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**COMPETITION AS AN ESSENTIAL ELEMENT TO ACHIEVE MOTIVATION AND SELF-IMPROVEMENT IN ENGLISH LANGUAGE LEARNING THROUGH GAMIFICATION IN CHILEAN SECONDARY EDUCATION: A STUDENTS' PERCEPTION STUDY BASED ON THE USE OF KAHOOT! IN THE CLASSROOM**

Trabajo de Investigación para optar al Grado Académico de
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**RESUMEN**

Este estudio fue realizado para revelar la efectividad del elemento "competición" y su rol en ABJ (aprendizaje basado en juegos) examinando hasta qué punto la competición, a través de Kahoot, impacta en la motivación y crecimiento personal de los estudiantes que estudiaban ILE (Inglés como lengua extranjera). Utilizando un enfoque de investigación mixta, se recopilaron datos que revelaron las percepciones de los estudiantes en cuanto a su motivación y su superación personal tras la implementación de la competición a través de un juego Kahoot!. Los resultados mostraron que la mayoría de los estudiantes experimentaron mejoras en su motivación y superación personal en comparación con clases tradicionales, siendo solo una pequeña minoría, principalmente introvertidos, los que negaron esa mejora. Aunque el ambiente competitivo fue generalmente percibido como beneficioso, algunos estudiantes introvertidos expresaron negación al deseo de superar a sus compañeros. Los resultados del estudio coincidieron con estudios anteriores en cuanto a la mejoría de la motivación de los estudiantes pero defirieron levemente con estudios anteriores que exponen la preferencia de alumnos introvertidos por un ambiente competitivo. Este estudio sugiere tener en cuenta el tipo de actitud de los estudiantes antes de implementar este tipo de actividad, de modo que la competición sea beneficiosa para la gran mayoría.

Palabras clave: ILE, ABJ, Competición, Motivación, Superación personal, Introvertido, Extrovertido, Kahoot!.

# ABSTRACT

This study was conducted to unveil the effectiveness of the "competition" element and its role in game-based learning, examining to what extent competition in a GBL environment (Game-based environment), with the use of Kahoot!, impacts on motivation and self-improvement based on students' perceptions who where studying EFL (English as a foreign language). Using a mixed research approach, data collected revealed students' perceptions in their motivation and self-improvement after the implementation of the competition through a Kahoot! game. The results showed that the majority of students experienced improvements in their motivation and self-improvement compared to traditional classes, being only a small minority, mainly introverts, who denied this improvement. Although the competitive environment was generally perceived as beneficial, some introverted students expressed denial of the desire to outperform their peers. In general, the results of the study were consistent with previous studies in terms of improving student motivation, however, they differed slightly from previous studies that showed the preference of introverted students for a competitive environment. Therefore, this study suggests taking into account the type of attitude of the students before implementing this type of activity, so that the competition is beneficial for the vast majority. Key words: EFL, GBL, Competition, Motivation, Self-improvement, Introverted, Extroverted, Kahoot!.

# INTRODUCTION

According to the Chilean educational system, the teaching of English is compulsory from 5th to 12th grade in every school in Chile, regardless of its type or educational funding. However, the number of hours dedicated to the English subject proposal is deficient, and teachers withstand learners' discouragement in terms of language learning. To face this situation, methods and strategies in which professors teach English have been changing throughout history following students' interests and needs. For instance, in the olden days, games were created for the purpose of entertainment, but now, it has become one of the most important educational tools (Liu, Holden, & Zheng, 2016; Tobar-Muñoz, Baldiris & Fabregat, 2017). Therefore, the term "Gamification" first appeared as the utilization of game design elements and techniques in contexts outside of traditional gaming (non-gaming context) (Deterding et al., 2011) when referring to Gamification in the classroom, it is understood as a response to the need for teachers to innovate and modernize their teaching methods and sort out the lack of students' motivation. For instance, research has shown that gamification improves creativity, and critical and problem-solving skills in students, in addition to increasing their engagement and motivation (Mee et al., 2020).

Nowadays, Gamification is shown through the use of smartphones, laptops, and the internet, opening a new world of possibilities. These devices, integrated into the classroom, permit access to a variety of tools that advance English language learning, especially platforms such as Kahoot!, Duolingo, and ClassDojo, among others (e.g., Kaur & Nadarajan, 2020). These tools provide teachers and students with a teaching and learning methodology that is more dynamic, entertaining, and engaging. Thus, the use of gamification in the classroom is an option that is quite viable to face up to learners' disinterest at the time of acquiring new knowledge.

In addition, these games, or digital platforms, used in the context of gamified learning are composed of several elements, such as competition, objectives, rules,

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scoring systems, challenges, rewards, and feedback, among others. The combination of these elements ultimately creates an attractive educational tool for both teachers and students, which could help to improve the motivation, commitment, and academic performance of students, by offering them an external reward or benefit, or by fulfilling an internal desire or necessity, such as the need for achievement through game elements (Deterding et al., 2011). Nevertheless, teachers must pay attention to the elements present within digital games when implementing gamification in their classrooms.

A concrete example is the presence of the "competition" element. Lepper and Malone (1987, as cited in Featherstone, 2022) declare that competition provides an alternative motivation for participating, but it can be a double-edged sword. While competition can drive some people to work harder and achieve higher goals, it can also generate stress, anxiety, and a "win or lose" mentality that can be detrimental to the mental and emotional health of some individuals. According to Hong et al. (2009), it is the desire to win the key factor of competition that motivates students.

In accord with Vandercruysse et al. (2013), focusing on examining educational games as a "whole" leads to unclear conclusions in research. Therefore, it is proposed to focus from now on examining the elements of a game separately to understand the effectiveness of educational games more clearly.

This study was conducted in response to gaps suggested in several gamification studies that attempted to investigate the impact of multiple game elements, as well as the limited understanding of the motivational properties that may underpin an individual's desire to use gamification in the workplace context (Deterding et al., 2011). The significance of this study lies in its focus on understanding the effectiveness of the "competition" element and its role in game-based learning, rather than studying games as a whole. Vandercruysse et al. (2013) emphasized the importance of considering students' perceptions of game-based learning in future research. Therefore, this study focused on secondary school learners' perception of whether and how their motivation and self-improvement are impacted by competition - with Kahoot! - in a game-based learning

(henceforth, GBL) environment. The study was conducted in a commune of the Santiago Metropolitan Region in 2023.

## OBJECTIVES

### General Objective

To find out to what extent secondary EFL learners in a game-based environment are affected by experiencing competition with Kahoot!

### Specific Objectives

1. To unveil to what extent competition in a game-based learning environment affects secondary EFL learners' motivation with the use of Kahoot!
2. To unveil to what extent competition in a game-based learning environment affects secondary EFL learners' self-improvement with the use of Kahoot!
3. To find out how competition in a game-based learning environment affects learners as per their attitude types, that is, introverted versus extroverted with the use of Kahoot!

## RELEVANCE

The results of this study will provide several important benefits. First and furthermore, it is expected to provide a greater understanding of the administration of game-based learning with competition as an essential element in the EFL classroom. This knowledge certainly will be significant for both teachers and learners, particularly for those teachers who manage students with demotivation, as it will encourage them to make use of these competitive elements in order to achieve students' motivation. Besides, this research is expected to contribute to the theoretical discussion on recent topics that interconnect game-based learning with students' motivation, which aids in improving the understanding of these topics and makes potential future research.

Moreover, regarding the resolution of real problems, this research will address the unfamiliarity related to the use of competition in a game-based learning environment. For example, if certain weaknesses or problems were observed when applying competition in the GBL environment, this study will work as an example for EFL teachers to be aware of what practices they should avoid when applying GBL in order to enhance their lessons and not commit the same errors that were carried out during this investigation.

This research will contribute to the current theoretical discussion of whether including competition in a Game-Based Learning environment is beneficial or not, as well as focus on discovering if including these elements is actually related to self-improvement. Additionally, the study results will permit researchers to revise, reformulate, or support the theoretical discussion mentioned above while considering Chilean students' perception of applying competition in a GBL environment.

This study was carried out following a mixed methodology, with most of the instruments that are being used in other studies, such as questionnaires, and multiple-choice surveys, among others. However, this study incorporated new instruments, such as written surveys in order to be more precise with the students' perceptions on this topic.

## THEORETICAL FRAMEWORK

### Gamification

Icard (2014) cited by Kaur and Nadarajan (2020) stated that Gamification is the concept of using game-based activities and the process of utilizing video games to engage its audience or solve problems. Gamification is applied in education by infusing educational assessment into video games. The creation of interactive games for teaching in the classroom promotes independent and collaborative learning. Gamification also enhances critical thinking and problem-solving skills. Moreover, Alsawaier (2018) reports gamification' role as the "partial solution to the decline in learner's motivation and engagement the schooling system is facing today".

Gamification in the classroom usually counts with the presence of some elements, such as points, leaderboards, levels, rewards, feedback, and challenges. Göksün and Gürsoy (2019) cited by Saleem, Noori Ozdamli (2022) trust that these are the elements that help teachers to get the fundamental knowledge of students' learning process. However, it is indispensable to know the personality trait of the students, that is, extroverted or introverted. Smiderle et al. (2019) reported controversial results on their study, as it suggested that introverted students showed higher engagement levels in gamification, demonstrating their attraction to the competitive elements of games, such as ranking, even more so than extroverted students.

Besides, according to Smiderle et al. (2019),

> gamification may positively affect the accuracy of the introverted students, who are the ones most benefited by it. Increased accuracy means that students took more care before submitting a task solution and decreased trial and error behaviors, when the student submits a solution with no deep reflection on it. (p. 75)

**Competition**

Competition can be defined as an individual or group who contends with each other with the presence of clearly defined goals and enhanced motivation (e.g., Fisher 1976; Michael & Chen 2006; Cheng et al. 2009).

According to Hong et al. (2009), competition is goal-oriented, directed towards achieving one's own goals even though this may have a negative effect on other competitors" (p.5)

Besides, competition is divided into Individual and group play: interpersonal competition, where each individual is an autonomous player, and intergroup competition, where groups of players compete (Fisher, 1976).

Moreover, according to Cagiltay and Ozcelik (2015), the competition element in a game-based learning environment plays the role of motivating students to put more effort on current tasks. This later stimulates students' interest, increasing the learning process' efficiency.

## Attitude types

Petric (2019) defines introversion as "the state of being predominantly interested in one's own mental self". (p. 2) One of the benefits associated with predominantly introverted traits is the capacity for self-reflection, independent work, and comfortable solitude. However, these individuals may encounter difficulties in team collaboration, social interactions, and public speaking (Petric, 2019).

Besides, Lawrence (1993) denotes that introverts typically favor a process of thoughtful consideration before acting, working in a private setting, and presenting their work in a manner that allows them to maintain their privacy.

On the other hand, Petric (2019) defines extroversion as a "state of primarily obtaining gratification from outside oneself". (p.2) Contrary to introverts, extroverts generally find enjoyment in social interactions, display enthusiasm, and talkativeness. They draw energy and thrive in the company of others and often relish activities involving large social gatherings. In addition, being dominantly extroverted comes with advantages such as strong socializing skills and effective teamwork abilities (Petric, 2019).

## Motivation

Harmer (1991) defines Motivation as "the internal drive that pushes individuals to do an action" (p. 3). In addition, Gardner (2010) defines EFL Motivation as "the extent to which […] a person strives to learn a language due to the satisfaction experienced in the activity". (p. 3).

Moreover, Deci and Ryan (1985) distinguish two types of motivation: extrinsic and intrinsic. Firstly, Intrinsic Motivation means that an individual performs an activity for

personal pleasure, curiosity, or fulfillment. On the other hand, extrinsic motivation refers to a desire to attain a reward or to avoid some punishment not linked to the task itself including marks, stickers, or teaching approval.

Motivation in the classroom is essential, as motivated students are more likely to be involved in their learning process displaying positive results and effective learning by using real-life situations. In addition, setting clear goals, objectives and expectations of the learners will help to increase their motivation by letting them understand what is expected of them and have clear targets to strive for.

## Self-improvement

The Cambridge Dictionary (n.d.) defines Self-Improvement as "the activity of learning new things on your own that make you a more skilled or able person."  According to Vijeh (2014), "the trace of self-improvement in education is mainly identified in students' desire for achievement" (p. 1183). Taking into consideration the definitions presented above, in this study, Self-Improvement is considered as the students' desire to grow and to perform better in their own English learning.

## METHOD

### Methodological Design

The present study employed a mixed method, combining both quantitative and qualitative methods, in order to investigate the role of competition in a GBL environment and how it affects motivation and self-improvement. The quantitative method played a crucial role in analyzing the numerical data and providing a deeper understanding of certain indicators provided by the data collection instrument, but also enhancing the reliability of the research findings. In parallel, the qualitative method was important for capturing students' perceptions and insights pertaining to the utilization of Kahoot!. In this

study, the combination of both methods enhanced the reliability and validity of the research findings, which contributed to a more holistic and insightful analysis of the topic.

**Participants and Background**

This study was conducted with a sample of twenty-three students from a public school situated in the commune of Providencia, Región Metropolitana de Santiago. The participants aged between thirteen and fourteen years old and included learners who were in their eighth grade during the year 2023 when this study took place. It is important to highlight that this study was exclusively conducted during the scheduled English classes, with explicit permissions provided by both the school administration and the head teacher. Besides, all the students who participated were volunteers, having an undeniable freedom to share their anonymous responses without external influence or pressure.

**Procedure**

The students practiced "Future Simple" exercises through Kahoot! In one class on October 10th. At the end of the class, a three-item survey was used to unveil the students' perceptions to find out to what extent competition in a game-based learning environment affects secondary EFL learners' motivation with the use of Kahoot! The participants that attended the class of October 10th had the chance to participate in this research. The application of the instrument took between 5 to 10 minutes depending on the level of response of the participants, especially in the written part (open-ended question), which was more time-consuming than the Likert-scale questions.

**Instruments**

The instrument used in this study, which was validated by an expert in the field (see Appendix A) was a survey comprising three items (see Appendix B for a sample of the survey). Its purpose was to assess the students' perceptions of competition within a Game-Based Learning (GLB) environment and its impact on motivation and self-improvement. The first item of the survey required students to indicate or choose whether

they considered themselves introverted or extroverted learners. The second item employed a Likert scale to know students' level of agreement with seven statements related to their experience of learning English using Kahoot! Lastly, the third item contained an open-ended question that sought to uncover students' perceptions after their experience learning English with Kahoot!

## Ethical considerations

Prior to implementing the instruments in the classroom, each participant was provided with a letter of informed consent (see Appendix C for a sample), the signing of which was a form to show agreement to participate in the study. The participants, along with their parents or tutors at home, were required to complete the form stating that their participation was voluntary. In order to keep the anonymity of the confidentiality, no personal information survey was conducted.

## Analysis plan

The first item, presented in the form of a multiple-choice question, aimed to know participants' perception about whether they consider themselves as introverted or extroverted, in to analyze the subsequent data gathered from the next two items by considering their attitude type (introverted or extroverted)

In the second Item, students were asked to anonymously respond to a Likert scale consisting of seven indicators about their experience using Kahoot! The scale ranged from (1) "I totally disagree" to (4) "I totally agree", without "undecided" as the middle point. The numerical results obtained from this item served as the quantitative data for subsequent analysis.

Lastly, the final item comprised a written open-ended question that aimed to gather students' reflections on their experience with competition in a GBL environment using Kahoot! This open-ended response provided valuable insights into their personal

perceptions. The data collected from this item was analyzed following the qualitative approach.

**RESULTS**

This section provides an overview of the findings derived from the data analysis. The results are presented according to the specific research objectives and categorized by attitude types, namely introverted and extroverted. Figures are used to summarize the results, followed by a description of the findings.

**Description of Labels**

Labels are a representation of the diverse students' perceptions of their experience with the implementation of Kahoot! in their learning process. Below is an explanation of the meaning for each label.

**Motivation:** Students report being motivated to play the game, as they define it as funny, interesting, and positive.

**Satisfaction (Positive experience):** Students reported having a positive experience thanks to varied reasons, which can be translated as a feeling of satisfaction with the game performance.

**Motivation (Uncertainty):** Students feel motivated to learn by using Kahoot! however, they report a feeling of uncertainty as they could not describe what made them feel motivated.

**Satisfaction (Competition):** Students reported having a positive experience thanks to the presence of competition, an element which made them feel motivated.

**Motivation (Learning)**: Students reported having experienced motivation through playing Kahoot! for acquiring knowledge.

**Motivation (Excitement)**: Students expressed experiencing excitement, which is translated as motivation to play Kahoot!

**Specific objective 1: To unveil to what extent competition in a game-based learning environment affects secondary EFL learners' motivation with the use of Kahoot!**

Figure 1 is divided into two parts. The one on the left corresponds to the perceptions of extroverts, and the one on the right to the perceptions of introverts. They represent students' answers to Item I, statements 1 and 2.

**Figure 1:** Learners' perceptions in motivation after the use of Kahoot! regarding extroverted and introverted students.
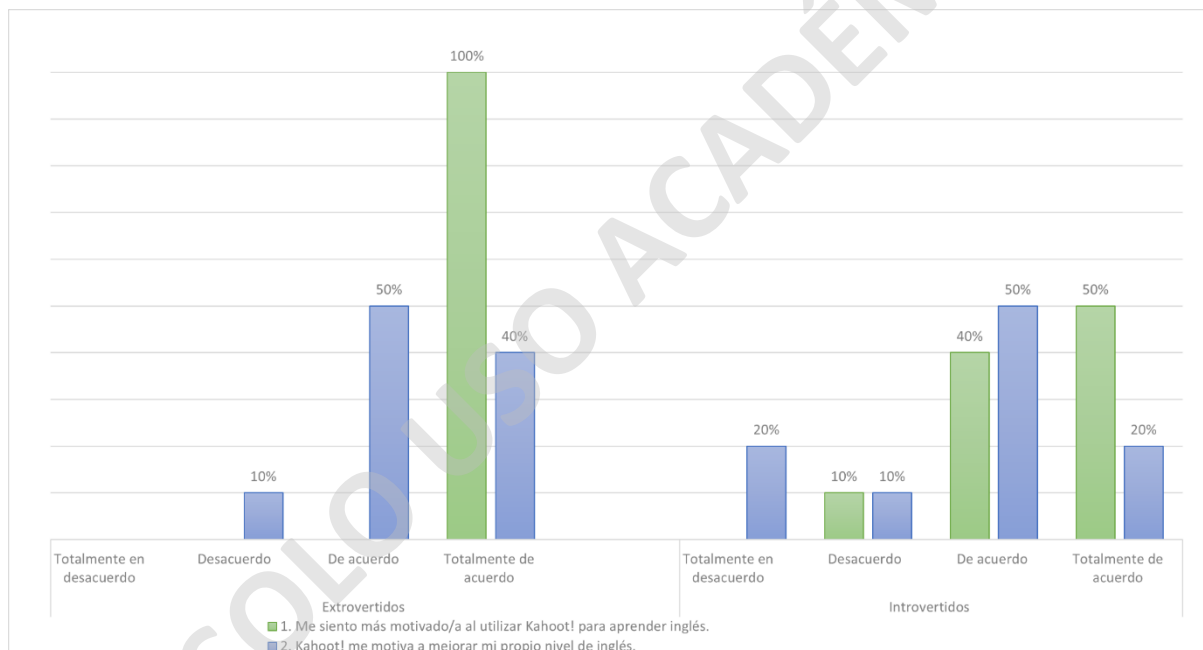
**Source:** Own creation, 2023.

While all extroverted students are in full agreement with the statement "Me siento más motivado/a al utilizar Kahoot! Para aprender Inglés," perceptions towards the statement "Kahoot! Me motiva a mejorar mi propio nivel de Inglés" vary slightly. Forty percent of the students report being in full agreement, 50% agree (without strong

conviction), and only 10% believe that Kahoot! does not motivate them to improve their own level of English.

On the other hand, perceptions become slightly more varied among students who consider themselves introverts. Fifty percent fully agree with the statement "Me siento más motivado/a al utilizar Kahoot! Para aprender Inglés!" while 40% agree (without strong conviction), in comparison to extroverts, of whom only 10% feel more motivated to learn English using Kahoot!

Regarding perceptions of the statement "Kahoot! Me motiva a mejorar mi propio nivel de Inglés," there is a significant difference. Only 20% of introverted students fully agree with that statement, while the majority (50%) agree with it but without strong conviction. On the other hand, 30% deny that Kahoot motivates them to improve their own level of English, where 10% disagree, and the remaining 20% report being "completely in disagreement.

The chart below represents the students who did not select one of the options regarding if they were introverted or extroverted, that is, not defined students.

**Figure 2:** Learners' perceptions in motivation after the use of Kahoot! according to not defined students.
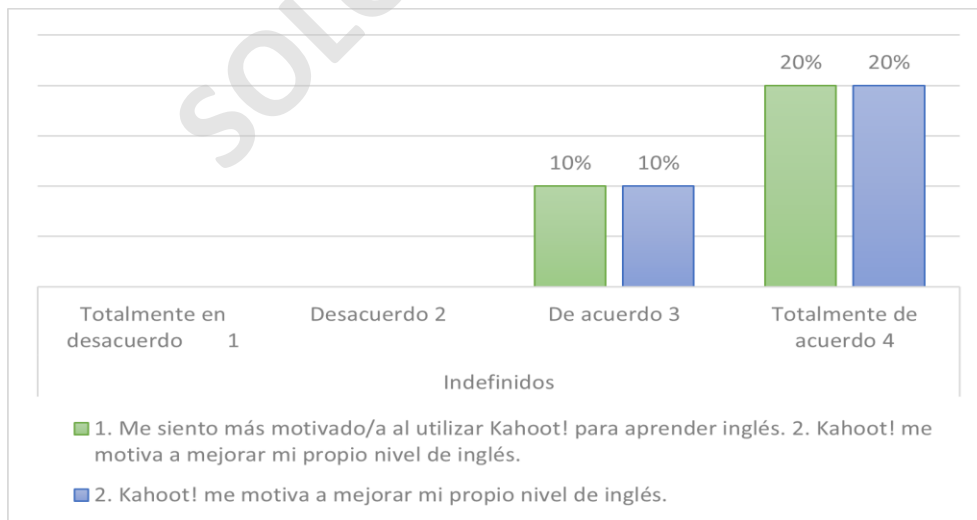
Figure 2 indicates the perception of not defined students regarding the effects in their motivation with the use of Kahoot!

Observing statement one "Me siento más motivado/a al utilizar Kahoot! Para aprender Inglés," 10% of not defined students demonstrated agreement, while 20% of them totally agreed.

The percentage of statement 2: "Kahoot! Me motiva a mejorar mi propio nivel de Inglés" shows that 10% of the pupils agree. Additionally, 20% of the pupils totally agreed. Furthermore, none of the students were inclined towards choosing Totally Disagree and Disagree options regarding both statements.

**Specific objective 2: To unveil to what extent competition in a game-based learning environment affects secondary EFL learners' self-improvement with the use of Kahoot!**

Figure 3 is divided into two parts. The one on the left corresponds to the perceptions of extroverts, and the one on the right to the perceptions of introverts. They represent students' answers to Item I, statements 3, 4, 5, 6, and 7.

**Figure 3:** Learners' perceptions in self-improvement after the use of Kahoot! according to extrovert and introvert students.
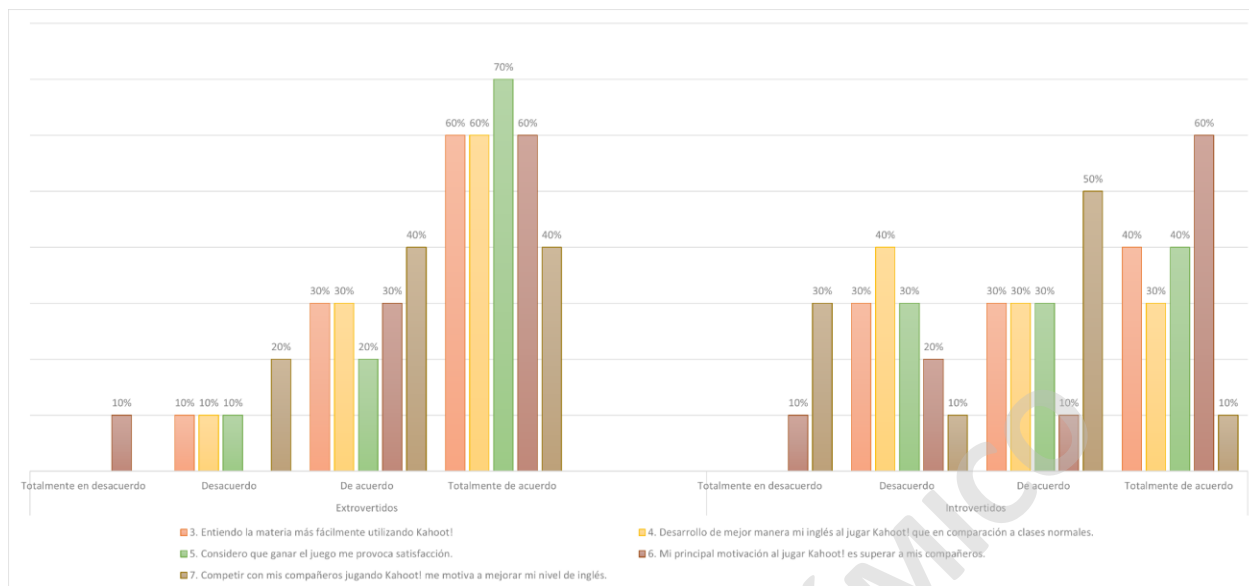
Source: Own creation, 2023.

Regarding the third statement, "Entiendo la materia más fácilmente utilizando Kahoot!", 60% of students who consider themselves extroverted declare that they fully agree, while the remaining 30% agree (without strong conviction). Finally, the remaining 10% disagree. On the other hand, students who consider themselves introverted have more varied perspectives, as 40% of students fully agree, 30% agree (without strong conviction), and the remaining 30% disagree.

As for the fourth statement, "Desarrollo de mejor manera mi inglés al jugar Kahoot! que en comparación a clases normales", 60% of students who consider themselves extroverted report full agreement, while 30% declare that they agree (without strong conviction). Lastly, the remaining 10% disagree with the statement. On the other hand, students who consider themselves introverted distribute their perceptions in fairly similar percentages, with 30% stating they fully agree, another 30% agreeing (without strong conviction), and the remaining 40% stating they disagree.

Considering the results of the fifth statement, "Considero que ganar el juego me provoca satisfacción" and considering extroverted students, the majority of the respondents report to fully agree, with 70%, while 20% consider themselves to be in

agreement (without strong conviction). Only 10% disagree with the presented statement. On the other hand, introverted students distribute their responses more unevenly, with 40% fully agreeing, 30% agreeing (without strong conviction), and the remaining 30% disagreeing.

The results of the sixth statement, "Mi principal motivación al jugar Kahoot! es superar a mis compañeros" show that 60% of extroverted students fully agree, 30% agree (without strong conviction), and only 10% strongly disagree. On the other hand, the percentages are distributed across the four types of perceptions, with 60% of students fully agreeing, 10% agreeing (without strong conviction), 20% disagreeing, and another 10% strongly disagreeing.

In the results of the seventh and final statement within the Likert scale, "Competir con mis compañeros jugando Kahoot! me motiva a mejorar mi nivel de Inglés", 40% of students who consider themselves extroverted report that they fully agree, another 40% state that they agree with the proposed statement, while the remaining 20% believe that competing with their peers by playing Kahoot! does not motivate them to improve their English level. On the other hand, a significant minority of introverted students, amounting to 10%, express full agreement, 50% agree (without strong conviction), another 10% disagree, and finally, the remaining 30% strongly disagree with the proposed statement.

The figure below represents the students who did not select one of the options regarding if they were introverted or extroverted. That is, not defined students.

**Figure 4:** Learners' perceptions in self-improvement after the use of Kahoot! referring to not defined students.
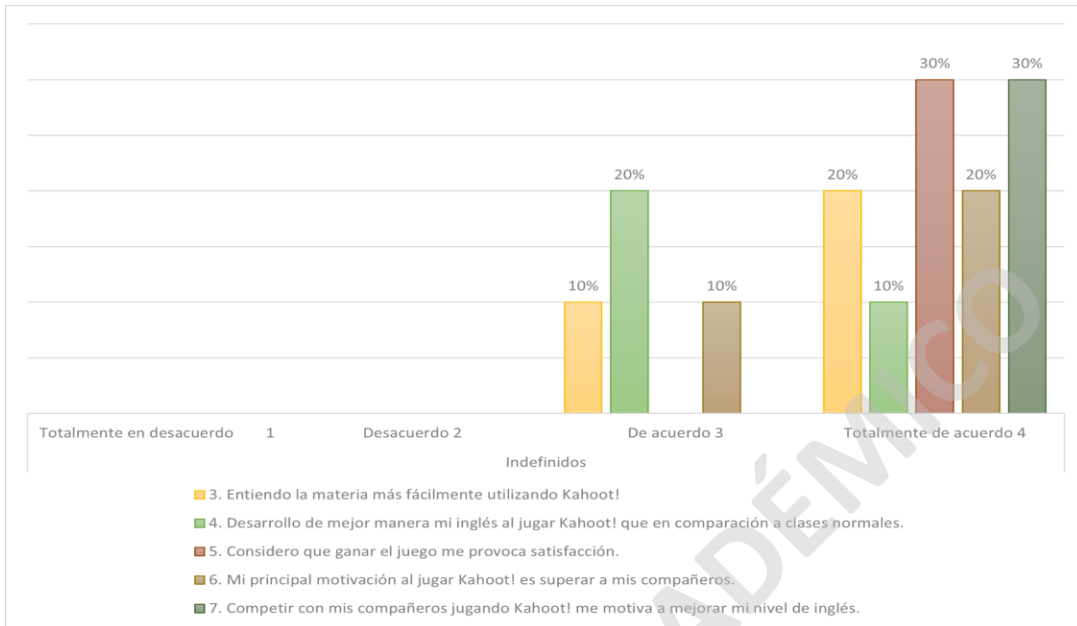
Source: Own creation, 2023.

The chart represents the perception of not defined students regarding their self-improvement after using Kahoot!. In this way their answers are inclined to positive results.

Concerning the third statement "Entiendo la materia más fácilmente utilizando Kahoot!", 10% of the students agreed while 20% totally agreed.

Regarding students' opinions on statement four "Desarrollo de mejor manera mi inglés al jugar Kahoot! que en comparación a clases normales," 20% of them agreed and only 10% totally agreed.

The results of the fifth statement "Considero que ganar el juego me provoca satisfacción" has a percentage of 30%, which indicates that all the not defined students answered Totally Agree.

Statement number six shows that 20% of the students totally agreed and 10% of them agreed with the statement "Mi principal motivación al jugar Kahoot! Es superar a mis

compañeros." As for the seventh statement "Competir con mis compañeros jugando Kahoot! me motiva a mejorar mi nivel de Inglés", the maximum percentage (30%) of not defined students responded with totally agree.

**Specific objective 3**: **To find out how competition in a game-based learning environment affects learners as per their attitude types, that is, introverted versus extroverted with the use of Kahoot!**

Figures 5, 6 and 7 show different labels that represent students' perceptions about the question: "Which was your perception after using Kahoot!? Do you think what you experimented was negative or negative? Explain your answer."

Figure 5 below represents the results obtained from the answers to Item III, question 8, considering the responses from ten individuals who consider themselves as extroverts.

**Figure 5:** Extroverted students' perceptions after using Kahoot!
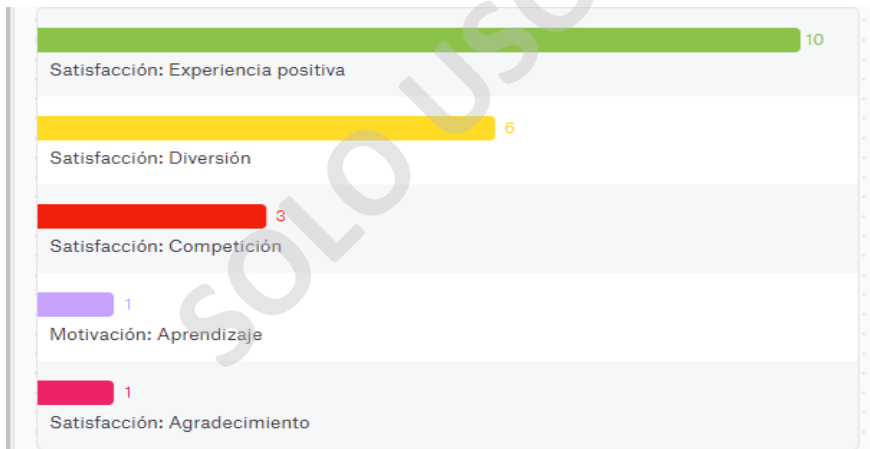


Source: Own creation, 2023.

Figure 5 reveals unanimous satisfaction among all ten participants regarding their Kahoot! experience, characterizing it as nothing but positive. The responses to the open-ended question were complemented with a range of positive emotions. Most notably, a

sense of enjoyment emerged as the predominant sentiment, reported six times. Furthermore, a feeling of competition resonated three times, and a sense of motivation for learning was articulated once. Additionally, one participant notified a distinct sense of contentment and gratitude due to the implementation of this game-based learning activity, by declaring:

> It was great; I had a good time. It was very entertaining, and it's evident that they put a lot of effort into it. Thank you very much; it was a fun and positive experience. (Spanish original: "Fue bacán, la pasé bien. Muy entretenido y se ve que le echaron ganas, muchas gracias, fue una experiencia divertida y positiva.")

Figure 6 below represents the results obtained from the answers to Item III, Research Question 8, considering responses from ten individuals that consider themselves as introverts.

**Figure 6:** Introverted students' perceptions after using Kahoot!



Source: Own creation, 2023.

Figure 6 shows as the higher category the students who perceived the use of the game Kahoot! in the classroom as a positive experience, as well as those who felt motivated in some way while participating. Moreover, according to Figure 6 above, the perception "Learning" (to learn) comes up three times, at the same time, "excitement" and "incertitude" were mentioned twice by two students each, whereas "competition" only emerged once.

The following quote, extracted from the answers of the students, was picked as the most representative one in relation to the chart presented in Figure 6:

> In my opinion, Kahoot! is really good to learn English or other subjects. In addition, the perception of the game was positive because we learn more. (Spanish original version: "Para mí opinión, Kahoot! es muy bueno al aprender Inglés u otras cosas, positivo porque aprendemos más.")

Figure 7 below represents the results obtained from the answers to Item III, Research Question 8, considering responses from three individuals who do not consider themselves as either introverts or extroverts.

**Figure 7:** Unanimous students' perceptions after using Kahoot!.



Source: Own creation, 2023.

The Figure represents the unanimous satisfaction among the three participants regarding their Kahoot! experience, characterizing it as a positive one. Notably, two of the participants acknowledged the presence of motivation and satisfaction driven by the sense of competition. This sentiment is clearly seen in the following representative comment:

> Kahoot! seemed to me a positive tool since it motivates the competition and the learning." (Spanish original: "Kahoot! Me pareció una herramienta positiva, ya que motiva la competencia y el aprendizaje.")

On the other hand, one participant exhibited a sense of uncertainty, as he could not articulate his reasoning despite declaring that it was overall a positive experience.

The analysis revealed that both participant groups demonstrated significant motivation when using competition for learning English. It seems that Kahoot! competition emerged as a crucial motivational tool for enhancing their English learning, as reported by the participants, where only a small fraction of participants reported no motivation at all following its use.

After being exposed to the competitive environment facilitated by Kahoot!, a substantial number of students found it easier to comprehend English content. This resulted in a more effective development of their English learning compared to conventional classes. Notably, only 20% of the students, primarily introverted, appeared to favor traditional classes to improve their English skills, which could be attributed to their learning style, where they may perceive the competitive nature of Kahoot! as stressful or overwhelming. Nonetheless, this seems not to be the case, as only one student among all perceived an overall negative experience, but without providing specific reasons about his perception.

The competitive environment proved to be highly beneficial, as the majority of the students noted that challenges imposed generated a powerful sense of satisfaction,

particularly when they emerged as winners. Moreover, this desire of outperforming their peers was a prevailing sentiment among most of the students, where only 20% of the total students denied having that desire, mostly introverts, which could be attributed to their personality traits, where introverts tend to be more reserved and less inclined to seek the spotlight or compete openly with others.

## DISCUSSION

This study aimed to comprehend the effects of competition in students' motivation and self-improvement, to find out whether the incorporation of competition in a game-based learning environment is beneficial or not. For deeper understanding, students' perceptions were taken into consideration to understand to what extent competition affects students regarding their attitude type. In this aspect, results showed that most of the students experienced great motivation after "competition" was implemented in the form of a Kahoot! in a GBL environment. The discussion of the findings is presented according to the objectives to which they pertain.

### Specific Objective 1: To unveil to what extent competition in a game-based learning environment affects secondary EFL learners' motivation with the use of Kahoot!

When considering students' perceptions in relation to the first objective of this study, it is undeniable that the introduction of competition in the form of a Kahoot! impacted the motivation of most of the students, as it is shown in the results obtained from Figure 1. This outcome diverges from the depiction of "competition" as a double-edged sword by Lepper and Malone (1987, as cited in Featherstone, 2022), suggesting that it may be detrimental to certain students. Notably, some students reported no increased motivation in comparison to traditional classes; yet it is essential to highlight that the perception of the whole group was reported as positive.

The findings of this study align with prior research by Cagiltay and Ozcelik (2015), highlighting that competition within a game-based learning environment significantly and meaningfully motivates students. The results show that most of the students in this study reported being more motivated to learn English after the experience with GBL activities.

It is worth mentioning that the sense of motivation attributed to the presence of competition was rated significantly higher on the Likert-scale than it was anticipated in the open-ended questions. Interestingly, when students were asked about their perceptions after using Kahoot!, a prevailing sense of enjoyment emerged as the dominant response, with only occasional mentions of the competitive aspect. This prominence of the term "enjoyment" in the open-ended questions suggests the elevated level of joy and satisfaction experienced by students from the incorporation of competition in the GBL environment.

**Specific Objective 2: To unveil to what extent competition in a game-based learning environment affects secondary EFL learners' self-improvement with the use of Kahoot!**

The results of this study demonstrate the positive impact of implementing competition in the form of a Kahoot! game on students' self-improvement, as most of the students reported a strong motivation for improving their English language skills. According to Hong et al. (2009), it is "the desire to win the key factor of competition that motivates students" (p.26). Similarly, through the sense of competition, the inclination for self-improvement became highly visible, as competing with their peers significantly boosted most students' self-improvement, that is, desire to grow and perform better.

At the same time, this competition among EFL learners underscored Kahoot! as an effective tool for improving content comprehension. Moreover, the satisfaction derived from surpassing the rest of the class and winning the game contributed to an increased motivation for English language learning. These results bear considerable resemblance with what was reported by Hong et al. (2005), who explained that "competition is goal-oriented, direct towards achieving one's own goals even though this may have a negative

effect on other competitors" (p.18). Interestingly, during our analysis, this negative effect on the EFL learners was not observed; in fact, the experience was predominantly positive. The only exception was a small minority who did not perceive a change in their self-improvement, though they still did not report the activity as negative in their response to the open-ended question.

**Specific Objective 3: To find out how competition in a game-based learning environment affects learners as per their attitude types, that is, introverted versus extroverted with the use of Kahoot!**

The integration of competition within the game-based learning environment had a profoundly positive effect on both student motivation and self-improvement, which was also seen in their own perception of improvement in their performance, almost regardless of their attitude type, as the different perceptions from introverted and extroverted students were relatively minor, since both types of students reported having experienced a positive experience, reaffirming the advantages of introducing competition within a game-based learning setting.

Even though students depicted this activity as positive, it is crucial to take specific details into account when designing a competitive-based activity. A significant portion of introverted students surveyed in this study showed a preference for learning English through traditional classes rather than through the approach experienced with Kahoot!. This contrasts with what was already reported by Smiderle et al. (2019), who showed that introverted students are more attracted to a game-based environment with competitive elements, such as ranking, than extroverted students.

Additionally, the data collected for this objective is particularly intriguing because it diverges from the findings of Smiderle et al. (2019), who suggested that games like Kahoot! might enhance the accuracy of introverted students, as they seemed to submit their answer more thoughtfully, reducing trial-and-error behaviors, which occur when students submit answers without deep reflection.

**Pedagogical Implications**

The findings of this study underscore the benefits of incorporating competition within a game-based learning environment, particularly when employing tools like Kahoot! The enhanced motivation and self-improvement observed among students tells us about the potential of competition to stimulate the learning process. However, it is quite important to acknowledge each student's preferences, particularly within the group of introverted learners.

Furthermore, the data collected in this study presented intriguing deviations from prior research, challenging certain assumptions about the impact of competition on introverted students. Overall, the pedagogical implications of this research stress the importance of having particular care when applying competition with EFL learners.

Educators should be mindful of the individual differences among students, identifying their attitude types, and carefully considering their preferences and needs when incorporating competitive elements in learning activities. By doing so, educators might take advantage of the potential of competition in motivation while ensuring that learning remains an inclusive and enjoyable experience for all students.

**Suggestions for future research**

It is important to consider that for further research, there should be a larger number of students at various levels. It should be contemplated that the diversity of the students may lead to a broader sense of competition, affecting motivation and self-improvement through the use of Kahoot!

Furthermore, one suggestion for further research is to consider the socioeconomic level of the school, given that it is important to acknowledge the technological devices the school can provide as they are crucial for the use of Kahoot!

Regarding specific objectives 1, 2, and 3, it is suggested to inquire about the perception of the teachers at each level, as they can provide an extensive point of view

considering their access to broader information about the students. In this case, it would be necessary to apply a questionnaire or conduct an interview to obtain more veracious data.

Finally, it is recommended to take into consideration the age of the students to be interviewed, as, in our investigation, eighth-grade students often were prone to providing less detailed answers while responding to open-ended questions.

**Limitations of the study**

A limitation faced during the game implementation was the availability of technological devices for students to play with, as the school's coordinating teacher mentioned a no-phones policy during school hours. Without these devices, playing the game would have been impossible given that it is hosted on an online platform. This could have been a potential problem for the research; nevertheless, the issue was easily resolved when the school provided us with tablets.

Moreover, another limitation was that, after the execution of the activity, some students refused to answer the survey distributed at the end of it appropriately, especially the open-question, and others, while responding, provided only brief answers, lacking in detail and elaboration, which affected our information gathering and might have affected our overall understanding of the participants' experiences.

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# APPENDICES

## APPENDIX A

## Constancia de Validación de Instrumentos
## Juicio Experto

Yo, Sergio Peña Calapay, grado Licenciado y Master en Lingüística y académico de la Universidad Mayor, dejo constancia de la validación del(de los) instrumento(s) para la investigación Competition as an essential element to achieve motivation and self-improvement in English language learning through Gamification in Chilean secondary education: a students' perception study based on the use of Kahoot in the classroom, conducente a lograr el grado de Licenciatura en Educación para la carrera de Pedagogía en Inglés para Ed Básica y Media de la Escuela de Educación de la Universidad Mayor.

| Criterio de validación | Validado | Validado con observaciones | Deficiente |
|---|---|---|---|
| Suficiencia | X | | |
| Coherencia | X | | |
| Claridad | X | | |
| Relevancia | X | | |

**FECHA: 22 agosto de 2023**

**Sergio J. Peña Calapay**

**APPENDIX B**

**Instrument**

## ¡Percepción de los estudiantes sobre Kahoot!

La siguiente encuesta se realiza de manera anónima y con motivos netamente investigativos, con el objetivo de recaudar información sobre la percepción de los estudiantes sobre Kahoot! relacionado a motivación y competitividad.

I.Considero que mi personalidad es:

_____ Introvertida                                         _____ Extrovertida

II.     Instrucciones: Marca con una equis (x) la casilla que mejor represente tu opinión acerca de cada enunciado.

| °dicadores | Totalmente en desacuerdo 1 | Desacuerdo 2 | De acuerdo 3 | Totalmente de acuerdo 4 |
|---|---|---|---|---|
| Me siento más motivado/a al utilizar Kahoot! para aprender inglés. | | | | |
| Kahoot! me motiva a mejorar mi propio nivel de inglés. | | | | |
| Entiendo la materia más fácilmente utilizando Kahoot! | | | | |
| Desarrollo de mejor manera mi inglés al jugar Kahoot! que en comparación a clases normales. | | | | |

| | | | | |
|---|---|---|---|---|
| Considero que ganar el juego me provoca satisfacción. | | | | |
| Mi principal motivación al jugar Kahoot! es superar a mis compañeros. | | | | |
| Competir con mis compañeros jugando Kahoot! me motiva a mejorar mi nivel de inglés. | | | | |

III.    Responde la siguiente pregunta:

¿Cuál fue tu percepción tras usar Kahoot?, ¿Crees que lo que experimentaste fue positivo o negativo? Explica tu respuesta.

_____
_____
_____
_____
_____

**APPENDIX C**

**Consentimiento informado para participar en un proyecto de investigación**
**COMPETITION AS AN ESSENTIAL ELEMENT TO ACHIEVE MOTIVATION AND**
**SELF-IMPROVEMENT IN ENGLISH LANGUAGE LEARNING THROUGH**
**GAMIFICATION IN CHILEAN SECONDARY EDUCATION: A STUDENTS'**
**PERCEPTION STUDY BASED ON THE USE OF KAHOOT! IN THE CLASSROOM.**
(LA COMPETENCIA COMO ELEMENTO ESENCIAL PARA LOGRAR LA MOTIVACIÓN Y SUPERACIÓN
PERSONAL EN EL APRENDIZAJE DEL IDIOMA INGLÉS A TRAVÉS DE LA GAMIFICACIÓN EN LA EDUCACIÓN
SECUNDARIA DE CHILE: UN ESTUDIO DE PERCEPCIÓN DE LOS ESTUDIANTES BASADO EN EL USO DE
KAHOOT! EN EL AULA).

Estimada(o) participante, nuestros nombres son Anders Yañez Stefan Luciano, Fell Rojas Moira Amalia, Gutierrez Jeldres Claudia Elizabeth, Novani Verdugo Francesa Victoria, y somos estudiantes de la carrera Pedagogía en Inglés de la Escuela de Educación en la Facultad de Ciencias Sociales y Artes de la Universidad Mayor. Actualmente, nos encontramos llevando a cabo un proyecto de investigación para obtener el grado de *Licenciada(o) en Educación*, el cual tiene como objetivo descubrir en qué medida los estudiantes de secundaria de inglés como lengua extranjera en un entorno basado en juegos se ven afectados al experimentar la competencia con Kahoot!

Usted ha sido invitada(o) o su hijo(a) a participar de este proyecto de investigación académica que consiste en una encuesta el día martes 10 de Octubre del año 2023.
Debido a que el uso de la información es con fines académicos, la participación en este estudio es completamente anónima y los investigadores mantendrán su confidencialidad en todos los documentos, no publicándose ningún nombre y resguardando la identidad de las personas.

Si usted tiene preguntas sobre sus derechos como participante puede realizarla directamente a las(os) investigadoras(es), o bien comunicarse con el Coordinador de Bloque – Licenciatura de la Escuela de Educación de la Universidad Mayor**,** al correo electrónico: marcos.lopez@umayor.cl, o concurrir a la dirección Manuel Montt Oriente 318, Providencia, Santiago de Chile.

...................................................................................................................................

# ACTA DE CONSENTIMIENTO INFORMADO

Yo ....................................................................................., Rut:..................., **acepto** participar/que mi hijo/a ................................................................ participe voluntaria y anónimamente en la investigación **"título de la investigación"**, dirigida por las(os) estudiantes nombres de estudiantes de la Escuela de Educación de la Universidad Mayor.

Declaro haber sido informado/a de los objetivos y procedimientos del estudio y del tipo de participación que se solicita, así como saber que la información entregada será **confidencial y anónima**. Entiendo que la información será analizada por los investigadores en forma grupal y que no se podrán identificar las respuestas y opiniones de modo personal. Por último, la información que se obtenga sólo se utilizará para los fines de este proyecto de investigación.

_____  _____
           **Firma**                                        **Fecha**