (LearningApps e HotPot)	Medicine University	Unstated
5	Chistyakova G. (2023, September). Effectiveness of Using Digital Educational Technologie	digital educational technologies, teaching Latin,	The goal of the article is to evaluate the effectiveness of using an online course on Moodle LMS in	Gamified task in e-leraning course (piattaforma Moodle MLS)	First year of Medicine University	Analysis of both subjective and objective evaluations confirmed the

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	s in Teaching Latin at Medical Universities. In *5th INTERNATIONAL CONFERENCE ON LANGUAGE, EDUCATION AND CULTURE (ICLEC)* (Vol. 28, p. 20	LMS	teaching the subject *Lingua Latina* at a medical university.			effectiveness of an online course on the Moodle LMS platform, particularly when aimed at developing practical skills in using medical terminology derived from Greek and Latin.
6	Consalvi, Andrea, & Viganò, Laura. (2022). Proposte di consolidamento lessicale in vista della certificazione di lingua latina. *Educazione Linguistica Language Education*, 11 (2), –.	Latin. Certification of Latin language. Vocabulary. H5P. Gamification	The purpose is also to provide insights into digital tools aimed at lexical consolidation in preparation for the Latin language certification, the ultimate goal of the EULALIA (European Latin Linguistic Assessment) project.	H5P (HTML5 Package)	High school, Italy	The EULALIA certification seeks to leverage a new motivational factor, both exogenous and endogenous, which could prove crucial for learning. Therefore, it is recommended to use technology to create a learning context tailored to individual students and the society of tomorrow. The immediate consequence is the relative implementation of personalized teaching.
7	Teso Calderón, Laura. (2023). Fugae Conclave: una	Gamificación, escape room, Cultura Clásica	The study examines an escape room, *Fugae Conclave*, designed for learning Latin.	Escape room *Fugae conclave*	Fourth-year secondary school class (ESO 4°) in Valladolid,	The *Fugae Conclave* experience proved to be a successful activity. The escape

	experiencia didáctica para Cultura Clásica. *Thamyris, Nova Series: Revista de DidáCtica de Cultura ClaSica, Griego Y LatíN, ISSN 2254-1799, Nº. 14, 2023 (Ejemplar Dedicado A: Thamyris, Nova Series), Pags. 115-128.*	, Latín, educación	The objective is to demonstrate that the new avenues of gamification are feasible but should not diverge from tradition. Innovation and tradition must converge to achieve the best possible results.		in the Castile and León region of Spain	room, typically considered a leisure activity, is an excellent and dynamic example of educational gamification. While it may not be the only method, it should be employed by teachers to deliver quality teaching and genuinely motivate students.
8	Jiménez Jiménez, María. (2022). Latentes codices: propuesta didáctica de gamificación digital para la historiografía latina en el aula. *Thamyris, Nova Series: Revista de DidáCtica de Cultura ClaSica, Griego Y LatíN, ISSN 2254-1799, Nº. 13, 2022, Pags. 355-374.*	Innovación educativa, historiografía latina, gamificación, TIC	The aim of the *Latentes Codices* project was to combine traditional methodology, which should not be overlooked, with active methodologies, particularly gamification, to increase student interest in cultural content and improve their academic performance.	Escape room *Latentes codices*	Fifth-year secondary school, Region of Murcia	The results demonstrated that by integrating favorable aspects of various traditional methodologies with ICT (Information and Communication Technology) — specifically gamification —a more positive classroom environment and active participation were achieved. This was accomplished through a competence-based teaching approach that strengthened motivation.
9	Torres González, V.A. y Pérez	antigua Roma,	One objective was to bring insights about	Escape room, Genially, Kahoot, ED	High school, Spain	With a gamified approach,

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	Zurita, A.D. (2022). Breakout y Webquest con perspectiva de género: Eumachia y Acilia Plecusa, matronas romanas. International Journal for 21st Century Education, 9 (1), 3-19. https://doi.org/10.21071/ij21ce.v9i1.13750.	Historia de la mujer, epigrafía latina, gamificación, digital storytelling	women's historical conditions, as transmitted through epigraphy, into secondary school classrooms. The main goals are to offer activities with a gender perspective, enabling students to simultaneously engage with content from subjects such as geography and history, Latin, social and gender changes, or citizenship education, all based on gamification.	Puzzle, Padlet *Las mujeres en la ciudad romana*		students can learn that Latin and history are dynamic disciplines, where paradigms evolve—such as perspectives on women's roles through historical development. The authors believe this methodology, designed for high school, could and should be extended to university education.
10	Baglio, K. J. (2022). Student Motivation in the Latin Classroom. *Journal of Classics Teaching, 23*(45), 75–78. doi:10.1017/S205863102100074X	Latin classroom, academic motivation, intrinsic motivation, extrinsic motivation, gamification, language teachers, foreign language education	The study also discusses measures that teachers can adopt to increase motivation and engagement through play, creating a safe space to make mistakes, and transforming extrinsic motivation into intrinsic motivation. The author suggests that some challenges lie in the fact that has been limited involvement of Latin teachers in research and that are few studies on student motivation in Latin classrooms.	Unspecified data		Intrinsic motivation is essential for success, particularly in a Latin classroom. Where it is lacking, teachers should develop ways to foster it through habits, instructions, and activities: positive connections, autonomy building, gamification, and providing comprehensible and engaging materials. Since motivation is directly

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						linked to student success, it should be enhanced to increase achievement.
11	Beams, B., & Crofton-Sleigh, L. (2024). LINGUA VITAE: TEACHING THE LATIN LANGUAGE IN VIRTUAL REALITY. In B. Beams & L. Crofton-Sleigh (Eds.), *Past and Future Presence: Approaches for Implementing XR Technology in Humanities and Art Education* (pp. 93–118). Amherst College Press. http://www.jstor.org/stable/10.3998/mpub.14371789.6	teaching, Latin language, virtual reality	A decline in enrollment has inspired the authors' project, which combines Latin language acquisition with virtual reality. The goal is not necessarily to replace traditional textbooks but to complement and enhance their teachings using modern and innovative learning strategies and tools. By creating an ancient, interactive, and virtual environment and employing narrative and interactive design to immerse learners in spoken Latin, the project aims to demonstrate that Latin is truly a *lingua vitae* (language of life).	Virtual reality 3D	Santa Clara University, Silicon Valley, USA	This experiment involved a control group and an experimental group. In the experimental group, the post-project questionnaire results were 100%, compared to 71.4% in the control group. Furthermore, post-course questionnaires administered to students revealed highly positive feedback. Students expressed a desire for greater immersion in a virtual learning environment, adding that it is enjoyable to use Latin in the same way they play video games and to learn Latin during their leisure time.
12	Yuen, C. L., & Schlote, N. (2024). Learner Experiences of Mobile	computer-assisted language	The study also explores various language learning apps, focusing	App	All	The advantages of integrating artificial intelligence

	Apps and Artificial Intelligence to Support Additional Language Learning in Education. Journal of Educational Technology Systems, 52(4), 507-525. https://doi.org/10.1177/00472395241238693	learning, technology, adult learning, artificial intelligence, L2 foreign/additional language, student-centered learning	primarily on English. Among the most popular globally, only *Duolingo* and *Rosetta Stone* currently support Latin. Feedback on language apps is predominantly positive, highlighting numerous advantages brought by AI to language learning apps. However, there are also challenges and limitations, such as the need for continuous updates and improvements to AI algorithms and ethical considerations related to potential biases.			features into language learning apps to support student motivation and assessment outweigh the risks. If educators and app developers embrace AI functionalities while adhering to ethical guidelines and policies, the future of technology-enhanced language learning will continue to thrive.

2.4 Phase 4: Analysis

The analysis focused on synthesizing findings from the included articles to identify key themes and trends:

Technology and Language Learning: Articles demonstrated how emerging technologies, such as virtual reality and language-learning apps, are being integrated into Latin instruction, enhancing engagement and accessibility.

Gamification: Several studies highlighted the role of gamified approaches in motivating learners and reducing barriers, such as anxiety and perceived irrelevance, often associated with ancient languages.

Pedagogical Shifts: There is a notable shift toward interactive and immersive methods of teaching Latin, diverging from traditional rote memorization to emphasize practical application and cultural context.

Challenges and Limitations: While innovative approaches show promise, challenges such as accessibility, cost, and technological biases were recurrent themes.

The combined findings underscore a transformative period in the pedagogy of ancient languages, with a growing emphasis on leveraging modern tools to bridge the gap between classical and contemporary education.

3. Conclusions

From the literature review on how gamification fosters Latin learning with an inclusive approach, it emerges that explicit references to inclusion are rarely present. Only two of the analyzed studies make such references. In one, gamification was tested in a classroom with a dyslexic student, and in another, personalized teaching is highlighted using tools like voice dictation. In both cases, the gamified approach to studying Latin led to increased student engagement and satisfaction.

Building on the analysis of a study on developing an open digital Greek tutorial for beginners with no prior knowledge of the language (Rydberg-Cox, J., 2016), digital platforms for Latin, such as "*Digital Latin Library*" or "*Perseids*" were identified. These were not mentioned in the studies validated in the review but provided relevant insights into Latin gamification from an inclusive perspective. For example, projects like "The Ancient Greek and Latin Dependency Treebank" visually represent Latin syntax trees using color-coded dependencies, drawn from classical texts. This approach stimulates visual-spatial channels, potentially enabling students with learning disabilities to achieve active competence and aiding students with Specific Learning Disorders (SLDs).

From this analysis, it is evident that useful information for our research does not derive solely from database results but also from careful reading and analysis of the obtained contributions. Additional significant findings emerged, including a 35% decrease in Ancient Greek and a 16% decline in Latin course enrollments since 2009, as reported by the American Modern Language Association in 2015. Furthermore, most resources for studying Ancient Greek—and by extension, Latin—are designed for traditional classroom use. Understanding the usage patterns of digital tutorials could illuminate ways to create pedagogical materials that successfully engage broader audiences outside traditional academic settings, much like apps such as Duolingo or Rosetta Stone, which leverage gamification.

In nearly all the analyzed studies, whether included or not, the terms "gamification," "higher education," and "motivation" appear together, as highlighted by bibliometric analyses (Irwanto, I., Wahyudiati, D., Saputro, A. D., & Laksana, S. D., 2023). Gamification is seen as a tool to enhance student engagement and motivation in the classroom.

Moreover Spain, followed by the United States and the United Kingdom, is one of the leading countries in this field, driving research on gamified learning in higher education contexts (Subhash, S., & Cudney, E. A., 2018). This review demonstrates that, in the past decade, technology—particularly gamification—has increasingly entered educational settings, traditionally non-playful contexts. Gamification has been shown to increase student motivation, reframing mistakes not as failures but as opportunities to reflect on weaknesses and overcome them. Moreover, through virtual reality and the creation of ancient, interactive environments, gamification has attempted to bridge the perceived distance students feel when studying civilizations from millennia ago. This "transports" students to ancient Rome, allowing them to hear Latin spoken, and see places and people from Roman civilization.

Gamification also addresses contemporary themes such as gender studies. For example, analyzing women's lives through epigraphic sources, potentially comparing them with documents from other periods up to the present day, demonstrates how both the Latin language and civilization remain relevant. Similarly, while edugames delve into Athenian democracy, they could hypothetically explore the concept of the

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Roman Republic, facilitating diachronic and interdisciplinary learning in Latin studies.

Some projects focus on a deeper understanding of Latin civilization, emphasizing interdisciplinarity to demonstrate the interconnectedness of disciplines, thereby delivering quality education and fostering student motivation. Gamified lessons are also motivating, featuring clear communication and formal reward systems embedded in each session. This increased motivation has helped students become more engaged and productive, enhancing their ability to meet lesson objectives.

Student feedback indicates a preference for greater immersion in virtual learning environments. They note that using Latin in ways similar to video games is enjoyable, enabling them to learn Latin during their leisure time. Examples such as escape rooms foster research, teamwork, active peer cooperation, trial and error, and intrinsic motivation, which are essential for student success. This is particularly crucial in Latin classrooms, where difficulty and a sense of failure dominate, contributing to a steady decline in enrollments.

However, it is important to recognize that while some gamification tools, such as escape rooms, gamified courses, or apps, are accessible and feasible without advanced digital skills or high costs, immersive learning requires more demanding resources. Educational technology and industry, universities, and schools should collaborate. This necessitates well-equipped laboratories, trained educators and teachers, and cooperation among all societal actors involved in student education. Otherwise, effective gamification projects may remain confined to select classrooms or countries and end with the conclusion of experimental phases.

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