Impact of inappropriate mobile phone use on attention span and academic performance in english classes

Gamification as a proposal to strengthen teaching-learning processes with university teachers and students in Cartagena

Impacto del uso inadecuado del teléfono móvil en la capacidad atencional y el rendimiento académico en clases de inglés

La gamificación como propuesta para fortalecer los procesos de enseñanza-aprendizaje con docente y universitarios en Cartagena

Héctor Iván Pacheco López[1]
José Fernando García Benavides[2]
Luis Alberto Lorduy Lorduy[3]

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ABSTRACT

This study analyzes the impact of inappropriate mobile phone use on students' attention span and academic performance during English classes at higher education institutions in Cartagena. Using a quantitative approach with a descriptive and correlational design, surveys were administered to 30 students and 10 English instructors to identify usage patterns, perceptions, and opportunities for pedagogical improvement. Primarily on-academic use of mobile phones primarily related to so cial media and messaging negatively affects sustained attention and reduces academic performance in the classroom, particularly in contexts that demand high levels of concentration, such as foreign language learning. This issue was consistently acknowledged by both students and teachers. Likewise, a strong willingness among students to engage with gamification strategies was observed, while teachers expressed interest in

[1] Attorney graduated from the Universidad Autónoma del Caribe. Holds a diploma as a Judicial Investigator from the Foundation for the Development of Research (FDI). Master's degree in Education, currently a PhD candidate in Law at the Universidad Internacional Iberoamericana (UNINI) in Mexico. Certified Extrajudicial Conciliator in Law by the Liborio Mejía Foundation (FLM). University professor. Former Director of the Legal Aid Clinic and Conciliation Center of the Faculty of Law at the Universidad Antonio José de Sucre (CORPOSUCRE), in partnership with the Fundación Universitaria Antonio de Arévalo (UNITECAR). Former lead professor of the legal research group *"SIN DERECHO, DERECHO, GÉNERO Y JUSTICIA"*, affiliated with the Directorate for Research and Innovation (DI&I). Served as Research Coordinator for the Faculty of Social Sciences (FACS) and former methodological advisor for the research department of the Antonio Nariño Police Academy. Member of the ESANA Research Group in Barranquilla. Former FACS Research Coordinator. Email: hectorivanplopez@gmail.com

[2] Bachelor of Education from the Fundación Universitaria Colombo Internacional (Unicolombo). Master's degree in English Didactics from the Universidad de Caldas. Specialized in Teaching English as a Foreign Language. English language Professor at Universidad de Cartagena and Tweetalig Institute of Fundación Universitaria Antonio de Arévalo (UNITECAR). Experienced translator and transcriber of documents, audio, and video content (Spanish-English / English-Spanish), including subtitling, on freelance platforms. Writer, researcher, project manager, and advisor for both social and academic initiatives. Former freelance Spanish instructor for international students (remotely). Independent tourist guide. Former English Professor at Tecnológico Comfenalco and Centro Colombo Americano in Cartagena. Former high school English teacher at Camino del Coral school in Cartagena. Former teaching assistant at Colegio Montessori and Colegio Perpetuo Socorro in Cartagena. Email: jfgarcia2011@hotmail.com

[3] Abogado egresado de la *Universidad Libre de Colombia*. Especialista en Derecho Contencioso Administrativo de la *Universidad Externado de Colombia* y Magíster en Derecho Administrativo de la *Universidad Libre*. Cuenta con más de diez años de experiencia en el ejercicio jurídico, especialmente en asuntos civiles, administrativos y contencioso administrativos, así como en la asesoría jurídica a entidades públicas y privadas. Posee cinco años de experiencia docente investigador universitaria en el área del Derecho Público, donde ha liderado procesos de enseñanza e investigación con enfoque crítico y metodológico. Sus líneas de investigación se centran en el Derecho Administrativo contemporáneo, la responsabilidad del Estado, la transparencia institucional y la modernización de la gestión pública. Su trabajo académico se orienta hacia la investigación jurídica aplicada, la ética pública y el fortalecimiento del Estado Social y Democrático de Derecho.

adopting such approaches provided, they received appropriate training and resources. This openness suggests a favorable environment for transforming mobile phones from a source of distraction into a valuable educational tool. As a response, the incorporation of gamified activities in the classrooms such as interactive quizzes and vocabulary competitions is proposed, with the goal of redirecting mobile phone use toward pedagogical purposes. In conclusion, gamification emerges as a relevant and effective methodological strategy to enhance attention, participation, and academic performance, thereby strengthening the teaching and learning process in technology-mediated university settings.

Palabras Claves: uso del teléfono móvil; atención académica; rendimiento académico; gamificación; enseñanza del idioma inglés.

RESUMEN

Este estudio analiza el impacto del uso inadecuado del teléfono móvil en la capacidad de atención y el rendimiento académico de los estudiantes durante las clases de inglés en instituciones de educación superior de la ciudad de Cartagena. A partir de un enfoque cuantitativo con un diseño descriptivo y correlacional, se aplicaron encuestas a 30 estudiantes y a 10 docentes de inglés con el fin de identificar patrones de uso, percepciones y oportunidades de mejora pedagógica. Los resultados evidencian que el uso no académico del teléfono móvil, principalmente relacionado con redes sociales y mensajería instantánea, afecta negativamente la atención sostenida y reduce el rendimiento académico en el aula, especialmente en contextos que exigen altos niveles de concentración, como el aprendizaje de lenguas extranjeras. Esta problemática fue reconocida de manera consistente tanto por estudiantes como por docentes. Asimismo, se observó una marcada disposición de los estudiantes a participar en estrategias de gamificación, mientras que los docentes manifestaron interés en adoptar este tipo de enfoques, siempre que reciban la formación y los recursos adecuados. Esta apertura sugiere un entorno favorable para transformar el teléfono móvil de una fuente de distracción en una herramienta educativa valiosa. Como respuesta, se propone la incorporación de actividades gamificadas en el aula —como cuestionarios interactivos y competencias de vocabulario— con el objetivo de reorientar el uso del teléfono móvil hacia fines pedagógicos. En conclusión, la gamificación se perfila como una estrategia metodológica relevante y eficaz para mejorar la atención, la participación y el rendimiento académico, fortaleciendo así los procesos de enseñanza y aprendizaje en entornos universitarios mediados por la tecnología.

INTRODUCTION

In contemporary times, the mobile phone has become firmly established as a technological tool of daily use, indispensable for communication, access to information, and social interaction. Its integration into the daily lives of university students has also transformed classroom dynamics. In the educational context, these devices present a duality: on one hand, they facilitate access to digital resources and the development of technological competencies; on the other, their inappropriate use has become a constant source of distraction that negatively affects sustained attention and academic performance, particularly in subjects that require high levels of concentration, such as foreign language learning.

English classes, by their interactive nature, demand a high degree of participation in oral, listening, and written activities. However, non-academic use of mobile phones during these sessions interferes with attention and comprehension processes, thereby undermining the quality of learning. Recent studies have shown that even the mere presence of the device can reduce information retention and processing capacity (Ward et al., 2017), while in Latin American contexts, excessive mobile use has been directly associated with decreased motivation and poor academic performance (Pérez-Escoda et al., 2020). In Colombia, the Ministry of National Education (MEN, 2022) has emphasized the need to plan and regulate the use of such technologies in the classroom in ways that align with pedagogical objectives.

In Cartagena, a city with a high density of university students and English instructors have expressed concern about the negative impact of mobile phones on class performance. Reports include frequent distractions, difficulties in content comprehension, and low scores on language performance assessments. This situation highlights the urgent need to implement pedagogical strategies that address the challenges of the digital age—not by restricting technology, but by redirecting its use toward educational purposes.

In this context, gamification emerges as a promising didactic alternative. This methodology, which

incorporates playful elements and game mechanics into educational settings, has proven effective in increasing intrinsic motivation, fostering active participation, and reducing digital distractions in the classroom (Sánchez-Mena & Martí-Parreño, 2017; Fernández-Río et al., 2020). By transforming the passive use of mobile phones into an interactive tool, gamification can contribute to enhancing students' attention and strengthening the teaching-learning process in English classes.

It is important to note that in recent years, the use of mobile phones in university contexts has attracted growing interest from the academic community due to its direct impact on students' attention, concentration, and academic performance. Although mobile devices can become allies in learning when used for pedagogical purposes, their inappropriate use during class poses a threat to the quality of the educational process, particularly in settings where high levels of concentration are required, such as in foreign language instruction (García-Sierra & Ramírez-Montoya, 2020).

Various studies have demonstrated that the presence and non-academic use of mobile phones in the classroom impair sustained attention, reduce active participation, and diminish information retention, which negatively affects academic achievement (Yang et al., 2021; Peña-Fernández et al., 2022). In the Colombian university context, this issue has been exacerbated by the widespread access to technological devices without clear regulation governing their classroom use. The Ministry of National Education has stressed the need to promote a conscious and planned integration of mobile technologies in educational environments, encouraging their use for academic purposes while avoiding their distracting potential (MEN, 2022).

In the specific case of English language instruction, the impact of mobile phone use is particularly significant, as these courses require continuous attention and the active practice of language skills (listening, speaking, reading, and writing). Constant interruptions caused by mobile usage diminish the quality of student engagement and hinder the development of communicative competencies (Suárez-Álvarez et al., 2021). This not only affects individual learning outcomes but also limits the achievement of curricular goals at the university level.

Given this scenario, gamification has emerged as an innovative strategy capable of transforming classroom dynamics. Its incorporation into pedagogical processes enhances motivation, reduces inattentiveness, and fosters student engagement (Fernández-Río et al., 2020; Rodríguez-Abitia et al., 2021). Furthermore, by integrating game-based elements—such as rewards, challenges, and immediate feedback—gamification facilitates a more dynamic, participatory, and student-centered educational experience.

The present study is relevant insofar as it addresses a contemporary issue that directly affects academic performance in the university context of Cartagena. Its proposal to integrate gamification strategies aimed at counteracting the effects of inappropriate mobile phone use in English classes seeks not only to improve academic outcomes but also to contribute to the design of more engaging, interactive, and technologically aligned educational environments for today's students.

In addition, the added value of this research lies in its contextual approach and its potential applicability to similar educational settings. The conclusions derived from the study may serve as a foundation for future institutional policies, curriculum designs, and pedagogical proposals that integrate emerging technologies in a critical and transformative manner.

For this reason, the present study proposes a strategic approach aimed at strengthening the teaching-learning process in higher education institutions in Cartagena through the implementation of gamification strategies that address the negative effects of inappropriate mobile phone use. This innovative approach seeks to transform a current challenge into a pedagogical opportunity, enhancing academic performance and promoting dynamic, motivating, and participatory learning environments.

Based on this diagnosis, the following central research question is posed:
How does the inappropriate use of mobile phones affect students' attention span and academic performance in English classes at the university level in Cartagena, and in what ways can gamification strategies improve this process from both teaching and learning perspectives?

Aligned with this research question, the general objective of the study is:

To analyze the impact of inappropriate mobile phone use on attention span and academic performance in English classes among university students in Cartagena, to design gamification strategies that strengthen the teaching-learning process in collaboration with instructors.

The specific objectives guiding this study are:

- To identify the main forms of inappropriate mobile phone use during English classes in university settings.
- To evaluate the relationship between mobile-induced distraction, attention span, and academic performance among students.
- To explore teachers' and students' perceptions of mobile phone use in English language classrooms.

METHODOLOGY

This research adopts a quantitative approach, with a descriptive and correlational scope, and employs a non-experimental, cross-sectional design. This type of study allows for the observation and analysis of phenomena as they occur in their natural context, without manipulating variables, and involves data collection at a single point in time (Hernández Sampieri, Mendoza & Baptista, 2022). The primary objective was to analyze the impact of inappropriate mobile phone use on attention span and academic performance in English classes, as well as to propose gamification strategies aimed at strengthening the teaching-learning process in the university context of Cartagena.

Type and Research Design

According to the classification proposed by Hernández Sampieri et al. (2022), this is a quantitative cross-sectional study, as data were collected at a single moment in time to describe variables and examine potential relationships between them. The non-experimental design is justified by the fact that independent variables were not intentionally manipulated; rather, the phenomenon was observed as it naturally occurs in its institutional and academic setting.

Population and Sample

The target population consisted of undergraduate university students and English language instructors from various higher education institutions in the city of Cartagena. A simple random sampling technique was employed, which, according to Sampieri et al. (2022), provides every member of the population with an equal probability of being selected, thereby ensuring greater objectivity and representativeness.

The final sample included 30 university students and 10 English instructors, totaling 40 participants. This sample size enabled the collection of reliable information regarding behavior, perceptions, and pedagogical practices related to mobile phone use and the potential implementation of gamification strategies in the classroom.

Inclusion Criteria

To ensure the relevance and quality of the information collected, the following inclusion criteria were established:

- Being an active undergraduate student at a university in Cartagena.
- Being an English instructor at a higher education institution.
- Providing informed consent and voluntarily agreeing to participate in the study.
- Having experience with or exposure to mobile phone use in the classroom.
- Willingness to respond completely and honestly to the survey instruments.

SABERES JURÍDICOS

Exclusion Criteria

- Students or instructors not affiliated with the English language area.
- Participants who did not complete all sections of the questionnaire.
- Individuals who voluntarily withdrew from the study.
- Inconsistent or duplicate responses.

Data Collection Techniques and Instruments

Structured survey-type questionnaires were employed to collect data. These instruments were specifically designed for both students and teachers and aligned with the research objectives. Each questionnaire was validated through expert review and structured into four thematic blocks:

1. Mobile phone use in class
2. Perceived impact on attention and academic performance
3. Previous experiences and classroom norms regarding mobile phone use
4. Knowledge and openness toward gamification

This data collection method is common in quantitative educational research, as it allows for the standardized acquisition of information regarding behaviors, beliefs, and perceptions (Creswell & Creswell, 2018).

The questionnaires were administered via digital forms, which facilitated participant access and ensured the confidentiality of their identities. In addition, technical safeguards were implemented to prevent multiple submissions from a single user.

Data Analysis

The data collected were organized into matrices and processed using descriptive statistics (frequencies, percentages, means) and basic inferential statistics, to identify patterns and relationships among the variables studied. Analysis was conducted using SPSS version 25, a widely utilized software in social and educational research due to its robustness in data processing (Pallant, 2020). The correlational approach enabled the identification of links between classroom mobile phone use, sustained attention, and academic performance, as well as how these elements relate to perceptions of gamification as a pedagogical strategy.

Ethical Considerations

This study was conducted in accordance with the ethical principles of respect, confidentiality, and autonomy, as outlined in the Declaration of Helsinki. All participants were assured of the protection of their personal data, the right to withdraw from the study at any time, and that the collected information would be used exclusively for academic purposes. The study involved no physical, psychological, or emotional risk to participants.

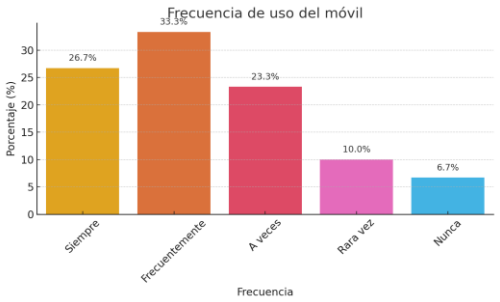
RESULTS

Based on the analysis of the data collected through surveys administered to both students and instructors, the results are presented below, organized according to the three specific objectives of the study. These findings allow for the identification of the main inappropriate uses of mobile phones during English classes, the evaluation of their impact on attention span and academic performance, and the exploration of student and teacher perceptions regarding mobile phone use in the language classroom.

The information gathered provides a solid foundation for understanding the scope of the problem and supports the formulation of pedagogical strategies that incorporate innovative approaches such as gamification.

UNDERGRADUATE STUDENT SURVEY RESULTS

Graphic 1. Frequency of cell phone use



Source: software SPSS – 25th version

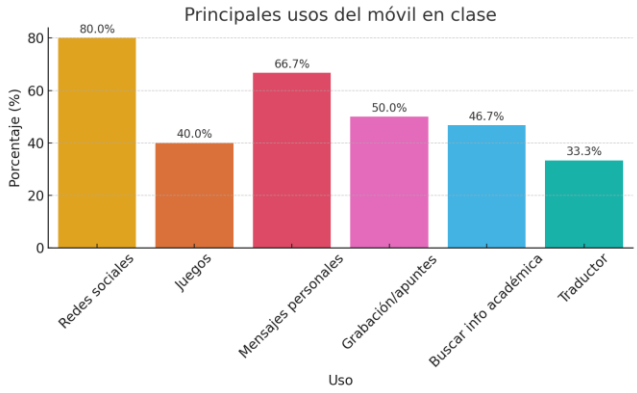
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The high frequency of mobile phone use by 60% of students during English classes evidences a habitual behavior that can significantly interfere with the attentional processes required for effective learning. This recurrent practice reflects not only a momentary distraction but also a behavioral pattern that compromises the quality of the educational experience. In contexts such as foreign language learning—where sustained attention, active listening, linguistic processing, and constant communicative participation are required—non-academic mobile phone use becomes a key disruptive factor.

According to Yang, Zhao, and Ma (2021), the mere presence of the mobile device reduces sustained attention capacity due to its passive cognitive load, even when it is not in active use. This phenomenon has been termed "latent distraction" and is intensified when the student receives notifications, messages, or accesses social media during class. This is further supported by García-Sierra and Ramírez-Montoya (2020), who state that the unplanned use of cell phones in the classroom fragments attentional focus and weakens working memory, affecting the retention of essential academic information.

Moreover, Ward et al. (2017) assert that the proximity of the mobile phone has a direct impact on students' cognitive capacity, decreasing their performance in complex tasks such as reading or listening comprehension in a foreign language. Therefore, this high frequency of use not only reveals poor individual practice but also represents a structural challenge for educational institutions, which must implement innovative pedagogical strategies and clear institutional policies regarding device use in the classroom. This diagnosis reaffirms the need to transform the mobile phone from a source of distraction into a functional pedagogical tool, for example, through gamified strategies that channel its interactive potential toward educational purposes.

Graphic 2. Cell phone use in the classroom. What for?



Source: software SPSS – 25th version

The predominant use of mobile phones for accessing social media (80%) and personal messaging (66.7%) during English classes reveals a concerning disconnect between the educational purpose of the academic setting and students' digital habits. This trend suggests that, far from being employed as a learning support tool, the mobile device is predominantly used for recreational or social purposes, which undermines concentration, reduces pedagogical engagement, and limits academic performance. These findings are consistent with García-Sierra and Ramírez-Montoya (2020), who argue that the unplanned use of mobile technologies in the classroom leads to constant interruptions, fragments sustained attention, and disrupts the cognitive readiness necessary for meaningful learning.

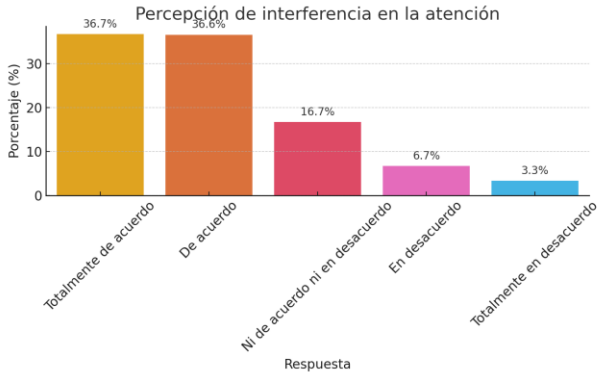
Furthermore, the fact that only 46.7% of respondents reported using their mobile phones to search for academic information indicates a low level of pedagogical appropriation of the digital tool. This highlights a gap between the educational potential of mobile phones and their actual use by students.

According to Bouygues, Gallardo, and Román (2021), this situation is exacerbated when there are no clear guidelines or instructional support regarding the didactic use of mobile phones, leading students to prioritize entertainment over academic engagement. Likewise, studies such as that by Dabbagh and Fake (2020) have noted that when mobile devices are not consciously integrated into

instructional design, their spontaneous use tends to decrease academic motivation and the retention of key content.

Therefore, this usage pattern reinforces the need to implement pedagogical strategies that redirect mobile phone use toward specific academic objectives, promoting interactive activities that integrate technology in a deliberate manner aligned with learning goals. In this regard, gamification can serve as an effective means of transforming a distracting device into a motivating and valuable tool within the classroom.

Figure 3. Perception of attention interference



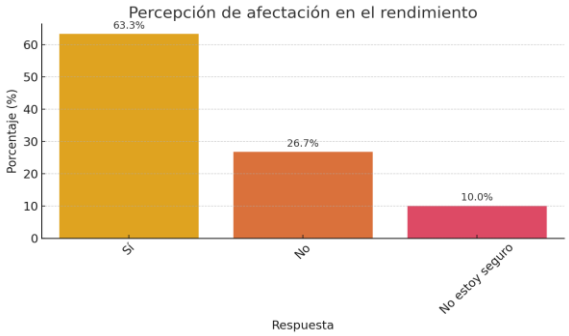
Source: software SPSS – 25th version

A total of 73.3% of surveyed students acknowledged that mobile phone use negatively affects their attention span during English classes, demonstrating a significant level of self-awareness regarding the impact of this practice. This finding is noteworthy not only because it highlights the magnitude of the issue, but also because it suggests the potential to develop pedagogical interventions grounded in that awareness to promote more responsible use of the device. Ward et al. (2017) demonstrated that the mere presence of a mobile phone—even without active use—can lead to a substantial decrease in sustained attention, due to a form of cognitive fatigue caused by the constant need for self-regulation to resist distraction. This phenomenon, known as "cognitive depletion," compromises the student's mental efficiency by limiting their ability to concentrate and deeply process information.

This finding has been further validated by more recent research. For instance, Yang et al. (2021) warn that educational environments in which mobile phone use is neither regulated nor pedagogically mediated tend to generate attentional overload, which hinders reflective and sustained learning—especially in subjects like English that require a continuous combination of receptive and productive skills. In the same vein, Bouygues et al. (2021) assert that the impact of mobile phone use on attention is not solely determined by frequency of use, but also by the nature of the task being performed. The negative effects are greater when activities demand verbal concentration, working memory, and auditory attention, as is the case with foreign language learning.

Therefore, this self-perception of attentional impairment among students can be viewed as an opportunity to introduce methodologies that channel mobile phone use toward educational purposes, such as gamification. Pedagogical strategies that acknowledge this issue and address it through deliberate and well-structured technological tools may help mitigate the device's adverse effects on attention and transform the classroom experience into a more participatory and effective learning environment.

Figure 4. Impact on academic performance



Source: software SPSS – 25th version

The fact that 63.3% of students reported that their academic performance has been negatively affected by mobile phone use in class further reinforces the existence of a negative relationship between inappropriate use of mobile devices and academic

achievement in university settings. This self-perceived impact not only reflects a growing awareness among students regarding the adverse effects of their digital behavior, but also empirically supports the need to rethink current pedagogical strategies employed in the classroom.

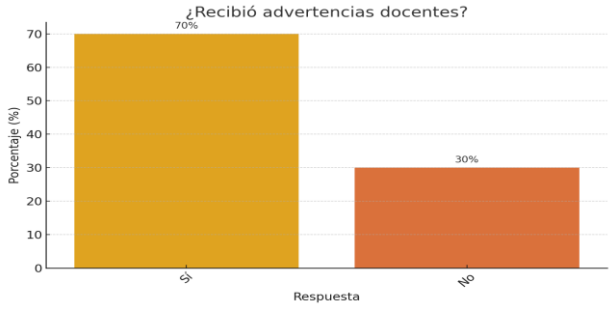
This result aligns with the findings of Peña-Fernández et al. (2022), who identified negative correlations between excessive mobile phone use and academic outcomes among higher education students. According to their study, students who reported longer periods of non-academic phone use during class had significantly lower academic averages, affecting not only their grades but also their levels of comprehension and content retention.

Furthermore, Rosen et al. (2020) warn that constant mobile phone use interferes with long-term memory consolidation, as it fragments attention and reduces the time allocated to deep, focused concentration. This phenomenon is particularly problematic in subjects that demand complex cognitive processes, such as reading comprehension in a foreign language, grammatical analysis, and oral production—all of which are essential pillars of English language learning.

Similarly, Junco (2012), in one of the pioneering studies on this topic, demonstrated that students who engage in non-academic mobile phone use during class time tend to have fewer meaningful interactions with the content and lower levels of participation, which ultimately leads to reduced academic performance. Although Junco's research predates more recent digital trends, its conclusions remain highly relevant and have been corroborated by more recent studies in Latin America, such as those by Sota and Ruiz (2021), which indicate that digital distraction is one of the primary causes of poor academic performance in both hybrid and face-to-face learning environments.

In this regard, the results of the present study highlight a persistent issue: the transformation of the classroom into a space saturated with digital stimuli, many of which are not aligned with the educational purpose. In response, it becomes essential to implement innovative strategies such as gamification, which can redirect mobile phone use toward pedagogical goals, fostering sustained attention, intrinsic motivation, and student engagement in their own learning process (Fernández-Río et al., 2020).

Figure 5. Teacher warnings regarding mobile phone use



Source: software SPSS – 25th version

The fact that 70% of students reported having received warnings from their instructors regarding the inappropriate use of mobile phones during English classes indicates that this issue is not only recurrent but also widely recognized and actively addressed through teaching practices. This figure highlights a significant level of pedagogical intervention, in which instructors attempt to mitigate the negative impact of mobile phones through verbal warnings or disciplinary prompts. However, the high proportion of students who have been warned suggests that these actions alone have been insufficient to change students' technological habits.

These findings are consistent with the guidelines issued by the Ministry of National Education (MEN, 2022), which recommend that higher education institutions develop clear policies and institutional strategies to regulate mobile technology use in the classroom. The goal is to prevent its distracting use while leveraging its pedagogical potential. The MEN emphasizes that such policies should be aligned with learning objectives, previously agreed upon with the academic community, and communicated clearly and systematically at the beginning of each course.

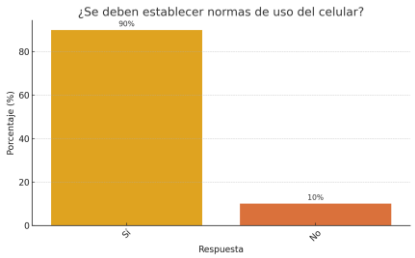
In academic discourse, various studies have emphasized the importance of establishing clear boundaries for mobile phone use in the classroom to preserve attention, maintain the integrity of the

educational dynamic, and support a productive learning environment. For instance, Thomas and Muñoz (2020) underscore that clearly defined and consistently enforced policies, when paired with participatory pedagogical approaches, tend to foster greater student awareness regarding responsible mobile phone use, reduce disruptive behaviors, and promote a more positive attitude toward class engagement.

Likewise, Pérez-Escoda et al. (2020) argue that the establishment of clear rules not only reduces non-academic mobile use but also contributes to the creation of more collaborative learning environments, where students come to view boundaries as part of a didactic agreement that enhances their academic performance. This perspective suggests that beyond issuing isolated warnings, it is necessary to implement preventive institutional strategies, consensual classroom rules, and self-regulation mechanisms that actively engage both instructors and students.

Thus, the results of this study reinforce the idea that mere recognition of the problem by instructors is not sufficient to resolve it, and that a structured institutional response is required—one that includes educational policies adapted to the contemporary digital context. In this regard, gamification emerges as a promising strategy, as it enables the redirection of mobile phone use toward specific pedagogical objectives, thereby reducing its distracting nature and enhancing student engagement in the learning process (Sánchez-Mena & Martí-Parreño, 2017).

Figure 6. The Need to Establish Clear Guidelines



Source: software SPSS – 25th version

The fact that 90% of surveyed students consider it important to establish clear guidelines regarding mobile phone use in class constitutes a key finding, as it reflects a widespread critical awareness and a collective willingness to embrace change. This attitude not only indicates a recognition among students of the negative consequences of improper device use but also opens a window of opportunity to build pedagogical consensus that integrates regulation with the responsible use of technology in the classroom.

This broad student consensus can facilitate the implementation of self-regulation strategies, co-created norms, and institutional agreements that do not impose arbitrary restrictions, but rather align with the aims of the educational process. According to the Ministry of National Education (MEN, 2022), higher education institutions should promote clear guidelines on the use of technological tools in the classroom, integrating them into institutional regulations while also adapting them to the specific dynamics of each academic program.

From an academic perspective, Cabero-Almenara and Llorente-Cejudo (2020) argue that when students actively participate in the creation of techno-pedagogical norms, their internalization and adherence to those norms significantly increases. Students tend to view such guidelines not as restrictions imposed but as shared responsibilities that support their own learning process. Moreover, the explicit establishment of agreements regarding mobile phone use can reduce normative ambiguity and prevent conflicts between teachers and students, thereby improving the classroom climate.

Similarly, Thomas and Muñoz (2020) emphasize that the existence of clear and consistent policies on mobile device use in class contributes to reducing disruption, enhancing attention, and improving academic outcomes. In this regard, widespread acceptance of such policies becomes a key element in transforming the mobile phone from a source of distraction into an effective didactic tool, particularly when integrated into active methodologies such as gamification.

Therefore, the high percentage of students who view these regulations as necessary not only validates the urgency of their implementation, but also encourages teachers and institutions to design collaborative, flexible, and autonomy-oriented

regulatory frameworks. As a result, it is suggested that such policies go beyond prohibition and focus instead on promoting students' digital literacy, guiding them toward a conscious, academic, and productive use of mobile phones as educational support tools in the classroom (García-Sierra & Ramírez-Montoya, 2020).

Figure 7. Awareness of gamification



Source: software SPSS – 25th version

A total of 80% of surveyed university students stated that they are familiar with the concept of gamification, which constitutes a strong and promising foundation for the implementation of active learning strategies based on this methodology. This prior familiarity with the term suggests that students have not only been exposed to gamified environments—whether in educational or technological contexts—but also possess a functional understanding of their dynamics, thereby facilitating the adoption of such strategies in the classroom.

According to Sánchez-Mena and Martí-Parreño (2017), prior knowledge of gamification and its mechanics (points, levels, rewards, immediate feedback) increases the effectiveness of its educational application, as students more readily understand the rules of the game, feel more motivated to participate, and engage more actively in the learning process. This positive predisposition toward gamification can also help reduce student resistance to methodological change, easing the transition from a traditional instructional model to more interactive and learner-centered approaches.

In recent studies, Fernández-Río et al. (2020) assert that when gamification is applied to students already familiar with digital tools and game dynamics, it not only enhances intrinsic motivation, but also strengthens key competencies such as collaboration, problem-solving, and self-directed learning. In contexts where mobile phones have been perceived primarily as sources of distraction, this strategy emerges as an effective alternative to reframe their use and convert them into meaningful didactic tools.

Moreover, in the Latin American context, Contreras et al. (2022) emphasize that current generations of students—especially at the higher education level—possess high levels of technological competence and a natural inclination toward playful and interactive environments. As such, gamification represents a relevant avenue for channeling that potential toward educational goals. The implementation of gamified strategies may even foster a shift in students' perception of mobile phone use in class, transforming the device from a distracting element into a tool that stimulates engagement, attention, and academic performance.

In summary, the high percentage of students who report understanding what gamification is not only legitimizes its use in the university setting but also paves the way for the design of innovative, contextualized, and student-centered pedagogical proposals that respond to the current challenges of foreign language learning in increasingly digitalized learning environments.

Figure 8. Student Interest in Gamification for English Classes



Source: software SPSS – 25th version

A total of 86.7% of students expressed interest in integrating gamified activities into English classes,

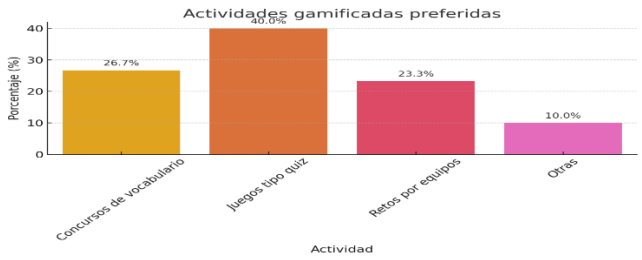
reflecting a clear willingness among learners to embrace active and innovative methodologies that incorporate game-based dynamics into the educational process. This finding is highly significant, as it validates the pedagogical feasibility of introducing gamification not merely as a complementary resource, but as a methodological core capable of transforming mobile phone use from a source of distraction into a meaningful learning tool.

This trend is consistent with the arguments presented by Fernández-Río et al. (2020), who assert that gamification, by combining playful elements with clear pedagogical objectives, supports sustained attention, increases intrinsic motivation, and fosters active student engagement in environments where technology is an integral part of daily life. In subjects such as English, which demand constant participation in listening, speaking, reading, and writing activities and gamified dynamics help maintain student interest and reduce distractions caused by non-academic mobile phone use.

Likewise, Torres-Toukoumidis et al. (2021) emphasize that in university contexts characterized by high levels of digital exposure, the implementation of gamified strategies not only improves academic performance indicators, but also enhances collaborative learning, communicative competence, and content retention. In this regard, the widespread student willingness to incorporate such activities reflects a positive perception of methodologies that integrate technology, participation, and enjoyment—key components for achieving meaningful learning.

The Ministry of National Education (MEN, 2022) has also stressed the importance of adopting innovative pedagogical practices that respond to the digital realities of contemporary students, highlighting gamification as one of the tools that can support the development of 21st-century skills. Within this framework, the interest expressed by students represents an opportunity for instructors to redesign their classes to be more engaging, participatory, and aligned with students' technological habits. In summary, this finding reaffirms that the introduction of gamified activities in English language instruction is not only relevant, but also highly desired by a large majority of students, thereby reinforcing the potential of its implementation as a strategy to transform the relationship between learners, mobile phones, and the teaching-learning process.

Figure 9. Preferred gamified activities



Source: software SPSS – 25th version

The most appealing activities for students are Kahoot-style quizzes (40%) and vocabulary contests (26.7%), revealing a clear preference for playful, competitive, and interactive dynamics within the learning environment. This inclination is particularly significant in the context of English language classes, where interaction, immediate feedback, and active content repetition are essential for the development of linguistic competencies. Since these are technology-based tools compatible with mobile phones, such dynamics enable the device to be repurposed as a pedagogical mediator, reducing its distracting use and fostering meaningful learning. This finding can be interpreted through the lens of Rodríguez-Abitia et al. (2021), who argue that gamified activities involving competition mechanics and real-time feedback, such as digital quizzes, promote active learning, enhance intrinsic motivation, and decrease levels of distraction. In this sense, incorporating resources such as Kahoot, Quizizz, or vocabulary challenges not only sustains student interest but also encourages continuous and mindful participation throughout the class.

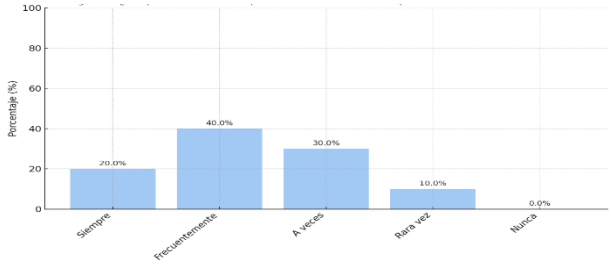
Moreover, González et al. (2020) point out that quiz-based gamified platforms stimulate quick thinking, working memory, and real-time decision-making—key cognitive skills in language acquisition. These activities also provide instructors with immediate feedback on student comprehension levels,

enabling them to adjust the pace or pedagogical approach accordingly.

Additionally, the competitive component of these activities can be leveraged to foster collaboration and the collective construction of knowledge, particularly when structured as team-based challenges. According to Domínguez et al. (2019), such approaches enhance group cohesion and develop soft skills such as teamwork, effective communication, and time management, all of which are equally important in the university setting. Ultimately, this student preference presents a clear opportunity to design gamification strategies that not only align with students' interests but also support the academic objectives of the English class. Through these tools, it becomes possible to integrate mobile phone use into active methodologies that enhance both academic performance and student engagement in the classroom.

Teacher's Survey: Mobile Phone Use in English Language Classes

Figure 10. How often do you observe students using mobile phones for non-academic purposes during class?



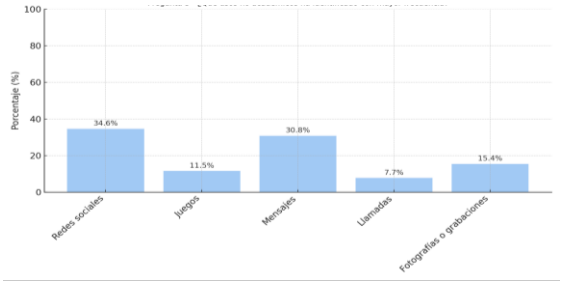
Source: software SPSS – 25th version

The majority of teachers (60%) reported that they frequently observe students using mobile phones for non-academic purposes during class, suggesting that this behavior is both recurrent and widespread among university students. This teacher perception reflects a persistent issue within current teaching and learning environments, where the presence of mobile phones has become ubiquitous, even in settings designed to promote concentration and the development of complex cognitive skills. García-Sierra and Ramírez-Montoya (2020) warn that such constant exposure to digital stimuli directly disrupts students' attentional flow, leading to a gradual disengagement from academic content and weakening the pedagogical bond between teacher and student.

From a neurocognitive perspective, Medina and Domínguez (2022) note that mobile devices activate the brain's immediate reward systems, which hampers the ability to remain focused on tasks requiring sustained attention, such as listening to an explanation or completing exercises in a foreign language. This intermittent behavior contributes to the fragmentation of the educational experience, reducing the effective time spent learning in the classroom. In this regard, the frequency with which instructors observe these distractions not only reflects a common practice but also highlights a lack of effective institutional mechanisms to regulate its impact.

Moreover, studies such as that of Díaz-Aranda et al. (2021) have found that institutional permissiveness or the absence of clear normative agreements regarding mobile phone use in class increases students' perception of technological freedom, which reinforces inappropriate use and normalizes distraction. Thus, the recurrence of this behavior should not be interpreted merely as an individual student choice, but rather as a complex phenomenon requiring structured pedagogical and institutional responses—such as gamification strategies, collaboratively established regulations, and the intentional integration of mobile technologies into the academic curriculum.

Figure 11. What non-academic uses have you most frequently identified?



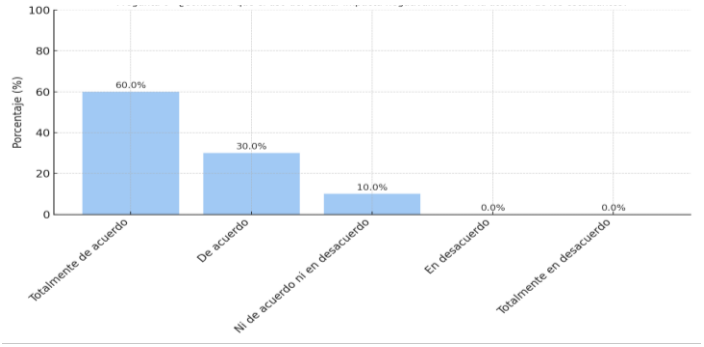
Source: software SPSS – 25th version

Teachers identified the use of social media (34.6%) and personal messaging (30.8%) as the most frequent non-academic uses of mobile phones during class, indicating a clear trend toward digital distraction in the university setting. This evidence reinforces the findings of Yang et al. (2021), who emphasize that social networks and instant messaging services—designed with constant feedback algorithms—activate immediate reward mechanisms in the brain, such as dopamine release, potentially leading to compulsive checking habits and digital dependency.

This dependency directly affects students' ability to sustain attention, fragmenting their focus and reducing their cognitive engagement with classroom tasks. According to Tur-Porcar and Córcoles-Muñoz (2022), the repeated use of mobile phones for non-academic activities during class constitutes a form of digital multitasking which, rather than improving efficiency, diminishes performance and working memory. This is particularly problematic in subjects such as English, where learning depends heavily on auditory attention, reading comprehension, and active participation.

Furthermore, studies such as García-Sánchez and González-Fernández (2023) highlight that these practices not only affect academic performance but also disrupt pedagogical interaction between teacher and student, leading to more passive classroom environments, reduced feedback, and a weakened sense of academic community. Thus, the identification of these behaviors by instructors not only reveals an individual pattern of conduct but also raises a broader institutional concern about the urgent need to design strategies that integrate mobile phone use with pedagogical purposes—limiting its distracting function through the use of gamification, active virtual learning environments, and classroom regulatory agreements.

Figure 12. Do you consider that mobile phone use negatively impacts student attention?



Source: software SPSS – 25th version

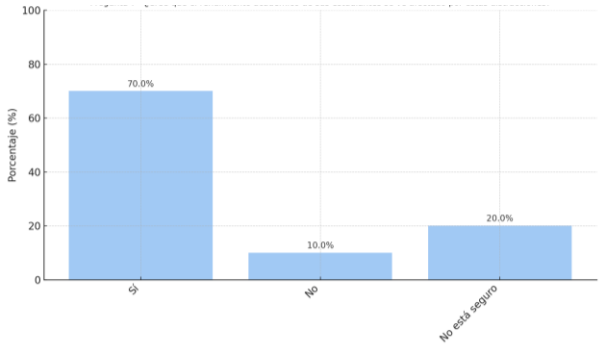
90% of surveyed instructors strongly agreed that mobile phone use in the classroom negatively affects students' attention. This broad consensus among faculty members reveals not only a clear perception of the issue, but also a shared pedagogical experience that underscores the magnitude of technological distraction as a barrier to the teaching and learning process. This perception is supported by empirical research such as that of Ward et al. (2017), who demonstrated that even the mere presence of a mobile phone—without it being actively used—undermines students' cognitive performance by reducing their sustained attention, working memory, and processing speed. The authors referred to this phenomenon as "cognitive depletion," since the brain remains in a passive alert state in response to the device, consuming mental resources essential for effective learning.

Additional studies support this view. For instance, Mendoza et al. (2021) found that mobile phone use in the classroom is associated with a significant reduction in concentration levels, particularly in educational settings where tasks involve high cognitive demand—such as language learning classes. This impairment manifests in disrupted continuity of activities, interruptions in comprehension, and poor information retention, which negatively affects both the quality of learning and the classroom climate.

From a neuroeducational perspective, scholars such as Ramírez-Montoya and Navarro-Torres (2022) explain that attention is a limited cognitive resource,

and when it is divided between tasks—such as listening to the teacher and checking notifications—interference occurs, preventing deep learning. Consequently, the concern expressed by instructors is not only justified but should also be regarded as a crucial input for redefining didactic methodologies in digitalized educational contexts. This redefinition should promote strategies that integrate mobile phone use pedagogically, such as gamification or challenge-based learning, in order to transform a distracting element into a meaningful educational tool.

Figure 13. Do you believe your students' academic performance is affected by these distractions?



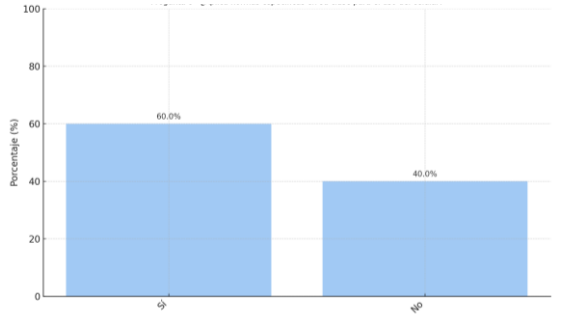
Source: software SPSS – 25th version

70% of the instructors surveyed believe that mobile phone use directly affects students' academic performance. This perception reinforces empirical evidence regarding the negative impact of inappropriate mobile phone use in educational settings—particularly in fields such as foreign language instruction, which demand sustained attention, auditory processing, and active participation. In line with this perspective, Peña-Fernández et al. (2022) reported a significant negative correlation between excessive mobile phone use during class and academic achievement, especially among university students. According to their findings, constant engagement with mobile devices for non-academic purposes leads to diminished learning quality, disrupts the continuity of cognitive activities, and is associated with lower academic grades.

Furthermore, studies such as those by Mendoza-González et al. (2021) confirm that students who use their mobile phones during class for non-educational purposes exhibit higher levels of disorganization, distraction, and academic anxiety, all of which directly impact their performance. This situation is particularly critical in subjects such as English, where learning requires the progressive development of linguistic skills—listening, speaking, reading, and writing—which demand full concentration. In this regard, Huang et al. (2020) explain that digital multitasking, encouraged by simultaneous mobile phone use during lessons, fragments students' attention and reduces their ability to complete tasks effectively, thereby hindering the achievement of learning objectives.

From the instructor's standpoint, the link between mobile phone use and poor academic performance represents not only a methodological obstacle, but also an institutional challenge. The need to implement clear policies regarding mobile phone use in the classroom becomes evident, as does the urgency to design pedagogical strategies that incorporate mobile technologies with an educational purpose—such as gamification, collaborative learning, and the controlled use of educational apps. Only through a conscious and pedagogically structured approach can the negative effects—acknowledged by the majority of university instructors—be effectively mitigated.

Figure 14. Do you apply specific rules in your class regarding mobile phone use?



Source: software SPSS – 25th version

60% of the instructors surveyed reported that they apply specific rules regarding mobile phone use in their classes, reflecting an individual and proactive

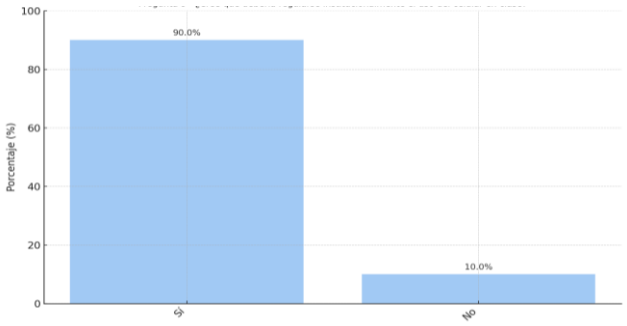
effort to regulate students' technological behavior within the classroom. This teacher-led initiative highlights a growing concern with mitigating the negative effects associated with improper mobile phone use—such as distraction, reduced academic performance, and fragmented attention. However, such self-regulation at the individual level is not always sufficient or sustainable in the long term, especially when it lacks the support of a coherent and widely adopted institutional framework.

In this regard, the Ministry of National Education (MEN, 2022) has recommended the development of institutional guidelines to direct the pedagogical use of mobile technologies in educational settings. These policies should emerge from a collaborative approach involving instructors, administrators, and students, with the goal of establishing mutual agreements around responsible device use—promoting their integration for academic purposes while discouraging distracting behavior. The absence of unified regulations can lead to disparities in how technological conduct is managed, resulting in ambiguity that students may interpret as permissiveness or a lack of authority, ultimately weakening classroom management.

Multiple studies support the need for institutional regulation. For example, Ríos-Hernández and Salas-Herrera (2020) argue that when educational institutions implement clear protocols for mobile phone use, school coexistence improves, learning interruptions decrease, and the pedagogical integration of technology becomes more effective. Similarly, López-Zapata et al. (2021) highlight that institutions with established digital conduct codes achieve greater cohesion in technology-mediated teaching and learning processes, as students clearly understand the boundaries and intended purposes of mobile phone use in the classroom.

Therefore, while individual teacher efforts represent a valuable first step toward regulation, it is essential to progress toward the formulation of consistent institutional policies that align pedagogy with the development of responsible digital competencies and foster an educational culture grounded in the conscious use of technology.

Figure 15. Do you believe mobile phone use should be regulated institutionally in class?



Source: software SPSS – 25th version

Most surveyed instructors (90%) agreed that there should be institutional regulations of mobile phone use in the classroom, which reveals a widespread and shared need for clear normative guidelines to direct this practice. This consensus among education professionals underscores the urgency of establishing institutional policies to appropriately manage the presence of mobile devices during class sessions—particularly in areas such as English language instruction, where sustained attention and active participation are essential for meaningful learning.

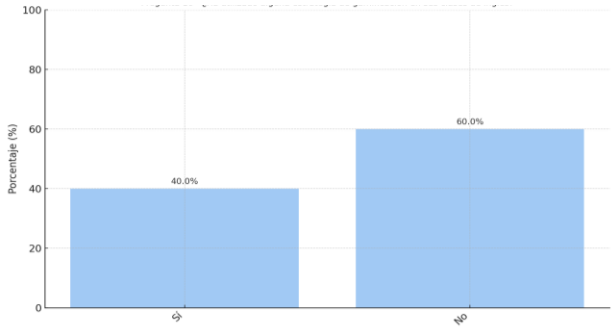
This finding aligns with the recommendations of the Ministry of National Education (MEN, 2022), which emphasizes the importance of a planned and pedagogically intentional use of mobile technologies. The MEN suggests that educational institutions should foster school-wide agreements that define explicit norms for mobile phone use, specifying when, how, and for what purposes these devices may be used in the classroom. Such an approach not only reduces distractions but also enables the transformation of the mobile phone into a tool that supports the educational process.

From a theoretical standpoint, multiple studies support the need for institutional regulation. According to Sánchez et al. (2021), the implementation of school policies on digital technology use contributes to reducing disruptive behavior and improves classroom coexistence. Likewise, Ramírez-Montoya and García-Peñalvo

(2020) assert that clear regulation aligned with curricular goals strengthens institutional pedagogical culture and enhances teachers' perception of control, thereby facilitating more effective classroom management oriented toward learning.

In sum, the high percentage of instructors advocating for formal regulation reflects a pressing need to move toward institutional frameworks that not only restrict the inappropriate use of mobile phones, but also promote their strategic integration into educational practices, encouraging responsible, regulated, and pedagogically aligned use within the context of higher education.

Figure 16. Have you used any gamification strategies in your English classes?



Source: software SPSS – 25th version

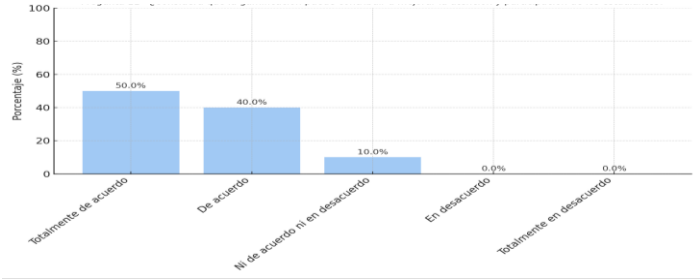
Only 40% of surveyed instructors reported having implemented gamification strategies in their classes, indicating that—despite the growing dissemination of the concept—a significant gap still exists between the theoretical understanding of these methodologies and their practical application in educational settings. This disconnect can be partially attributed to the lack of specialized training in the design and implementation of gamified dynamics, as well as limited access to institutional support or resources that encourage their use in the classroom.

Sánchez-Mena and Martí-Parreño (2017) emphasize that the success of gamification in educational contexts is closely tied to teacher training. According to these authors, the pedagogical appropriation of game elements requires educators to understand both the motivational principles behind gamification and the technological tools that facilitate it. Without this foundation, the risk is a superficial implementation that fails to significantly impact students' attention, engagement, or academic performance.

Fernández-Río et al. (2020) add that while many instructors acknowledge the potential of gamification, they often feel unprepared to apply it due to a lack of methodological guidance. Similarly, Ramírez-Montoya and Mendoza (2018) argue that the successful integration of innovative methodologies such as gamification depends on the presence of institutional ecosystems that promote educational innovation, as well as on the development of digital competencies among faculty.

Consequently, the fact that fewer than half of instructors have implemented gamified strategies highlights the urgent need to develop continuous professional development programs that build teacher confidence, enhance technical proficiency, and strengthen pedagogical approaches—ensuring that active methodologies such as gamification are effectively integrated into the curriculum and tailored to the needs of the student population.

Figure 17. Do you believe gamification can contribute to improving student attention and participation?



Source: software SPSS – 25th version

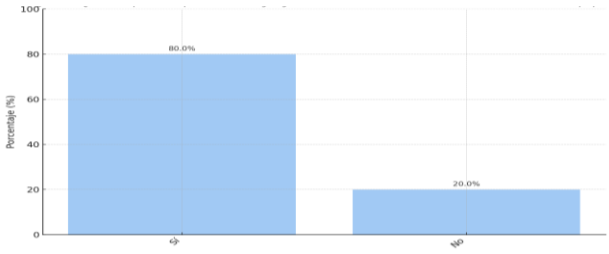
Fifty percent of surveyed instructors indicated that they strongly agree, and another 40% agreed, that gamification enhances student attention and participation. Only 10% remained neutral, expressing no clear stance. These results reflect a broadly positive perception of gamification's pedagogical potential, demonstrating a favorable evaluation by educators of its impact in the

classroom. This trend aligns with the findings of Fernández-Río et al. (2020), who empirically demonstrated that incorporating playful elements into the teaching process fosters higher levels of student engagement, reduces distractions—particularly those related to non-academic mobile phone use—and promotes a more active and meaningful educational experience.

Similarly, scholars such as Deterding et al. (2019) argue that gamification exerts a motivational effect by channeling students' attention toward specific goals through interactive dynamics, generating a sense of achievement and competence that enhances focus. In university contexts—where mobile phone use often constitutes a persistent source of distraction—repurposing the device as an active learning tool through game mechanics can reverse its negative effects and extend sustained attention spans (Domínguez et al., 2020).

Moreover, studies like that of Alsawaier (2021) highlight that gamified environments diversify opportunities for participation, benefiting students with varying learning styles and motivational levels. Therefore, the strong support expressed by most instructors not only empirically validates the usefulness of gamification but also opens the door for its institutionalization as a strategy to counteract the adverse effects of improper mobile phone use and to reinforce active participation in English language classes.

Figure 18. Would you be willing to implement gamification strategies in your classes if you had appropriate training or tools?



Source: software SPSS – 25th version

A high percentage of the surveyed faculty (80%) expressed their willingness to implement gamification strategies in their English classes, provided they receive adequate training and access to the necessary tools. This finding reveals a receptive attitude among educators toward pedagogical innovation, creating a favorable environment for the design of game-based educational interventions. Teacher readiness is a critical factor for the successful implementation of any methodological shift, as instructors serve as the bridge between theoretical proposals and their practical application in the classroom.

Rodríguez-Abitia et al. (2021) argue that instructor predisposition is a decisive element in the success of gamification, as its implementation requires specific skills for adapting content, managing digital tools, and fostering active student engagement. Similarly, Sánchez-Mena and Martí-Parreño (2017) emphasize that training in gamified methodologies should be integrated into professional development programs, given that many educators, despite their interest, lack the technical knowledge needed to effectively incorporate game-based dynamics into their teaching practice.

This result aligns with the recommendations of the Ministry of National Education (MEN, 2022), which advocates for the responsible integration of emerging technologies into the classroom through institutional plans for ongoing professional training. In this regard, gamification should not be regarded as a fleeting trend, but rather as a pedagogically grounded strategy that, when understood and applied effectively by educators, can transform the mobile phone from a source of distraction into a formative educational tool. Therefore, the expressed willingness of 80% of the faculty represents a significant institutional opportunity to strengthen teacher competencies in active methodologies, thereby enhancing the quality of the teaching and learning process in higher education settings.

DISCUSSION

The findings of this study reveal a growing and widespread issue in higher education: the inappropriate use of mobile phones during class,

particularly in subjects such as English, which demand a high level of concentration, active participation, and continuous linguistic processing. This disruptive practice directly interferes with sustained attention, meaningful comprehension, and students' academic performance, resulting in fragmented learning environments with low levels of engagement.

The empirical evidence gathered supports the conclusions of previous research (Ward et al., 2017; García-Sierra & Ramírez-Montoya, 2020), which demonstrates that even the mere presence of a mobile device can reduce available cognitive capacity by activating passive distraction mechanisms and consuming attentional resources. This phenomenon, known as "cognitive depletion," compromises learning effectiveness—even when students are not actively using their phones.

Despite teachers' efforts to address the issue through verbal warnings and classroom rules, the results indicate that isolated actions are insufficient. Thus, there is a pressing need to implement more comprehensive structural and pedagogical solutions that do not merely prohibit mobile phone use but instead redirect it toward educational purposes.

Within this context, gamification emerges as an effective, relevant, and widely supported pedagogical strategy. 86.7% of students expressed interest in incorporating gamified activities into their English classes, and 80% of instructors indicated a willingness to adopt such strategies, provided they receive appropriate training and resources. This convergence presents a crucial opportunity to transition from traditional methodologies toward more active, participatory, and innovative approaches.

Students' familiarity with digital environments and game-like dynamics facilitates the implementation of these strategies, increasing intrinsic motivation and promoting meaningful learning. However, the study also identifies a gap between the theoretical understanding of gamification and its practical application in the classroom. This underscores the urgent need for teacher training programs, institutional support, and curriculum design that integrates active methodologies with responsible technology use. Only then will it be possible to transform the mobile phone from a source of distraction into a pedagogical ally capable of enhancing attention, participation, and academic achievement.

CONCLUSIONS

The results of this research confirm that the inappropriate use of mobile phones in university settings—particularly during English classes—significantly undermines the quality of the teaching and learning process. The high frequency with which students use their phones for non-academic purposes, such as accessing social media or sending personal messages, directly interferes with their ability to sustain attention, reduces active participation, and negatively impacts academic performance. This issue is acknowledged not only by students themselves, who express awareness of the consequences of their digital habits, but also by instructors, who voice concern over students' declining concentration and the weakening of formative processes in the classroom.

Nevertheless, this scenario also presents opportunities for substantial improvement. The data reveals that students are open and receptive to the implementation of gamification strategies, which suggests a genuine interest in active, interactive, and technologically adapted methodologies. Similarly, instructors express a positive disposition toward adopting such strategies, as long as they have access to adequate training, institutional resources, and technical support. This alignment between both educational stakeholders creates fertile ground for rethinking pedagogical practices and reimagining the mobile phone as a learning tool.

In this sense, it can be concluded that gamification is a viable, relevant, and effective pedagogical alternative to counteract the negative effects of non-academic mobile phone use in the classroom. Strategies such as digital competitions, interactive quizzes, team-based challenges, reward systems, and immediate feedback not only improve students' attention and engagement but also foster a more participatory, motivating, and meaningful educational environment. These methodologies

allow educators to channel the potential of mobile devices toward activities that stimulate essential cognitive, social, and communicative skills for academic development in English language instruction.

Therefore, it is recommended that higher education institutions develop clear, context-sensitive, and consensual policies regarding mobile phone use in the classroom, not only to prohibit distracting behaviors but also to strategically promote their pedagogical integration. Likewise, it is essential to design continuous teacher training programs that strengthen educators' competencies in active methodologies, gamification, and the management of educational technologies, ensuring effective and sustainable implementation over time.

Ultimately, transforming the mobile phone from a distractor into a learning mediator requires an institutional vision committed to educational innovation, an empowered and well-trained teaching staff, and a co-responsible student body capable of taking ownership of their learning process. Only through this collaborative effort will it be possible to build learning environments that align with the demands of the 21st century—where technology is used with pedagogical intent, ethical awareness, and transformative purpose.

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