

Native knowledge to the English classroom: the role of gamification

Samuel Mateo García Sanchez, Mariana Henao Saldarriaga, Valentina Pineda Rojas.

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Facultad de Educación y Humanidades

Universidad Católica Luis Amigó.

Maestro Investigador VI.

Claudia Marcela Suescún Giraldo.

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## **Abstract**

This research explored integrating Emberá Chamí Indigenous knowledge into Colombian EFL classrooms through gamification; in doing so, it aimed to boost cultural awareness. It was conducted as action research within a Medellín university English seedbed. This study involved 12-14-year-olds, and it used qualitative methods under an interpretive paradigm, capturing subjective experiences. Likewise, it highlighted incorporating Indigenous perspectives to foster intercultural competence, a key but underdeveloped goal in Colombian education. To this end, gamification served as an innovative strategy, using game elements to enhance motivation, engagement, empathy, and collaboration. Data from interviews and classroom observations assessed how gamified materials impacted students' understanding and appreciation of Emberá Chamí culture. As a result, findings suggest gamification effectively promotes cultural awareness through immersive experiences. Therefore, this offers educators insights for bridging cultural gaps and enriching language teaching by integrating native knowledge and technology.

**Keywords:** *Indigenous Knowledge, Second Language Instruction, Cultural values, Gamification.*

## **Resumen**

Esta investigación exploró la integración del conocimiento indígena Emberá Chamí en las aulas colombianas de inglés como lengua extranjera (EFL) a través de la gamificación; al hacerlo, su objetivo fue impulsar la conciencia cultural. Se realizó como investigación acción dentro de un semillero de inglés de una universidad de Medellín. El estudio involucró a jóvenes de 12 a 14 años y utilizó métodos cualitativos bajo un paradigma interpretativo, capturando experiencias subjetivas. Asimismo, destacó la incorporación de perspectivas indígenas para fomentar la competencia intercultural, un objetivo clave pero subdesarrollado en la educación colombiana. Con este fin, la gamificación sirvió como una estrategia innovadora, utilizando elementos del juego para mejorar la motivación, el compromiso, la empatía y la colaboración. Los datos de las entrevistas y las observaciones en el aula evaluaron cómo los materiales gamificados impactaron la comprensión y

apreciación de los estudiantes de la cultura Emberá Chamí. Como resultado, los hallazgos sugieren que la gamificación promueve eficazmente la conciencia cultural a través de experiencias inmersivas. Por lo tanto, esto ofrece a los educadores conocimientos para cerrar las brechas culturales y enriquecer la enseñanza de idiomas mediante la integración del conocimiento nativo y la tecnología.

***Palabras clave:** Conocimientos indígenas, Enseñanza de una lengua extranjera, Valor cultural, Gamificación*

## **1. Introduction**

### **1.1 Statement of the Problem**

Despite Colombia's vast cultural heritage, educational practices often overlook the voices and knowledge of Indigenous communities. This gap is particularly evident in foreign language education, where the integration of Indigenous perspectives has been minimal. This research underscores the critical need to raise cultural awareness about Indigenous communities through gamification. Conducted within a university seedbed as an action research project, the study involved teenage participants and sought to explore innovative, culturally responsive approaches to English language learning. By centering Indigenous knowledge and perspectives, this research not only contributes to a more inclusive educational framework but also offers valuable insights for the field of foreign language education in Colombia, where intercultural competence remains a pressing and underdeveloped goal.

### **1.2 Literature Review**

Based on the literature analysis, indigenous knowledge is a concept that does not have a single definition. For instance, Mistry, et al., (2020) describe indigenous knowledge as “the vehicle through which the principles of Indigenous worldviews, beliefs, traditions, practices, and institutions are put into practice.” Moreover, depending on the author,

indigenous knowledge has also been conceived as native knowledge. Romero (2005) defines native knowledge as "a secure knowledge, immutable in time, transmissible, reproducible by generational learning, an experiential knowledge, with which affective and dispositional commitments can be established". In sum, indigenous knowledge or native knowledge can be understood as a secure, timeless wisdom transmitted through generations impacting an individual's worldviews and beliefs.

Many authors have considered indigenous knowledge as an important topic in both social and educational contexts (Chaudhuri, B. 2015; Senanayake 2006; Newhouse 2015; Sen, 2005; McGregor, 2004; Silva, Pereira, & Amorim, 2023; Ebhuoma 2024). Indigenous knowledge impacts society in the way it contributes to nature conservation. As a case in point, Ebhuoma (2024) affirms that "by preserving nature, Indigenous knowledge supports long-term ecosystem stability by avoiding overexploitation of natural resources. This is crucial to preserving their cultural heritage and promoting a strong sense of environmental stewardship". Furthermore, native knowledge impacts education in several manners, especially in the way institutions acknowledge cultural differences. According to the Common European Framework for References (Council of Europe, 2001), one fundamental objective of education is to foster intercultural recognition in the classroom in order to promote the favorable development of students' personalities and sense of identity (p.16). In this sense, Ramírez (2020) states that indigenous knowledge can contribute to an equitable, quality, and dialogic education that recognizes the ancestral knowledge of indigenous people, for good living in balance and harmony with Mother Nature and themselves. Therefore, considering indigenous knowledge as a crucial matter could have a positive impact in society and promote cultural awareness in education.

Innovative approaches such as gamification could be a good learning strategy to promote cultural awareness in education. As highlighted by Alonso (2019) gamification in education incorporates the way a game is played and its elements in order to attain certain aspects; these include features such as concentration, effort, motivation, and collaborative work. SITAS (2017) stated that a gamification characteristic that is quite common is when game stories are compelling; even if they are not close to the player's experience, a short of emotional bond, tied to the game and the gaming community is activated. The player

identifies himself inside the game. In other words, the game is converted into an extension of our own perspective, giving us the choice to speak through it, through an avatar for example. Thus, playing a game means interacting with and within a representational universe, a space of possibility with narrative dimensions (Salen & Zimmerman, 2004, p. 378). Hence, it is possible to cultivate empathy and intercultural understanding. In fact, Adachi, et al., (2015) concluded that video games can be used to boost empathy, outgroup knowledge and, above all, reduce prejudice toward outgroups. In short, gamification represents several advantages that can be useful in promoting cultural awareness through individual and collaborative work in order to develop the recognition of oneself and one's environment.

Regarding studies in the global context, Reihana et al., (2019) created a game fusing basic ecological concepts with indigenous Maori knowledge to provide a holistic view of the environment. This study was conducted in New Zealand and its results show that 90% of the students found their game entertaining, while 65% reported new knowledge acquisition. Their challenge in reversing the disconnection between their youth and the natural world was to explore the void between environment, technology, and indigenous knowledge. Similarly, Ong-Flaherty et al., (2017) found that despite the limitations, gaming in cultural awareness training has proven to be effective in many industries. Their study was conducted in the healthcare field, and their findings suggest that gaming does increase cultural awareness in several ways; it raises self-awareness and awareness of others. Their study participants experienced heightened emotions, and with guided reflection, were able to empathize with others “different” from themselves, an indication of cultural humility.

In the Colombian context, Ramirez (2020) highlights the need of taking identity, memory, and language as fundamental axes in the exercise of recovery and revitalization of cultures within Colombian Educational Institutions. As a result, this study shows that “it is necessary to emphasize the need to generate institutional bridges that allow sharing intercultural educational experiences”. Furthermore, the author stated that new proposals for teaching materials must begin to include a Southern aesthetic that mobilizes cultural identities within the school context. In this way, the recovery and recognition of the cultural diversity of the Colombian territory can be promoted. Likewise, Delgadillo & Pacheco

(2011) highlighted that a large part of the success of the country's educational proposals is due to the development of contextualized materials that allow us to see the social, economic and political situation of different people or communities and that also facilitate an approach to real history. In sum, there had been efforts to bring indigenous knowledge to Colombian classrooms and to emphasize the importance of interculturality in schools. However, those investigations have not been done through gamification, nor taken to EFL classrooms.

It is necessary for Colombian students to recognize different cultures within the country. According to the Ministry of Education in Colombia (MEN, 2008), it is important to ensure that students develop the capacity to know and disseminate the knowledge, practicums, values and ways of understanding the world of the different ethnic groups - indigenous, Afro-Colombian, Raizal and Rom-. Such recognition would contribute to the strengthening of the principles of interculturality. Nonetheless, as established by Fuentes et al., (2016) although the MEN seeks to promote a good educational system, it is evident that it does not pay enough attention to the recognition of non-traditional knowledge; since they evidenced in their research process, the Ministry only shows Indigenous cultures from a single point of view: folklore. In brief, even though the Ministry of Education establishes the recognition of different cultures as a fundamental part of education, this is not evident in Colombian classrooms.

This study aims to highlight the importance of incorporating indigenous knowledge into education through gamification. Native knowledge from communities such as Embera Chamí should be approached from school as examples of life that contribute to the reading of other types of realities and even mitigate certain social problems. By incorporating indigenous perspectives into EFL classrooms, students could gain a more comprehensive understanding of topics such as ecology, history, and culture. Moreover, integrating gamification within the EFL classroom could strengthen student motivation and foster engagement with indigenous cultures in a fun and interactive way. The development of the latter could lead students to think critically and develop creativity, problem-solving skills, and teamwork into the classroom, which is why this research is aimed at assessing how gamification could enhance cultural awareness in EFL classrooms.

### **1.3 Research Question**

How could gamification enhance cultural knowledge awareness with fifth grade children in EFL Colombian classrooms?

### **1.5 Objectives**

#### **1.5.1 General**

To assess how effective gamification is in the integration of Emberá Chamí knowledge in fifth grade EFL children's education.

#### **1.5.2 Specific**

1. To identify the changes caused by gamification in teaching Emberá Chamí culture in fifth grade EFL children's classrooms.
2. To characterize the impact that virtual and not virtual gamified educational materials have on teaching about Emberá Chamí community in English.
3. To analyze how gamification can increase students' motivation and interest in learning about territory, traditions, and spirituality of Emberá Chamí indigenous culture.

### **2. Method**

The purpose of this study was to assess how effective gamification was in the integration of Emberá Chamí knowledge in order to foster students' cultural awareness. Hence, the interpretive paradigm was chosen since it allows researchers to view the world through the perceptions and experiences of the participants, Thanh & Thanh (2015). "In interpretivism, the researcher does not stand above or outside but is a participant observer" (Carr and Kemmis, 1986, p. 88) who engages in the activities and discerns the meanings of actions as they are expressed within specific social contexts. Moreover, Willis (2007, p.110) argues that "the goal of interpretivism is to value subjectivity, and interpretivists eschew the idea that objective research on human behavior is possible". Thus, the interpretive paradigm was the most appropriate for this study since it emphasizes understanding the subjective experiences of the participants; this paradigm ensures that the integration of

Emberá Chamí knowledge is explored in a manner that is deeply connected to the participants' own perspectives and lived experiences.

## **2.1 Research methodology**

Under the interpretive paradigm, a common methodology is qualitative research. This methodology frames this study since it intends to comprehend phenomena while respecting the intersubjectivity of the participants. Creswell (1998, p.15) describes qualitative research, in part, as a technique in which the researcher “builds a complex, holistic picture, analyzes words, reports detailed views of informants, and conducts the study in a natural setting”. Moreover, qualitative research is increasingly regarded as a powerful and credible tool for revealing and understanding the human world. The rich range of qualitative research approaches is one of its great strengths. It provides multiple ways of understanding the inherent complexity and variability of human behavior and experience (Higgs and Cherry, 2009). In sum, qualitative methodology allowed a deep exploration of participants' experiences and perceptions, offering flexibility to adapt to emerging findings and encouraging active student participation.

One of the most used methods in qualitative methodology is action research. This method was found pertinent for achieving the study's purpose given our research question: “How could gamification enhance cultural awareness in Colombian EFL classrooms?” This method is explained by Baden & Major (2013) as a useful tool for researchers who want to solve real-world problems through the implementation of an action. Likewise, the authors define action research as a method whose intention is to engage in problem-solving through a cyclical process of thinking, acting, data gathering, and reflection. Thus, this method was considered relevant for the study since it requires that participants be empowered and stresses the importance of leading social change.

### **Pedagogical intervention**

The intervention followed a galaxy-themed adventure format, divided into five levels. Each level progressively immersed students in learning about Emberá Chamí culture

while practicing English, as shown in Table 1. The gamified module was conducted in 3 groups of 10 participants during five sections, and every section lasted 2 hours. A wizard character guided students through challenges, fostering curiosity and engagement. In each level, students interacted with culturally significant tasks that connected directly to the language learning objectives. Central to the experience were the boosts—special power-ups that added a fun and competitive dimension to the game. These boosts, combined with a points table, encouraged teamwork and kept students motivated throughout the activities. Teams were constantly aware of their rankings, which added a layer of excitement as they competed for the highest score.

**Table 1.** *Gamified Module Description (culture explorers)*

Level	Topic	Game
1	Personal information (the input given was about an Embera Chamí character)	Character creation
2	Embera Chamí location	Cups game
3	Embera Chamí ways of living	Scavenger hunt
4	Embera Chamí traditional food	Menu creation
5	Myths and Legends	Myth creation

### **Level One: The Character Creation**

The first level introduced learners to the world of Emberá Chamí culture through a creative challenge: creating a character based on the physical and personal traits of the students. Participants were provided with input on the key characteristics of an Emberá Chamí individual, enabling them to incorporate culturally relevant details into their creations. This activity was also complemented by language input from the teachers, focusing on descriptive adjectives in English, both physical and personal, to describe their

character. This initial challenge served as a gateway into the exploration of cultural identity while reinforcing vocabulary related to physical appearance and personality traits.

### **Level Two: The Ping Pong Cup Challenge**

The second level focused on increasing students' knowledge of the geographical distribution of the Emberá Chamí people. The challenge, which involved throwing ping-pong balls into cups marked with questions about the Emberá Chamí community, allowed students to actively participate in a competitive, team-based environment. Each correct answer earned points for the team, fostering a sense of achievement while enhancing their knowledge about the culture. The game questions covered topics such as the locations of Emberá Chamí communities in Colombia and the countries where they are found, the importance of family in their society, and the effects of colonization on the Emberá people. This level reinforced cultural knowledge in an engaging, interactive manner, encouraging both teamwork and active learning.

At the start of the level, teams received a *block a competitor* boost. This boost allowed them to block a rival team from answering a question in a round, adding a tactical element to the game. Teams had to plan when to use their boost for maximum effect. The leaderboards were updated after every round, and this visibility of each team's placement promoted competition among the groups.

### **Level Three: The Scavenger Hunt Challenge**

The third level strengthened the students' understanding of Emberá Chamí daily life through a scavenger hunt. Students worked in teams to describe homes, people, and various aspects of Emberá life, which incorporated stages of the hunt such as describing houses, creating sentences, and solving puzzles. This challenge aimed not only to test their language skills but also to stimulate their creativity and problem-solving abilities. The scavenger hunt was designed to be both educational and collaborative, with the addition of power-ups (boosters) to promote engagement. Additionally, points were awarded based on how quickly teams completed each challenge, with bonus points given for creativity and teamwork. The *boost* system ensured that each stage of the scavenger hunt had an element

of surprise and strategy, with students engaging deeply with the cultural content while maintaining high motivation through friendly competition.

#### **Level Four: Colombian Gastronomy and the Emberá Chamí Typical food**

For the fourth level, students were introduced to typical dishes from various Colombian regions, including a traditional Emberá Chamí meal. This cultural exploration was followed by a collaborative task where students created a menu in teams, selecting dishes, drinks, and desserts and assigning prices. The challenge culminated in a creative video production, where students presented their chosen menu and its ingredients in an engaging and informative way. This task not only encouraged the use of English but also allowed students to explore the cultural significance of food within the Emberá Chamí community while honing their teamwork and presentation skills. Furthermore, students were given a *boost* card: the *Take Time Away* boost, which allowed them to deduct time from another team's video production. As teams worked together to plan their dishes and ingredients, they also competed for extra points by producing the most creative and well-presented videos. The boosts played a crucial role in maintaining the students' interest and ensuring they remained engaged throughout the process. Likewise, the points table was continuously updated; hence, it kept teams informed of their rankings and encouraged them to improve their performance in each task.

#### **Level Five: The Mythology Challenge**

The final level focused on the rich oral traditions of the Emberá Chamí, with a particular focus on myths and legends. Students were introduced to three myths: *El mito del agua y las hormigas*, *El sombreroón*, and *La madre monte*. Following a discussion on the cultural significance of these stories, students were tasked with creating their own myth or legend in teams. Each group followed a set of instructions to build their story; they included creating a hero, a goal, incorporating elements of magic, teaching a lesson, and ensuring the story was exciting and engaging. Students were encouraged to draw their stories as well, adding a creative visual element to the project. This activity not only reinforced their understanding of Emberá Chamí culture but also provided an opportunity to practice storytelling, language production, and collaboration in English.

## **2.2 Context**

This study was conducted in an English seedbed (semillero) at a private university in Medellín, Colombia. Due to its student-centered philosophy (humanistic and constructivist), the university embraced this study for its potential to cultivate intercultural understanding. The seedbed had a flexible curriculum that was not limited by pre-established topics; therefore, it was possible to address non-conventional topics such as the Embera Chamí culture in the English classroom. As a result, teachers had the opportunity to create their own materials focusing on students' needs and interests. In addition, seedbed students had access to technological tools during the classes. However, these devices were generally used to show slides, audio, and videos to support the teacher's intervention in the class.

## **2.3 Sample**

### **Participants**

The participants selected for this study were teenagers from the university's English seedbed (semillero). The seedbed typically served between 25 to 30 students, ranging in age from 12-14 years old; in addition, they came from different schools in Medellín. The racial demographic at this seedbed is nearly 75% Antioqueños, typical for this region. Furthermore, participants were informed about the study's purpose, and as they were under-aged, parents had to sign an informed consent. To ensure participant's confidentiality, they were informed their identities would not be disclosed in any future research or educational journal.

This population was selected due to the importance of identity construction during adolescence. According to Erik Erikson (1993), adolescence is a stage of "identity crystallization" where adolescents organize their abilities, needs, and interests to express themselves in a social context. Moreover, Ives (2014) states that the most important milestone or goal of adolescence is the development or construction of identity. In brief, thanks to this identity-building stage, it was possible to generate a greater cultural awareness impact.

## **2.4 Data collection**

The data collection protocol used in this study included a pilot test of the instruments and the quality of the information collected was conducted seven weeks before the intervention. A population similar to the one used in the study was selected, and the instruments were applied; feedback obtained from the participants strengthened and modified the design of the data collection tools. In addition, data were collected through field notes and audio recordings. Throughout the data collection process, strict measures were implemented to record and store the data securely while maintaining confidentiality.

## **2.5 Data Analysis**

Once the information was collected and transcribed, a content analysis (CA) process was conducted. Jacobs & Gheyle (2017) define content analysis as a research methodology to make sense of the (often unstructured) content of messages – be they texts, images, symbols, or audio data. Moreover, Krippendorff (2004) establishes that it is a research technique for making replicable and valid inferences from texts (or other meaningful matter) to the contexts of their use. The objective of content analysis is to convert recorded “raw” phenomena into data, which can be treated in essentially a scientific manner so that a body of knowledge may be established. In fact, the researcher who wishes to undertake a study using content analysis must deal with four methodological issues: selection of units of analysis, developing categories, sampling appropriate content, and checking the reliability of coding (Stempel, 1989). In this sense, by identifying patterns and recurring themes in the data collected, content analysis allowed us to assess how gamification could enhance cultural awareness in EFL classrooms.

## **2.6 Ethical considerations**

**Population:** teenagers whose ages range from 12-14 years old from different Medellin’s schools.

**Risk and management:** risks include the possibility of fatigue or discomfort during class sessions, as well as the potential anxiety or stress associated with class

dynamics. To ensure their well-being, support will be provided by specialized university psychology and public health professionals.

**Confidentiality:** all participants' opinions will be confidential and will be managed with extreme discretion. The results of this research could be published in scientific journals, but participants' identity will not be disclosed.

### **3. Results**

The integration of indigenous knowledge in education, particularly in foreign language classrooms, is crucial for fostering cultural awareness and respect. This research explored the impact of gamification in teaching Emberá Chamí culture within a private university English seedbed. By using both virtual and non-virtual gamified materials, the project evaluated how gamification could enhance students' engagement with indigenous cultural knowledge and promote collaboration among them. Findings revealed that gamification not only facilitates teamwork and motivation, creating a more engaging and collaborative learning environment, but also fosters the deconstruction of existing prejudices towards indigenous communities. Ultimately, these elements cultivated a greater cultural awareness among the participating teenagers.

**Gamification as a learning tool enhances teamwork and motivation, which can be used to promote cultural awareness in teenagers.**

The analysis of the data revealed that gamification as an educational tool significantly enhances teamwork and motivation, making it an effective strategy for promoting cultural awareness among teenagers. Through group activities and interactive dynamics, participants demonstrated a greater appreciation for their classmates' opinions and built stronger interpersonal bonds. This fostered a sense of trust and encouraged students to actively engage in discussions. As one student noted, “Sí, porque han sido muy chévere y son interactivos, no es como por ejemplo en la escuela que es copiar y copiar, acá podemos interactuar y nos reímos y es chévere y aprendemos de los Emberá” (Yes because

the games have been cool and interactive, it is not like in school that it is just writing. Here, we can interact, laugh and learn about the Embera community - Participant 1, Interview 2, October, 2024). The gamified approach not only facilitated learning of Emberá Chamí culture but also promoted the development of social and emotional skills, crucial for understanding and appreciating diverse cultural perspectives. Researchers noted that during the first game levels participants started to appreciate their classmates' opinions, and as the time passed by the bonds among students got stronger and it facilitated teamwork. Furthermore, participants got excited by the implementation of boosts in the game structure; they fostered participation and enhanced class dynamics.

**The integration of Indigenous Knowledge in gamification helps students to gain a deeper understanding of cultures and a stronger sense of identity in teenagers.**

The gamified activities revealed that the integration of Emberá Chamí indigenous knowledge through gamification contributed to a deeper understanding of students' traditions and cultural identity. Moreover, Participants showed a notable level of identification with the characters created during the activities, reflecting an emotional connection to their learning process. This was evident when students mentioned how the features of their characters resembled themselves, suggesting a close and meaningful relationship with the culture and content being taught. For instance, one participant expressed that their character represented learning and strength, while another highlighted that by learning about Emberá Chamí housing, they were able to relate the indigenous way of life to their own, which altered their previous conception of huts and their cultural context. In fact, a participant expressed that “a mi me gusto mucho la creación del personaje porque sabes que me gusta bastante dibujar y lo hice parecido a mí y con muchas cosas que me gustan, además como los ejemplos eran con el personaje Embera aprendí muchas cosas sobre ellos y sobre mí.” (I liked the creation of the character because you know that I quite like to draw and I made it similar to me and with many things that I like, besides as the examples were with the character Embera I learned a lot about them and me.- Participant 2, Interview 1, September, 2024).

In this way, the data showed that gamified activities not only encouraged reflection on the customs and spirituality of the Emberá Chamí community, but also provided a space for students to personally connect with the culture in a more direct way. In line with the findings of SITAS (2017), the game narratives allowed students to identify elements of their own lives within the characters and game settings, creating an emotional and self-understanding bond that facilitated cultural learning. In fact, one participant noted “Si, pues como en lo que vimos de la clase del vocabulario y lo de personaje Emberá. Mi personaje representa aprendizaje y fortaleza. De mi representa que le gusta la moda, el maquillaje, que le gusta aprender nuevas cosas en eso me inspiré”. (Yes, as in what we saw of the vocabulary class and the character Embera. My character represents learning and strength. From me, it represents that she likes fashion, makeup, to learn new things and it was my inspiration. - Participant 3, Interview 1, September, 2024). This dynamic, which fosters personal identification with the content, highlights the potential of gamification to transform the teaching of indigenous cultures into a more dynamic, interactive, and meaningful process.

**Deconstructing prejudices and stereotypes towards Indigenous communities could promote cultural awareness in teenagers.**

Researchers also found that gamification strategies implemented in a private university English seedbed facilitated the deconstruction of prejudices and stereotypes towards the Emberá Chamí community. Through interactive activities, students developed a deeper understanding of the community's traditions, language, and spirituality, fostering cultural awareness. Initially, participants expressed stereotypical views such as: they dress weird, they have strange names, or they still hunt animals. However, as the intervention progressed, students began to challenge these misconceptions. For instance, one participant remarked, "I used to think they spoke gibberish, but with the ball game, I realized they speak Emberá." This shift illustrates how gamified learning materials can encourage critical reflection and promote respect for indigenous cultures.

Moreover, participants developed a growing appreciation for the significance of indigenous knowledge as part of Colombia's cultural heritage. Teachers encouraged students to consider diverse perspectives, explaining that cultural practices like living in huts or preserving myths are deeply tied to identity and history. One student reflected, "Es bueno que por ejemplo a jóvenes se les instruya sobre grupos indígenas que tengan gran relevancia en la cultura colombiana." (It is good for young people to be taught about indigenous groups that are significant to Colombian culture - Participant 4, interview 2, October 2024). These reflections underscore an emerging cultural awareness that values diversity and inclusion. Integrating indigenous knowledge into educational practices through gamification can not only reduce prejudice, but also cultivate a deeper understanding of intercultural dynamics, promoting respect for the richness of Colombia's indigenous communities.

#### **4. Discussion**

##### **Aspects Related to Specific Objective 1**

The findings of this study evidence that gamification significantly enhanced students' cultural awareness and engagement with Emberá Chamí indigenous knowledge. This aligns with previous research by Reihana et al. (2019), who found that gamification effectively bridges the gap between indigenous knowledge and youth by creating interactive and engaging learning environments. Similarly, Ong-Flaherty et al. (2017) highlighted the effectiveness of gamification in fostering cultural awareness, particularly through its ability to elicit emotional responses and encourage empathy. In this study, the gamified module "Culture Explorers" successfully promoted teamwork, motivation, and a deeper understanding of Emberá Chamí culture, as evidenced by students' active participation and positive feedback.

Participants were categorized into three groups based on their engagement levels. The first group, the majority, demonstrated consistent enthusiasm and active participation throughout the intervention, likely due to their intrinsic motivation and interest in gamified learning. The second group showed gradual improvement, benefiting from the collaborative and interactive nature of the activities. The third group, though smaller, included students

who initially struggled but eventually engaged more deeply as the intervention progressed, particularly through activities that allowed personal identification with the game characters. These findings contrast with some critiques of gamification, such as those by Deterding et al. (2014), who argue that gamification can sometimes oversimplify complex cultural topics. However, in this study, the integration of indigenous knowledge into gamified activities provided a meaningful learning experience, fostering both cultural understanding and personal reflection.

In sum, incorporating indigenous knowledge into the game narratives allowed students to connect emotionally and intellectually with the material, leading to a deeper appreciation of Emberá Chamí culture. This was made possible by the teacher-researcher's pivotal role in guiding students through the gamified activities, ensuring both accessibility and cultural respect. As Leiss et al. (2025) suggest, effective teacher facilitation is essential in gamified learning environments, and in this case, it proved instrumental in bridging cultural understanding through engaging gameplay.

### **About Aspects Related to Specific Objective 2**

The analysis of participants' perceptions revealed a strong consensus on the effectiveness of gamification in fostering cultural awareness. High levels of engagement and positive attitudes were observed, particularly in activities that allowed students to create personal characters and explore cultural narratives. This finding aligns with SITAS (2017), who noted that compelling game stories can create emotional bonds between players and the game world, facilitating deeper learning. Participants reported that the gamified activities were more engaging than traditional classroom methods, as one student noted: "Here, we can interact, laugh, and learn about the Embera community."

However, individual responses varied, reflecting differences in learning preferences and prior knowledge. Some students initially held stereotypical views of indigenous communities, such as "they dress weird" or "they have strange names." These misconceptions were gradually deconstructed through gamified activities, which encouraged critical reflection and dialogue. For instance, one participant remarked, "I used

to think they spoke a strange language, but with the ball game, I realized they speak Emb VI erá." This shift in perspective underscores the potential of gamification to challenge prejudices and promote cultural humility, as highlighted by Ong-Flaherty et al., (2017).

### **About Aspects Related to Specific Objective 3**

The gamified approach used in this study has shown to increase students' engagement and their interest in Emberá Chamí culture. Through the use of interactive games, culturally relevant narratives, and immediate feedback, students were actively immersed in the territory, traditions, and spirituality of the indigenous community. This is more than participation; it indicates a significant emotional and intellectual investment. Students' reflections, especially when they mentioned their changing preconceived ideas or conceptions, illustrated how effective gamification is at redefining passive learning into a process of active exploration.

Moreover, the use of gamified activities fostered an atmosphere of curiosity and discovery that was key to developing an appreciation of the Emberá Chamí culture. The use of game structures like the "ball game" demonstrated how game mechanics can represent difficult cultural ideas in a fun and interactive way. The experiential learning allowed students to explore and internalize cultural knowledge in an engaged and contextualized way for a lasting and more respectful understanding of the Emberá Chamí indigenous community.

#### **4.1 Implications and Interpretations**

The findings of this study highlight the potential of gamification as a tool for promoting cultural awareness in EFL classrooms. By integrating indigenous knowledge into gamified activities, educators can create engaging and meaningful learning experiences that foster intercultural understanding and respect. However, the effectiveness of gamification depends on several factors, including the quality of the content, the cultural sensitivity of the materials, and the availability of technological resources.

In contexts like Colombia, where indigenous cultures are often underrepresented in educational curricula, gamification offers a promising approach to bridging this gap. However, if the intention is to take indigenous knowledge to Colombian schools, curriculum developers must ensure that the gamified materials are culturally accurate and respectful, avoiding oversimplification or stereotyping. Additionally, educators should consider the diverse learning preferences and needs of their students, tailoring gamified activities to maximize engagement and learning outcomes.

### **Limitations**

This study was conducted on a small group of English language learners at a private university, which may limit the applicability of the results to other contexts. The intervention lasted only five weeks, which may not be sufficient to assess the long-term impact of gamification on cultural awareness.

Future research could explore the sustainability of these effects over a longer period and in different educational contexts, such as public schools or rural areas with limited access to technology. On the other hand, as teacher-researchers, this intervention provided valuable insights into the potential of gamification as a pedagogical tool. It highlighted the importance of creating culturally relevant and engaging materials that connect with students' interests and experiences.

Furthermore, collaboration between educators, researchers, and indigenous communities could lead to the development of more authentic and contextually appropriate gamified experiences. Such partnerships could ensure that the representation of indigenous cultures in educational materials remains accurate, respectful, and beneficial for both learners and the communities being represented. In conclusion, while this study has certain limitations, it contributes to the growing body of research on gamification in education, particularly in fostering cultural awareness. The findings suggest that with thoughtful design and implementation, gamification can serve as an effective tool to bridge cultural gaps and create more inclusive learning environments.

### **4.2 Conclusions**

In this sense, the researchers concluded that gamification could have the potential to be a valuable tool for promoting cultural knowledge awareness in EFL Colombian classrooms. It can be used to make learning about indigenous cultures more engaging and interactive, and to help students to develop a deeper understanding of Embera Chamí culture. Also, gamification can be used to promote diversity and inclusion in the classroom, by providing students with opportunities to learn about cultures that are different from their own.

## References

- Adachi, P. J., Hodson, G., & Hoffarth, M. R. (2015). Video game play and intergroup relations: Real world implications for prejudice and discrimination. *Aggression and Violent Behavior, 25*, 227–236.
- Aliyeva, E. (2016). An overview of the national curriculum development process for Azerbaijan. *The Online Journal of New Horizons in Education, 6*(1), 13.
- Becerra-Lubies, R., Bolomey Córdova, C., & Meli Fernández, D. (2019). Teaching indigenous languages in Chile: Perceptions of traditional educators. *International Journal of Bilingual Education & Bilingualism, 25*(1), 23–41. <https://doi.org/10.1080/13670050.2019.1621260>
- Canales Cerón, M. (2006). *Metodologías de investigación social*. LOM Ediciones.
- Cotton, D. R. E., Stokes, A., & Cotton, P. A. (2010). Using observational methods to research the student experience. *Journal of Geography in Higher Education, 34*(3), 463–473. <https://doi.org/10.1080/03098265.2010.501541>

- Creswell, J. W. (1998). *Qualitative inquiry and research design: Choosing among five traditions*. Sage Publications.
- Da Silva, C., Pereira, F., & Amorim, J. P. (2023). The integration of indigenous knowledge in school: A systematic review. *Compare: A Journal of Comparative and International Education*, 1–19. <https://doi.org/10.1080/03057925.2023.2184200>
- Deterding, S. (2014). The ambiguity of games: Histories and discourses of a gameful world. *The Gameful World: Approaches, Issues, Applications*, p. 23, 2015.
- Erikson, E. H. (1980). *Identity and the life cycle*. W. W. Norton & Company.
- Fonseca, V. (2020). Umbrales: Gamificación para la Educación Intercultural. *EDU REVIEW. International Education and Learning Review / Revista Internacional De Educación y Aprendizaje*, 8(1), 57–72. <https://doi.org/10.37467/gka-revedu.v8.2423>
- Gorman, G. E., & Clayton, P. (2005). *Qualitative research for the information professional: A practical handbook* (2nd ed.). Facet Publishing.
- Han, J. (2021). *Secondary Education in Ontario: Effective Strategies for Prejudice Reduction Between Indigenous and Non-Indigenous Communities*. <https://jps.library.utoronto.ca/index.php/sustinere/article/view/36815/27984>
- Higgs, J., & Cherry, N. (2009). *Doing qualitative research on practice*. Rotterdam, Netherlands: Sense Publishers.
- Ives, L. S. E. (2014). La identidad del adolescente. Como se construye. *Adolescere*, II(2), 14–18.
- Leiss, L., Großschedl, J., Wilde, M., Fränkel, S., Becker-Genschow, S., & Großmann, N. (2025). Gamification in education—teachers’ perspectives through the lens of the theory of planned behavior. *Frontiers in Psychology*, 16. <https://doi.org/10.3389/fpsyg.2025.1571463>

Nand, K., Baghaei, N., Casey, J., Barmada, B., Mehdipour, F., & Liang, H.-N. (2019). Engaging children with educational content via Gamification. *Smart Learning Environments*, 6(1), N.PAG. <https://doi.org/10.1186/s40561-019-0085-2>

Nehring, N., Baghaei, N., & Dacey, S. (2018). Improving students' performance through Gamification: A user study. In *International Conference on Computer Supported Education (CSEDU)*, pp. 213–218.

Ong-Flaherty, C., Valencia-Garcia, D., Martinez, D. A., Borges, W., & Summers, L. (2017). Effectiveness of gaming in creating cultural awareness. *Learning, Culture and Social Interaction*. Article in Press. <http://dx.doi.org/10.1016/j.lcsi.2016.12.005>

Panmei, B., & Waluyo, B. (2023). The pedagogical use of gamification in English vocabulary training and learning in higher education. *Education Sciences*, 13(24). <https://doi.org/10.3390/educsci13010024>

Pérez, Y., Rey, L., & Rosado, N. (2019). Characteristics of EFL curriculum in the Colombian Caribbean Coast: The case of 12 state schools. *English Language Teaching*, 12(11), 85. <https://doi.org/10.5539/elt.v12n11p85>

Ramirez, G., ElMiligi, H., Walton, P., & Billy, C. (2018, July). Revitalization of an indigenous language: Which is better: The teacher or the app? *Kidmore End: Academic Conferences International Limited*, 344–350.

Ramirez Arias, D. J. (2020, January 1). Integración de los saberes indígenas en el currículo escolar. *Repositorio Institucional Séneca*. Retrieved April 27, 2023, from <https://repositorio.uniandes.edu.co/bitstream/handle/1992/43885/>

Reihana, K., Taura, Y., & Harcourt, N. (2019). He Tohu o te wā – Hangarau pūtaiao / signs of our times – Fusing technology with environmental sciences. *New Zealand Journal of Ecology*, 43(3). <https://doi.org/10.20417/nzjecol.43.31>

Reina Avila, K., & Lara Buitrago, P. (2020). Reflexiones en torno a la educación inclusiva en Colombia: estado de la cuestión. *Educación y Ciencia*, 24, e11381.

Richardson, T. (2011). Navigating the problem of inclusion as enclosure in native culture-based education: Theorizing shadow curriculum. *Curriculum Inquiry*, 41(3), 332–349. <https://doi.org/10.1111/j.1467-873x.2011.00552.x>

Rodríguez-Burgos, L. P., Díaz-Posada, L. E., Rodríguez-Castro, J., Izquierdo-Martínez, D. E., & Nassar-Pinzón, C. (2014). Knitting meaning: Understanding the origin, the history, and the preservation of a traditional cultural practice of the Arhuaca indigenous community. *Culture & Psychology*, 20(3), 330–357. <https://doi.org/10.1177/>

Rúa Gómez, M. S. (n.d.). Teaching English in Arhuacos indigenous people through cultural contents of the ethnic.

Salen, K., & Zimmerman, E. (2004). *Rules of play: Game design fundamentals*. MIT Press.

Savin-Baden, M., & Major, C. H. (2013). *Qualitative research: The essential guide to theory and practice*. Routledge.

Stenros, J., Montola, M., & Mäyrä, F. (2007, November). Pervasive games in ludic society. In *Proceedings of the 2007 conference on Future Play* (pp. 30–37). ACM.

Thanh, N. C., & Thanh, T. T. L. (2015). The interconnection between interpretivist paradigm and qualitative methods in education. *American Journal of Educational Science*, 1(2), 24–27.

Vera Fuentes, L. E., Rodríguez Mendoza, K. M., Coronado Gómez, D. A., & Ardila Morales, J. M. (2016). Condiciones de los saberes indígenas en el currículo educativo para la educación superior en Bogotá.

Willis, J. W. (2007). *Foundations of qualitative research: Interpretive and critical approaches*. SAGE Publications, p. 110.

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Gamification as tool to raise sociocultural awareness. (2017). 275.  
<https://doi.org/10.12681/icodl.1123>