

Didactic Strategy of Game-Based Learning for the Development of Linguistic-Communicative Competences in Teaching a Foreign Language at the Elementary Education Level.

Authors' names: Yetssing Bimelet Portilla et Edna Mayrely Lozada

Education Faculty, Santo Tomás University

Master's degree in Bilingual Learning Environments

Professor: Yonier Hernández Echavarría.

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Author Note

Yetssing Bimelet Portilla

yetssingportilla@ustadistancia.edu.co

Edna Mayrely Lozada

ednalozada@ustadistancia.edu.co

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Resumen

El presente proyecto aborda el tema del aprendizaje basado en juegos, mediante la sistematizar la experiencia en el contexto particular del colegio Agustiniiano de Floridablanca, este como estrategia didáctica para promover el desarrollo de competencias lingüístico-comunicativas. Durante este proceso, se presta especial atención a repensar y rediseñar las metodologías aplicadas en el uso de estrategias digitales para avanzar en la transición bilingüe y la postulación de políticas que permitan mejorar los procesos de aprendizaje de una lengua extranjera. Así mismo, este ejercicio buscó integrar ambientes de aprendizaje bilingües a partir del uso de juegos digitales los cuales fueron planificados a partir de unidades didácticas que pusieron en marcha una serie de técnicas que buscaban fortalecer las habilidades lingüístico- comunicativas en la lengua extranjera (inglés); esto claro está a través de la creación de juegos serios.

Finalmente, la metodología implementada tuvo como objetivo motivar a los estudiantes de dos grupos (muestra y control) hacia el uso de herramientas tecnológicas de la institución, que les ayudaran al fortalecimiento de las competencias lingüístico-comunicativas.

Abstract

The current project concerns the topic of game-based learning, by systematizing the experience within the context of Agustiniiano School; game-based learning was perceived as

a didactic strategy to promote the development of linguistic- communicative competences Throughout this process, special attention is given to rethinking and redesigning the methodologies applied in the use of digital strategies to progress in bilingual transition and the proposal of policies that enhance the learning processes of a foreign language. Similarly, this exercise aimed to integrate bilingual learning environments through the use of digital games, which were planned based on didactic units that implemented a series of techniques to strengthen language and communication skills in the foreign language (English) through the creation of serious games.

Finally, the implemented methodology aimed to motivate students from two groups (sample and control) towards the use of technological tools provided by the institution, which would aid in strengthening their linguistic- communicative competences

Key words

Bilingualism, game-based learning, learning environments, linguistic-communicative competences, didactic units.

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INTRODUCCION

The Wave of globalization has brought with it a set of social, political, and educational developments which have been rated to break down the narrow frontier of countries around the world to enable them to connect with each other; these changes involve the possibility for citizens for freely and assertively, sharing ideas, experiences and knowledge regarding the context of each territory. In order to access and participate in this process of interculturalism, The Colombian National Education, at the head of the national government launched in 2004 the National Bilingualism Program, which would be aimed at strengthening the teaching and learning of foreign languages (focusing on the English communicative) in students of preschool, basic and high school education; however, despite the use of strategies such as “Inspiring teachers”, which has benefited more than 4,800 teachers in boosting pedagogical skills in teaching English, there are still many challenges to overcome.

Among the ministry's efforts to generate effective learning spaces for teaching English, the basic standards for competencies in foreign languages: English (MEN, 2006) are launched. These ones have emerged as a teaching response to define a clear plan of action that guides the teaching of English in the national territory, thus the standards propose a general outline about what a student should be know and do when completing the school year and moving on to the next school level; In the light of the above, this course of action has not to determine what and how it should be taught.

For achieving the previous objectives, learning environments arise which according to Bates, (2015) "refers to the various physical locations, contexts and cultures in which learning process can be carry out since students can learn in a wide variety of backgrounds, such as settings outside of school and outdoor environments". This implies a paradigm shift that moves the emphasis of education from what to how to teach, locating in a Colombian context where a traditional model that gives priority to the transmission of knowledge and not the acquisition of it. In this sense, creating a space for learning mediated by the use of technologies becomes an imperative need in the bilingual processes of any institution; In that regard, an interrelation between technology, motivation and foreign language teaching arises, which is an educational strategy of game-based learning, which allows students to interact with educational materials in a playful and dynamic way; game-based learning is not just about creating games for students since it contemplates the design of learning activities that can introduce concepts in a spiral way to guide users towards a final goal (Lahrech, L. 2019). In the same way, teachers are expected to use digital educational games with the help of

information and communication technologies (ICT) to create learning spaces that enable interaction, socialization and interpretation of content.

Taking into account the aforementioned aspect, it is observed that educational institutions are increasing looking for starting a bilingualism process, as is the case of Colegio Agustiniiano Floridablanca which is carrying out this process by promoting the English learning in other subjects apart from English such as Sciences and Math which are being taught by 70% Spanish and 30% English. However, it is often observed that the real communication in ESL classroom remains weak while the understanding of grammatical knowledge is still the most remarkable aspect when learning English. For this reason, this paper aims to show the importance of beginning a process of systematization of experience that allows not only to perceive the adaptation of students to bilingualism, but also to make teachers aware of how game-based learning impacts the performance of 3rd grade students in relation to the development of linguistic competences by generating spaces for participation where the population use the target language in real life contexts through different activities to accomplish the communicative goal.

RESEARCH QUESTION

The development of the research was oriented from the following research: How does game-based learning influence bilingual learning environments by contributing to the development of linguistic competences in 3rd-grade students of the I.E Colegio Agustiniiano?

The investigative approach was carried out in relation to the following categories:

- ∄ Teaching a foreign language (Bilingualism)
- ∄ Basic Standards of Competencies in Foreign Languages
- ∄ Linguistic Competences.
- ∄ Game-based learning
- ∄ Didactic units
- ∄ E. Krashen's Monitor Hypothesis

CONCEPTUAL FRAMEWORK

Literature Review

To underpin conceptually this research exercise, we started delimiting the literature review, this process allowed us to shed light on the understanding of some relevant categories to mention: *A. Bilingualism, B. Basic competencies standard for competencies in a foreign language, C. grammatical structure in a foreign language and game-based learning, D. linguistic competences in a second language, E. Krashen's monitoring theory and F. didactic Unit*, to their deepen analysis it was utilized a documentary analysis matrix (*Table # 7*) delimitating published research articles from 1965 to 2023, published in Digital Education Review, Journal of English Education and linguistics studies, National Foundation for Educational Research, research gate, and Science Direct. The documentary analysis matrix is referenced as the first annex in the research.

The review of the aforementioned documents allowed identify the most relevant notions of the categories enabling us in that way base this study

A. Bilingualism

Foremost, Vasquez, L.Y (s.f) defines bilingualism as the understanding or usage of two languages at any level of proficiency. This usage shifts according to the situation and context. In regard to the above, in Colombia it has been evident the consolidation of the Bilingual National Program (PNB) which is a project that seeks not only foster educational quality for foreign language teaching in Colombian territory but promote Colombian's citizen competitiveness, even though the principal objective of PBN is to form citizens with to sufficient tool to be able to communicate in English, reaching foreign high-level standards. A study carried out by the EF English Proficiency Index (EPI) positions Colombia as one of the countries with a very low level of English proficiency, ranking 77 out of 100 nations. Correa, D, et all 2016).This low performance in the knowledge of a foreign language indicates that there is no only the low educational quality in a society but also the inequalities of the same; based on this study we can mention that Colombia has serious difficulties in the acquisition of a foreign language which can cause a barrier to the competitiveness of its citizens (Benavides, cited in Chacon 2021).

B. Basic Standards for Competencies in Foreign Languages

Concerning the teaching of a foreign language Diaz et Carmona (2010) demarcate that foreign language teachers are looking for fostering in students some dimensions that construct all-around education throughout the teaching of a foreign language. Hence, there born in 2016 in collaboration with the Colombian Ministry of Education and the British Council the Basic Standards of Competence in a foreign language, which are scrupulously linked with the common European framework of reference for languages (CEFR). Thus, at the education level, the standards are defined as clear and public criteria that make able to envisage which are the basic levels of quality that all boys and girls of the Colombian regions are entitled. (MEN, 2006) In that guide dedicated to English teachers in the country, they are stipulated standards for each grade from 1st to 3rd; from 4th to 5th; from 6th to 7th; from 8th to 9th; from 10th to 11th grade–; for each grade group there is a general Standard that "...defines the level of performance in the language" (MEN, 2006, p. 14) and a set of specific Standards for comprehension skills -listening and reading- and production –writing, monologues, and conversation. Most of these specific standards are organized hierarchically depending on the communicative competence that is targeted: linguistic, pragmatic, or sociolinguistic. (Echeverri, P. y Sierra, A. (2019).

The following table presents the standards and objective that students must have in terms of learning a second language:

TABLE 1 BASIC STANDARDS OF COMPETENCIES IN FOREIGN LANGUAGES



LEVELS ACCORDING TO THE COMMON EUROPEAN FRAMEWORK	NAME OF THE LEVEL IN COLOMBIA	EDUCATIONAL LEVEL AT WHICH EACH LEVEL OF THE LANGUAGE IS EXPECTED TO BE DEVELOPED	GOALS FOR THE EDUCATION SECTOR FOR 2019
A1	<i>Beginner</i>	<ul style="list-style-type: none"> • <i>Grades 1 to 3</i> 	<ul style="list-style-type: none"> • <i>Minimum level for 100% of the graduates of Secondary Education.</i>
A2.	<i>Basic</i>	<i>Grades 4 to 7</i>	
B1	<i>Pre-intermediate</i>	<i>Grades 8 to 11</i>	.
B2	<i>Intermediate</i>	<i>Higher education</i>	<ul style="list-style-type: none"> • <i>Minimum level for English teachers.</i>



		<i>•Minimum level for professionals from other careers.</i>
C1	<i>Pre-advanced</i>	<i>•Minimum level for new graduates of language degrees.</i>
C2	<i>Advanced</i>	

Considering the table above, it can be said that the institution's 3rd-grade students must be at level A1 where, according to the CEFR (2001), from the language component they must be able to:

TABLE 2 LINGUISTIC LEVEL

Linguistic level

- *I demonstrate comprehension of simple questions about myself, my family and my environment. I understand and use frequently used everyday expressions, as well as simple phrases to satisfy basic needs.*
- *I copy and transcribe words that I understand and use frequently in the classroom.*
- *I write the names of places and elements that I recognize in an illustration.*
- *I briefly answer the questions “what, who, when and where”, if they refer to my family, my friends or my school.*
- *I write personal information in simple formats.*
- *I write invitation and congratulatory messages using simple formats.*
- *I demonstrate knowledge of the basic structures of English.*

In the same way, the Ministry of National Education (MEN) presents a suggested English curriculum that aims to adapt the competencies established in the CEFR to the needs and particularities of the educational context, as well as the characteristics of the students; this with the purpose to improve pedagogical practices regarding the teaching of English to ensure that students reach the level of the foreign language expected in each grade

D. Linguistic competences in learning a foreign language.

English language teaching is a field that without doubt is closely bounded to linguistics, phonetics, and pedagogy. Therefore, the importance of defining whatsoever encompasses the concept of linguistic competence. First, Chomsky (1965) sought to display

an understandable description of competence and performance by mentioning that the former is the tacit or implicit knowledge of the language that a speaker possesses, and the last (performance) it is the actual use of the language in real and concrete situations. (P.4) . In this sense, linguistic competence resides in the ability to use sounds, forms, syntax, and vocabulary correctly and appropriately. Likewise, a person is linguistically competent when he/she can use that knowledge in practical speech with the grammatical flaws and mistakes that exist among real-world speakers; in other words, linguistic competences allow speakers to understand each other despite grammatical mistakes and differences in dialects. (Chomsky , 1965). The aforementioned theory was refuted by Dell Hymes (1972) who introduced the concept of communicative competence which expand the scope of Chomsky's theory by adding pragmatic and sociolinguistic competence. Despite the notion of Hymes, modern sociolinguistics such as Dvořáková (2011) have argued that “It is questionable to what extent it is advisable and beneficial to students to prioritize one before the other (linguistic - communicative). We can argue that communicative functions require linguistic competence to be activated” (P.20) . Therefore, it is necessary rather than unfasten the communitive and linguistic competence to comprehend both as a unit that allows students to organize thoughts, express inner world, and to relate to society.

Therefore, Góngora (2008) has joined the two previous notions by introducing the concept of “competence in Linguistic Communication” which refers to the use of language as a tool either oral or written communication, also as an instrument of representation, interpretation, and understanding of reality.(p,180) Taking into account that perspective concerning



linguistic and communicative competence and their undoubted connection, this study does not unfasten the concepts. Still, it relies and communicative competencies as a tool that fosters the construction and communication of knowledge. Therefore, the final objective of this study is bounded with the linguistic communication competences which try to yield students mastering the language in numerous contexts.

In the following chart, they will be explaining some patterns that exemplify the categories (skills) that belong to Linguistic communicative competences :

TABLE 3 LINGUISTIC COMMUNICATIVE COMPETENCES CATEGORIES

Skill and knowledge	Definition
<i>Vocabulary</i>	<ul style="list-style-type: none">• <i>Words and lexical development</i>
<i>Grammar/syntax competence</i>	<ul style="list-style-type: none">• <i>Rules of how to put words together and language system</i>
<i>Morphology</i>	<ul style="list-style-type: none">• <i>Word structure and meaning of word parts, such as -s added to the end of a word to mean more than one.</i>
<i>Sociolinguistic competence</i>	<ul style="list-style-type: none">• <i>A) Socio-cultural rules of use: appropriateness.</i>



	<ul style="list-style-type: none">• <i>B) rules of discourse: coherence and cohesion of groups of utterances.</i>
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Nwacs. (2021). Communicative Competence: Linguistic — NWACS. NWACS

According to Berges (2013) grammar is intended to boost the correct use of the language in terms of orthography, morphology, semantics, and syntaxis. For that reason, grammar learning can be perceived as the keystone for developing the four linguistics skills: listening, speaking, reading, and writing (Corder, 1988).

Having into consideration the aforementioned aspects, the Grammar teaching role has acquired and gained relevance in language teaching, especially in English as a foreign language since if there is no accurate control of the grammar, the student's linguistic development lead to be limited (Widodo,2006). Nevertheless, now of teaching grammar, various teachers made the mistake of teaching that as a memory process whereas students tend to just collate many grammar rules to apply them to some given exercises. what can cause discomfort and fear, which may be factors that prevent them from communicatively using the grammar. Accordingly, game based-learning is the act of implementing games with the firm intention of revitalizing and promoting the learning process through the fixing up of information in an eye-catching form to involve students in the learning context (Trybus, 2015). The fact of creating learning environments with creative and interactive activities such as games may have un positive impact on the development of linguistic skills. Subsequently, a study carried out by Fithriani in 2008 concluded that game based-learning has a high impact on the grammar teaching sections since these didactic resources contribute to perceived

grammar in a funny, relaxing, and likable way by the part of students; a common vision about the impact of game-based learning on grammar is shared by Figueroa (2015) where it was concluded that gamification impacts positively a foreign language learning experience by fostering skills such as writing, reading comprehension, speaking skill, also it was realized that grammar study with the support of gamification can provide spaces of collaborative work and social learning interactions between students.

Taking into account the above, it is relevant to emphasize the importance of game based-learning in 3rd-grade students of Agustiniiano School of Floridablanca as a tool that creates not only learning but also meaningful experiences in students so that they can develop their grammar competency. Therefore, stop viewing grammar as a subject that teaches sentence structure, but it is also the basis for learning fluency and a good command of the language.

E. Krashen's Monitor Hypothesis

Krashen's theory, divided into called categories (hypotheses) is the second theory with which the research is presented in these notions. With respect to the acquisition of a foreign language, Krashen's Monitor Hypothesis (2009) postulates that:

Acquisition and learning are used in specific ways. Learning has only one function, it is that of a monitor or an editor. Learning comes into play only to make changes in the

form of the utterance, after the acquired system has "produced" it. This can happen before speaking or writing, or after self-correction. (p.17).

As a result, we will say that during the process of learning a foreign language, learners develop a learned system that allows them to correct their mistakes but only when they are aware of the use of the grammatical structure of the target language. In addition, this theory of language acquisition is a similar process (if not exactly the same) as how children develop their native language skills. Language acquisition is a subconscious process; language learners usually do not know they are acquiring a language, but they are using it to communicate. The result of language acquisition, the ability to acquire, is also unconscious. Generally, they do not know the rule of the language. Instead, when learning, they have a "feel" of correctness. The grammar sentence "sounds" good or "feels" good and bad feels bad, even if the students don't realize which rule is being violated. Also, Krashen posits that language learning happens uniquely through what he terms as "comprehensible input," where learners gain language proficiency by being exposed to language that is not just understandable but also holds personal meaning for them., it means making students participate in real situations where they could demonstrate the usage of the L2. Nevertheless, in the theory, it is highlighted the notion or concept of "The affective filter" which is a notion that introduces the importance of a learner's attitude when learning a foreign language. In this theory, Krashen mentioned that a high level of motivation affects the relative success of foreign language acquisition.

Krashen's theory can be also analyzed into the following concepts: **affective filter hypothesis**. According to Krashen's theory, significant emphasis is placed on emotional factors, as they are seen as directly linked not just to the learning journey of acquiring a new language but also to the outcomes achieved during and after that journey. Therefore, emotional factors such as depression, loneliness, lack of self-esteem, among others, affect the student's learning process; This theory also estimates that if a student finds an educational environment that promotes and encourages their educational process, according to Krashen's theory, this student will obtain better results. Furthermore, the **input hypothesis** serves as the central pillar of Krashen's entire theory. According to him, the acquisition of a new language will only take place when learners are presented with instances of the language, referred to as targets or inputs, that are slightly above the learner's current level of language competence. Finally, **Natural order hypothesis**, this hypothesis is related to the acquisition of a second language; in this theory Krashen affirms that there exists a foreseeable sequence in acquiring the grammatical structures of a new language. Likewise, these rules exist in the acquisition of a mother tongue, in other words, there are grammatical rules that are internalized before others; as a reflection of this theory, the formal academic process that foreign language students have at the beginning of a university degree. Students start learning basic aspects of the language as subject pronouns, adjectives; having learned this, the learning process is catapulted towards more complicated aspects of Language. It means that there is a hierarchical relationship between what is learned and what is produced.

F. Didactic Unit

According to Arias & Torres (2017), a didactic unit involves those pedagogical elements that allow us to carry out a class in an organized manner in a certain time, space and situation. That is to say, a didactic unit is developed based on the characteristics of the classroom and the students, as well as the prior knowledge of the students in order to be able to achieve the learning of the students in relation to a specific topic (Blasco & Mengual , 2008, p.3) .

Taking into account that the didactic unit is the planning of what the teacher wants to achieve in the classroom, the main components that a didactic must have are based on the design of Couso et al. (2011):

Title: It must offer information about the topic to be addressed. This must indicate the conceptual purposes that are going to be considered.

Objectives: these refer to what is expected of students to have acquired at the end of the didactic unit, taking into account the age, the prior learning of the students, as well as the social importance of the proposed contents.

Guiding question: it serves as a guide to solve a difficulty with the support of the application of the didactic unit and the company of the students. This question not only serves as a guiding axis about what it wants to achieve with the didactic unit but it also allows the teacher to design, manage and evaluate (Llinares, 2008).

Motivation: It is the starting point that demonstrates the validity, usefulness and interest of what is going to be studied. It is the connection of the strategies and activities that will be carried out to overcome the obstacles that arise.

Procedures: refers to a series of organized and concluded actions aimed at accomplishing a goal, often perceived as strategies for learning.

Development of the didactic unit or the description of the activities: it corresponds to all the activities and steps related to the objectives, procedures and contents of the didactic unit.

Evaluation: the curriculum is connected and the pedagogy to analyze the criteria of the educational act.

G. Game based learning

The descriptions of game-based learning typically highlight its nature as a form of gaming that has clear learning objectives. This perspective suggests that while games primarily have educational purposes, they may not always be exclusively digital. Additionally, the process of creating educational games involves finding a balance between effectively addressing the subject matter and emphasizing engaging gameplay(Plass, J. L et all, 2015).Additionally, Game-based learning is often described as playing games that have specific educational goals. While these games are usually digital, they don't always have to be. When creating educational games, it's important to balance teaching content with making the game enjoyable. Game-based learning goes beyond fun; it uses interactive games to make

learning engaging and memorable. By using games, it keeps learners interested and helps them remember what they learn.

Taking into consideration this research project addresses the typology of *serious games* to propose different strategies that can optimize the student's learning process; Enlarged the concept of where and how serious games might be utilized, Huang, W & Tettegah. S, (2010) advocate for their integration into educational and training settings through the creation of games designed for computer-based platforms. A considerable segment of modern serious games comprises digital games disseminated through computers or gaming consoles designed for educational purposes.. In recent times, both categories of games have received considerable focus. Therefore, their extensive utilization across various sectors and fields has been acknowledged by academic experts and industries alike. In this sense, this study is committed to game-based learning with the use of serious games to to explore how players interact with serious games, their setting, and characters. Tasks within these games should consistently prompt players to recall and apply learned mental models while solving different problems. When empathy is a targeted outcome, interactions among players should be part of the game since real-life tasks often require teamwork, potentially fostering empathy between the player, their character, and people in the real world.

METHOD

Methodology, within the scientific method, constitutes an integral segment following the preliminary stages, enabling the organization of essential methods and techniques required for research. Essentially, methodology represents a distinct phase stemming from a theoretical and epistemological standpoint, guiding the choice of specific research techniques. Thus, the upcoming section will delve into the related facets guided the development of this research; these aspects include the research approach, the type of study, and the typology of the study. In the same way, key elements for the execution of the study are indicated, such as the context, participants, and the instruments that were used to carry out the data collection.

Approach:

In mixed research, researchers explore a problem and develop a detailed understanding of a central phenomenon, thereby stating the purpose and research questions in general terms of participants' experiences and collecting data either numerically or perceptions from a small number of participants. mixed research is best suited to solving a research problem whose variables you do not know and need to explore. A central phenomenon is the key concept, idea, or process being studied. (Creswell 2002, page 16) . Therefore, With the purpose of systematizing the impact that the implementation of this project has on students, a mixed research approach is proposed. This approach is accurate

since it intends to understand a certain issue or research topic from the analysis and behavior of a local population which it is immersed in this research; thus, this approach is especially effective since it combines elements of quantitative research and qualitative research for comparing outcomes either cultural or from participants' perception, voice; also specific information about the values, opinions, behaviors, and social contexts of particular populations. (Mack et al., 2005). This mixed method has allowed us to compare, contrast and categorize a set of data that have worked mainly to test the first hypotheses regarding the implementation of game-based learning

Type of research

Taking into account that the following research seeks to understand the educational reality, this study will be based on a type of research called "systematization of experiences", which is introduced according to Rodríguez, K. M. (2019) as a pedagogical proposal to organize, theorize and reorient educational practices; therefore, it focuses on a process of critical and participatory reflection that seeks to build the realities of the individuals. This proposal has the ability to transform processes based on the needs of the participants. Accordingly, what was intended using this type of research was to recover the pedagogical experience of game-based learning, thus creating links between knowledge and lived experiences.

When deciding which design we were going to use in our study, we realized that a systematization of experiences would be the most effective since it is a research methodology used to study phenomena in real situations, whether they are new and/or complex or to extend knowledge on phenomena already investigated. Thus, systematization of experience provides

detailed and in-depth analysis on a limited number of subjects, aiming to collect sufficient information on a person, an event or a social system (group of individuals or organization) to allow the researcher to understand how it functions or behaves in a real situation (BERG, 2000, p. 02-03)

To carry out the implementation of this type of research, three fundamental stages guided the development of this research.

1. Recognition stage: regarding the phenomenon to be studied, an approach process is carried out to understand the role of the game-based methodology as a motivation strategy in terms of learning a foreign language.

2. Decoding stage: creation of didactic units that allow to demonstrate the methodology of the acquisition of a foreign language under the influence of game-based learning and after that, its compilation and analysis.

3. Conclusion stage: a scanning is carried out regarding the findings of the analysis, then categories are created in relation to the information, and the research hypothesis is corroborated. Finally, conclusions are generated regarding the learning of a foreign language from game-based learning.

Thematic axis

Concerning the bilingual educational management of the education institution the thematic axis M is used to mention “Educational Management”. This axis allowed us not

only to propose changes o improvements in institutional policies and pedagogical models that are initially guided by the secretariats of education but also to contribute to the use of tools that promote the adaptation of contents to the learning styles of the students, as way to obtain a higher quality in the teaching (Garrido,2003). Therefore, it also encompasses the identification of key factors influencing the implementation of educational guidelines, including their impact on the creation of bilingual learning environments. This field also focuses on executing necessary actions to bring about significant changes, if needed. Within this framework, processes are developed to analyze needs and resources, as well as to make administrative decisions.

Research intentionality

In relation to what it means to set up qualitative research in the framework of private institutions that is in the transition to bilingualism, it is advocated as intentionality to verify the hypothesis that targets whether the learning based in-game, is an alternative attainable to generate bilingual learning environments from the usage of didactic tools of web 2.0 which promote the development linguistic communicative competence in a foreign language as an experience that can be reproduced in educational institutions that are in the transition process towards academic bilingualism.

Context and participants

The presents study was carried out in the private education institution Colegio Agustiniiano is located in the municipality of Floridablanca Santander, in Colombia, with the purpose of coming up with some verdict answers to the research questions, it was taken as a sample the 3rd-grade students, who begun in 2022 their process and transition to bilingualism, the aforementioned population is between the ages of 8 and 9 years old with a cluster of 9 girls and 16 boys. Regarding the no participative observations, it was realized in the sample some problems in relation to communicative and grammatical competences in the target language.

Research objectives

For the next section, the research objectives are mentioned starting from the general to the specific ones:

General objective

Analyze the academic impact of a game-based learning strategy on the development of communicative linguistic competences in a foreign language at the primary education level.

- *Specific Objective 1*

Design a learning strategy supported by digital resources aimed at the development of linguistic skills for quasi-experimental validation.

- *Specific Objective 2*

Quasi-experimentally validate the strategy in third-grade students by applying didactic unit in two groups (control and experimental).

- *Specific Objective 3*

Comparing the levels of learning associated with communicative linguistic competence of a foreign language between the control group and the experimental group using the basic standards of learning a foreign language as a reference point.

Specific Objective 4

To determine the influence of game-based learning on the acquisition of communicative linguistic skills (grammar, vocabulary, spelling, pragmatics, morphology, semantics and syntax) in a foreign language.

Data collection instruments:

For this section, the instruments that facilitated the data collection process in the aforementioned sample population will be addressed. As the research advanced, the tools

employed to gather crucial data for analyzing the influence of game-based learning on the participants were :

Non-participant observation :

Non-participant observation, which although it has not been carried out on several occasions, has allowed both an in-depth analysis and study of various elements, such as the teacher's work methodology and students in the face-to-face modality. Moreover, this instrument gave first contact with the educational context and allowed us as a researcher to know the study environment lived by the students in the English classes. Likewise, the observation contributed to the study of games-based learning because it was analyzed if there was a use of said methodology within the work proposed by the teacher. Likewise, the observation contributed to the study of games-based learning because it was analyzed if there was a use of said methodology within the work proposed by the teacher. In addition, during the whole process of observations, the researchers organized the information in a logbook (matrix) that allowed them to perceive and conceive outcomes in a deep way. Therefore, the logbook permitted the capture of the daily life in both groups experimental and sample.

TABLE 4 NON-PARTICIPANT OBSERVATION AND PARTICIPANT OBSERVATION

Instrument	Objective	Participant	Time	Topic
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Non-participant observation 1	To identify the key component of the learning environment in regard to educational management and	Third Grade(sample)	1 hour 25 minutes	Past simple and regular-irregular verbs
Participant observation 2	foreign language learning process.	Third Grade(Experimental)	1 hour 25 minutes	Past simple and regular-irregular verbs
Non-participant observation 3		Third Grade(sample)	1 hour	Comparative and superlatives
Participant observation 4		Third Grade(Experimental)	1 hour	Comparative and superlatives
Non-participant observation 5		Third Grade(sample)	1 hour 25 minutes	Prepositions of place and places in the city
Non-participant observation 6		Third Grade (Experimental)	1 hour 25 minutes	Prepositions of place and places in the city

Semi-structured interview

The second instrument was the semi-structured interview that was adopted twice during the research; The instrument provided the possibility to collect data corresponding to the progress of the students in the English area as well as the acquisition of lingstic structures; this through open, closed, and multiple choice questions. Thus, the answers of the participants in relation to the way in which they use game-based learning allowed us to reveal its influence on the dynamics class. Among the questions mentioned, it is possible to understand the participants' viewpoints regarding game-based learning and the benefits associated with implementing this approach is achievable.

TABLE 5 SEMI-STRUCTURED INTERVIEW

Instrument	Objective	Participant	Time	Categories of questions
Semi-structured interview 1	Identify student's perception regarding the usage of game based-learning in terms of type of games, methodology of the games, motivations to analyze how students interact	Third Grade (Experimental)	30 minutes	<ul style="list-style-type: none"> • Questions associated with Category A) emotions and games in the classroom and in the English laboratory • Questions associated with Category B) Game methodology.



	each other by leaning with the support of online games.			<ul style="list-style-type: none"> Mixed questions (inclusion and diversity) types of games.
Semi-structured interview 2		Third Grade (Experimental)	30 minutes	<ul style="list-style-type: none"> Questions associated with Category A) emotions and games Questions associated with Category B) Game methodology. Mixed questions types of games and possible contribution to the development of linguistic competences

Logbook

This project has a third method of data collection, that relies on the objective of obtaining the necessary information, particularly related to the researchers' notions regarding ideas, emotions, thoughts, decisions, and facts, among other factors that contribute to clarifying either the process or the steps to follow in the research process; in addition, the

logbook allowed reflection throughout the participation in the project. This instrument was carried out every two weeks and the aforementioned factors served for coding and triangulation of various elements that can be considered particularly noteworthy when analyzing how the game-based learning methodology affects the participants.

TABLE 6 LOGBOOK INSTRUMENT

Intruments Logbook	Categories of analysis
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Six Logbooks carried out during 7 months

- Easiness to remember the vocabulary seen and apply it in each context.
- Easiness of integrating previously seen grammar topics to learn a new one
- Analyze if the implemented strategy has generated a positive impact in terms of motivation for the subject
- Analyze if the implemented strategy has not generated any impact in terms of motivation for the subject.

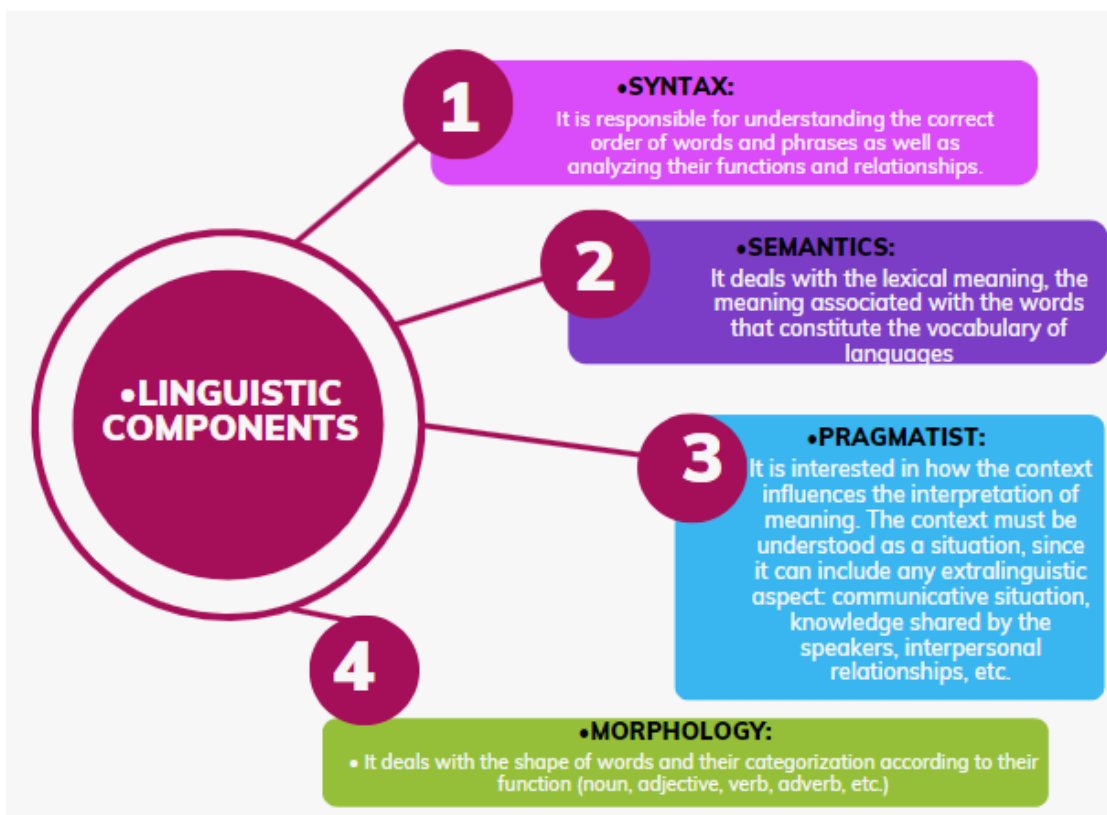
Documentary analysis

As a last instrument, there is the documentary analysis that permitted the researchers to demonstrate and compare exercises, evaluations, and activities regarding the linguistic-communicative competencies of the sample, said analysis was carried out with two samples; one control and another experimental. This activity was mainly focused on the discernment of game-based learning motivational component in students, and the analysis of the two samples to compare the influence of learning based on the two aforementioned samples. This exercise also addresses the linguistic component, understanding if there was an advance or impact in terms of the use of the foreign language in terms of morphology, syntax, semantics, and spelling mainly when speaking.

The above terms refer to the components of linguistics, since they are aspects that mobilized the documentary analysis exercise, it is considered relevant to understand their

function to create the documentary analysis instrument that allows undertaking a deeply analysis of different linguistic components when students are utilizing the target language orally and when writing ; Thus, its functions are roughly presented in the following scheme.

LINGUISTIC-COMMUNICATIVE COMPONENTS DIAGRAM



linguistic components, figure organized based on the Northwest Augmentative Communication Society

Documentary analysis instrument:

Document analysis is a systematic tool that aims at evaluating physical and magnetic paperwork which can be provided online or computer-assisted; these documents are not influenced by researchers' intervention making them useful in research in order to find significance around the topic under study; regarding the focus of this study, the main function of this collecting data instruments is to reflect on changes and developments through the comparison of available documents, which are four evaluations applied both control and experimental group, the analysis allowed to check if there is any difference between the previous and final collected ones in relation to students' linguistic competencies. In addition, the rubric evaluation (template) had to be organized taking into account the competencies categorized by the NORTHWEST AUGMENTATIVE COMMUNICATION SOCIETY which postulates vocabulary (words), grammar/syntax (rules of how to put words together), morphology (word structure and meaning of word parts, such as -s added to the end of a word to mean more than one), symbols (including those needed for written language, signs, pictures, and other symbols used in their AAC language) the aforementioned categories were analyzed and modified according to the Basic Standards of Competencies in Foreign Languages which provided lights in relations to the competences and how to value them.

TABLE 7 DOCUMENTARY ANALYSIS INSTRUMENT MATRIX

CATEGORY	4 - Very Good	3 - Good	2 - Needs Improvement	1 - Unsatisfactory	Points
Syntaxis	Sentences are complete, well-constructed and of simple structure (using pronoun, verb and complement	All sentences are complete and well-constructed. (it lacks the complement of the sentence)	Most sentences are complete and well-constructed, however, there are some orthographic mistakes	Many sentences need lots of work when it comes to the use of pronoun verbs and complement.	
Semantic & spelling	Student makes no errors in grammar or spelling using the proper vocabulary and grammar tense required for a specific context	Student makes 1-2 errors in grammar or spelling using the proper vocabulary.	Student makes 3-4 errors in grammar or spelling using the proper vocabulary.	Writer makes more than 4 errors in grammar and/or spelling.	
Pragmatic and communicative competence	Ideas were expressed in a clear and organized. It was easy to figure out the speaker's intention	Ideas were expressed in a pretty clear manner, but the organization could have been better.	Ideas were somewhat organized, but were not very clear, and sometimes there were some mistakes in pronunciation.	The ideas seemed to be a collection of unrelated sentences. It was very difficult to figure out the speaker's intention since there were many pronunciation mistakes.	
Listening comprehension	The students understand the entire audiovisual resource and can accurately answer all the comprehension questions.	The student understands most parts of the audiovisual resource and can accurately answer the 75 % of the questions.	The student understands some parts of the audiovisual resource and can accurately answer the 40 % of the questions.	The student has difficulties understanding or remembering most parts audiovisual resource and cannot accurately answer the 20 % of the questions.	



TABLE 8 . ACTIVITY PLANNING MATRIX.

Research objectives	Data	Application purpose	Instrument
General objective Analyze the academic impact of a game-based learning strategy on the development of communicative linguistic skills in a foreign language at the primary education level.	collection technique		(attached as an annex)



<p>Specific Objective 1</p> <p>Design a learning strategy supported by digital resources aimed at the development of linguistic skills for quasi-experimental validation.</p>	<p>Entry test and exit test</p>	<p>-Carry out an entrance test that makes it possible to understand the use of the foreign language at a linguistic level</p> <p>-Generate a learning environment mediated by the use of games.</p>	
<p>Specific Objective 2</p> <p>Quasi-experimentally validate the strategy in third-grade students by applying didactic unit in two groups (control and experimental).</p>	<p>-Participant and non participant observation</p> <p>-semi structure interview</p>	<p>Implement a didactic strategy of learning based on digital games in order to know the impact that this methodology has on the development of linguistic competence.</p>	



<p>Specific Objective 3</p> <p>Comparing the levels of learning associated with communicative linguistic competence of a foreign language between the control group and the experimental group using the basic standards for learning a foreign language as a reference point.</p>	<p>Entry test and exit test.</p> <p>Documentary analysis.</p>	<p>- Compare the use of the language from the linguistic-communicative components in the control and experimental groups.</p> <p>-Verify if the research hypothesis regarding game-based learning is applicable to the educational reality of the sample.</p>	



<p>Specific objective 4</p> <p>To determine the influence of game-based learning on the acquisition of communicative linguistic skills (grammar, vocabulary, spelling, pragmatics, morphology, semantics and syntax) in a foreign language.</p>	<p>Documentary matrices</p>	<p>-Determine if the students' linguistic competence on experimental group had a significant advance in relation to the control group.</p> <p>-Perform an exit test to compare the results of the first test with the experimental and control group.</p> <p>-Decree whether the research process can be replicated in schools that implement a transition process towards bilingualism</p>	
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		from game-based learning.	
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DATA ANALYSIS PROCESS

Data analysis in qualitative research is expected to be a process of systematically searching and arranging the information gathered through unstructured text-based data such as: interview transcriptions, dairies reflections, observation notes, etc. (Wong, 2008) In order to broaden the scope of the phenomenon understanding, the researchers assemble data from various instruments to better understand the phenomenon under study. This process also allows for comparison with the literature review, the project's intentionality, and its categories. Additionally, this data analysis procedure comprises categorizing or coding the data. Fundamentally, the categorizing process ensures when gaining an insight into a huge amount of data by reducing the volume of raw date, followed by identifying significant patterns, and finally drawing meaning from data and subsequently building a logical chain of evidence (Patton, 2002). It is important to comprehend that in this data analysis process, different instruments were firstly perceived as raw data and consequently thanks to the organization of this primary data in patterns the researcher was able to become data in “information”. In this way, that information widens the scope of the study enabling the

information to become accessible for further processing and analysis in a number of different ways.

Data Validation

The data validation is going to be done through “triangulation”; a technique used in qualitative and mixed research that involves cross-checking multiple data sources of information and collection procedures to ensure that the data gathered is validated so as to avoid uncertainties, consistencies, and potential biases (Hassem, 2020). To validate the data, it was imperative to establish the researcher's approach to this process. Initially, a data preparation phase was undertaken before commencing any analysis. Consequently, the researchers initiated a "preliminary data analysis" to ascertain, to the best extent possible, if the data collection adhered to predetermined standards and remained free from biases. This critical phase, intertwined with the concept of validity, relates to the notions of "truth" and "certainty." "Truth" signifies an accurate reflection of real-world conditions, while "certainty" pertains to findings yet to be substantiated. Moreover, Patton (2002) highlighted “triangulation serves the purpose of verify the information(preliminary data) obtained throughout the analytical process since the researchers can find some inconsistencies that probably hinder their outcomes and conclusions”

To guarantee the precision of participant-provided information via the utilized tools, this study will employ the triangulation technique. This method aims to validate the obtained data by cross-verifying information gathered through various inquiry procedures.

Method of Data Analysis

In this segment, the data holds significance, readability, and necessitates coding and analysis. Hence, I will adopt the inductive analysis method (Hatch, 2002), aiming to identify meaningful patterns within the data and potentially draw broader conclusions about the studied phenomena. Hatch (2002) asserts that delving into specific details within the data involves observing patterns, substantiating these patterns, and eventually formulating overarching explanatory assertions. Furthermore, Hatch highlights that, unlike theory derived directly from data, which concentrates on methodical data collection and analysis, the inductive approach offers a broader perspective and is adaptable across various qualitative research methodologies.

To execute this process, the researchers followed to the following steps.

Read the data and identify frames and domains of analysis

The goal of choosing frames of analysis is to set general guidelines for how the researchers will begin thoroughly examining the data, rather than to actually perform the research. It's crucial to consider how the researchers will frame the initial analysis when analyzing the data for the first time, and this initial decision will significantly influence the subsequent analyses. Therefore, as investigators move through the subsequent steps, it's possible that the initial frames won't work or won't be a good fit for the data. If the frames of analysis are ineffective, they will be ineffective for a reason, and this should help find frames that are more appropriate for the objectives.

In the following lines, the researchers of this project show the preliminary data collected from the results of the triangulation technique and the inductive method. These initial categories were obtained from different instruments and are not triangulated of analysis in light of the literature of the project; It means that they are accurate and truthful data, and they have become categorized information.

Hence, the subsequent paragraphs elucidate the domains derived from semantic connections identified within the analytical frames are explained.

SYSTEMATIZATION OF THE EXPERIENCE: DIDACTIC STRATEGY OF GAME-BASED LEARNING

To illustrate the entire process undertaken in this project, the creation of tools is outlined below, along with the materials or tools crafted for this project's execution. Following this sequence, we present an analysis of the tools utilized in this study and their varied contributions in addressing the research question. Additionally, we describe how we've arranged and understood the gathered information.

Didactic units and systematization process

In our pedagogical framework, we meticulously constructed didactic units as the cornerstone to structure and execute a series of educational activities rooted in game-based learning. These units, intricately crafted, served as comprehensive blueprints to meticulously orchestrate our instructional sessions. Each unit was meticulously created, commencing with formulating a central inquiry and delineating various competencies encompassing communication, linguistic prowess, and oratory skills. These competencies were pivotal in fostering a holistic learning environment.

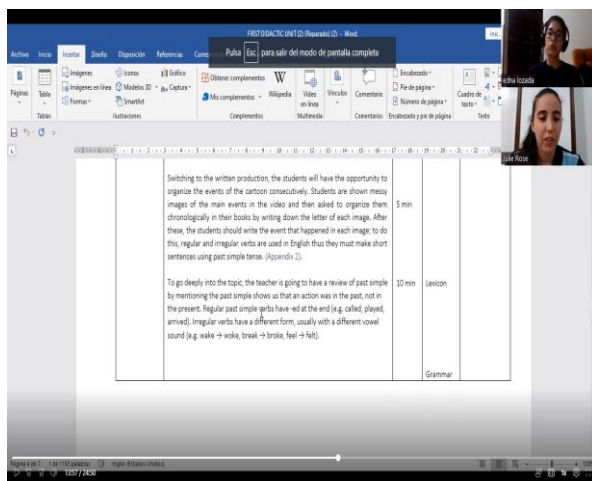
Sequenced coherently, these units were geared to ensure a unified and progressive learning trajectory. They commenced with preparatory phases aimed at readying students for the learning journey, followed by a comprehensive exposition of the subject matter. Furthermore, these units integrated tailored activities aimed at honing each identified competency. However, to ensure the caliber and relevance of these units, external validation was sought. Each didactic unit underwent rigorous scrutiny and endorsement by an esteemed

education specialist. This validation ensured our educational methodologies adhered to pedagogical standards, offering a robust and effective approach to learning.

At the culmination of each unit, we implemented serious games or game-based learning resources. These dynamic tools facilitated active student engagement, reinforcing learned concepts through practical and enjoyable experiences. These resources played an instrumental role in invigorating the classroom ambiance while cementing students' grasp of the material.

Below, evidence of a correction and validation process is presented, along with the link that directs to the implemented teaching units.

photographic evidence



link of didactic units :

https://usantotomaseduco-my.sharepoint.com/personal/yonierhernandez_usta_edu_co/_layouts/15/onedrive.aspx?folupo%2017%20yetssing%20portilla%20et%20al%20didactic%20units

link of the created and implemented serious games :

<https://wordwall.net/es/teacher/10281>

[149/ednal](#)

These resources played an instrumental role in invigorating the bilingual learning environments while cementing students' grasp of the material.

Logbook, systematization process

Throughout the entire research project, both participant and non-participant observations were conducted to understand students' behaviors, preferences, inclinations, and how these factors influenced their performance in learning English. All these observations were meticulously documented in a field journal categorized into three main sections: Proficiency in handling language structures, Impact of game-based learning strategy in terms of motivation, and Performance in the English subject. These categories were analyzed to understand how game-based learning positively or negatively affected class development and the changes observed in students when learning under this approach.

Moreover, students exhibited higher motivation when they played a significant role in their learning. However, certain behaviors were noted. For instance, students seemed reluctant when approaching the board or when given the opportunity to participate. During turn-taking activities on the board, most students avoided taking their turn. There were also instances of behavioral disengagement as some found it challenging not only to complete an exercise but also to present it to the entire class.

photographic evidence

OBSERVATION FORMAT

Activity topic: Places and prepositions of places
Date: May 30, 2023
Duration of the session: 1 hour **Class observation:** Number# 6
Participants: 1 Educator, 20 learners (8 females, 12 males) **EXPERIMENTAL GROUP**
Level: A1

Researcher Objective:

To identify, both in the control and experimental groups, the processes of acquiring grammatical competences in a second language through the implementation of didactic strategies such as game-based learning.

Research Question:

How does game-based learning influence bilingual learning environments by contributing to the development of linguistic competences in 3rd-grade students of the I.E Colegio Agustiniño?

logbook link:

<https://usantotomaseduco-m3%b3n%2d%20proyecto%20maba%2fapendice%201%2einstrumentos%2f01%20%20bitacora>

These observations provided profound insights into how students engaged with game-based learning and how their active involvement influenced their commitment and performance in class.

Perception test and systematization process

Throughout the research, perception tests were administered, one at the beginning and another at the conclusion. Nevertheless, the questions were slightly modified in test number two since the objective was to make a comparison between students' perceptions at the beginning and at the end. Thus, it was useful and meaningful to analyse if students' attitudes towards game-based learning and the types of games used remained consistent. In systematically documenting experiences, regarding the perception, when asked about emotions experienced during games in the lab, 9 students (64.3%) indicated happiness. Interestingly, emotions like anxiety and worry (disquiet) were selected by 2 students, totaling 28.6% of students. The previous question did not have significant changes in the first and second tests.

In the following Question : "What emotions do you experience while playing games in the classroom?", responses showed 0.0% for the classroom alone, 28.6% for the lab, and 71.4% for both. This aligns with the hypothesis that students feel uncomfortable playing in the classroom due to social pressures (e.g., board exercises), This pattern remained consistent in both the first and second tests, with slight differences observed towards the end, indicating that students tended to prefer the English lab significantly more by the end of the academic year.

Additionally in the questions "Which types of games drew your attention and made you feel you learned the most?" responses show that the option of Hot Potato, Cambridge

platform games, and Crosswords each scored 21.4%, while All games received 7.1%, and Wordwall games had the highest at 35.7%. Students favor various gamification strategies, with Wordwall online games being notably popular (35.7%) despite an equal interest in the Cambridge platform and Hot Potato strategies (each 21.4%). Interestingly, towards the end of the year, students notably inclined towards games directed or created through the Wordwall platform. They expressed that the variety of didactic activities made this website one of their favorites.

Finally, in response to the question "How do you feel you learn more, playing alone or perhaps with your peers?" the data reveals the following: With a partner (78.6%), alone (14.3%), and both (7.1%). This question aligns with inquiries about the preferred place for playing, as social interactions in the lab setting enable third-grade students to make corrections and compare answers with classmates without needing to go up to the board.

Photographic evidence

30 Cuestionario sobre Juegos grado 3*

Link: <https://forms.gle/vtBMd4efiEV6n68S6>

Cuestionario sobre Juegos grados 3*
Objetivo: conocer las opiniones, nociones y experiencia de la muestra en relación a la secuencia didáctica basada en el aprendizaje mediante los juegos.

* Indica que la pregunta es obligatoria.

1. Nombre *

Emociones al momento de jugar

Las siguientes preguntas hablarán sobre las emociones que sientes al jugar los distintos juegos que se han realizado tanto en el laboratorio como en el salón de clase.

Perceptions test link :

<https://usantotomaseduco-my.sharepopercpcion%20sobre%20el%20aprendizaje%20basado%20en%20juegOS>

Documentary analyses and systematizations

Experimental group

Throughout the research process, four evaluations were conducted, each focusing on specific language aspects: (Assessment #1) covered Past Simple and health vocabulary, (Assessment #2) tackled comparative and superlative vocabulary related to countries and gadgets, (Assessment #3) centered on prepositions of place, and (Assessment #4) involved 'going to' and prepositions of place, along with places in town. Upon analyzing the factors influencing students' linguistic performance, it's evident that a substantial number of students in the control group exhibited marked improvement across the assessments.

Moreover, a comparison was made among different competencies—comparison syntax, semantics & spelling, pragmatic and communicative, and listening competence—to discern the areas that displayed enhanced performance by the research's end. Scores were tallied across the four evaluations to determine each competency's progress.

The cumulative scores for each competency were as follows:

- Listening comprehension: 80 points
- Pragmatic and communicative competence: 66 points
- Syntax competence: 65 points

- Semantic and spelling competence: 59 points (270 total)

Analyzing the control group's linguistic skills reveals that 5 out of 7 students performed above average. Notably, 6 out of 7 students demonstrated a comprehensive understanding of most sections of the audiovisual material and accurately answered 75% of the associated questions—indicating the highest competency. Scoring 66 points, pragmatic and communicative competence showcased noticeable enhancement in oral expression organization and pronunciation correction awareness, thereby amplifying comprehension during speech. The improvement was distinctly reflected in the final assessment, elucidating students' intentions with ease.

Syntax competence, scoring 65 points nearly equivalent to pragmatic and communicative competence exhibited students' struggles in constructing sentences accurately, primarily due to overlooking grammar rules and occasional word misuse within specific contexts. Semantic and spelling competence recorded the lowest score, indicating substantial improvement in spelling and contextual word comprehension across the initial assessments. However, the final evaluation displayed less satisfactory results, suggesting room for improvement in spelling and contextual comprehension.

Control group

In the research process, four assessments covered various language aspects: (Assessment #1) focused on Past Simple and health vocabulary, (Assessment #2) centered

on comparative and superlative vocabulary linked to countries and gadgets, and (Assessment #3) dealt with prepositions of place. Evaluating the factors impacting students' language skills revealed a significant improvement in scores for most students in the control group across these assessments.

Furthermore, comparing different competencies—comparison syntax, semantics & spelling, pragmatic and communicative, and listening competence—indicated areas showing enhanced performance by the research's end. The total scores in each competency, based on the four evaluations, are as follows:

- Listening comprehension: 79 points
- Pragmatic and communicative competence: 70 points
- Semantic and spelling competence: 66 points
- Syntax competence: 67 points (282 total)

Analyzing the control group's linguistic skills revealed marked advancements, notably in pragmatic and communicative competence. Students demonstrated improved oral expression organization and pronunciation correction awareness, making their speech clearer. Additionally, students comprehended most parts of the audiovisual resources and accurately answered 85% of the associated questions, showcasing strong performance in this skill. In terms of syntax, students displayed fewer omissions of grammar rules and word misuse in sentence construction compared to previous assessments. However, in semantic and spelling competence, while students performed well in the initial two exams, the third

assessment highlighted significant semantic errors related to prepositions of places, with 5 out of 7 students performing above average.

Photographic evidence						
Participant		1ST ASSESSMENT PAST SIMPLE	SINTAXIS	SEMANTIC & SPELLING	PRAGMATIC AND COMMUNICATIVE COMPETENCE	LISTENING COMPETENCE
Maximiliano acosta	P1	4,2	4	4	3	4
Mariana Rodriguez	P2	3,1	2	1	2	3
Sara Pedraza	P3	3,1	4	2	2	3
Danna Prada	P4	3,8	2	3	2	2
David Suarez	P5	3,8	3	3	2	4
Sherin Guarin	P6	4,2	4	4	4	4
Luis Santoyo	P7	2,7	3	2	4	3
Suma de resultados		24,9	22	19	19	23
		Promedio	Concerning the analysis of factors that determine the performance of students in their linguistic skills, it is undoubtedly perceived that most of the students in this sample are above average (4 students out of seven) this analysis also allows us to identify some skills in which students have a better performance above other, this is the case of listening comprehension which sum of points gives as a result of the skill with higher performance, in contrast, the semantic and spelling and pragmatic and communicative competences which had a lower result, in this aspect we proceed to see the difficulties that students had in relations to these linguistic categories. About the semantic and spelling category most of the students make 3-4 errors in grammar or spelling using the proper vocabulary and include words that do not correspond to the context.			
		3,557142857				

Documentary analyses link:

<https://usantotomaseduco-n%202023%2FG2023%20GRUPO%2017%20Yetssing%20Portilla%20et%20al%2FInsturmentos%284%29Analisis%20documental>

All the information provided earlier in the systematization was organized into categories through the triangulation technique in order to obtain the analysis categories presented below.

CATEGORIES

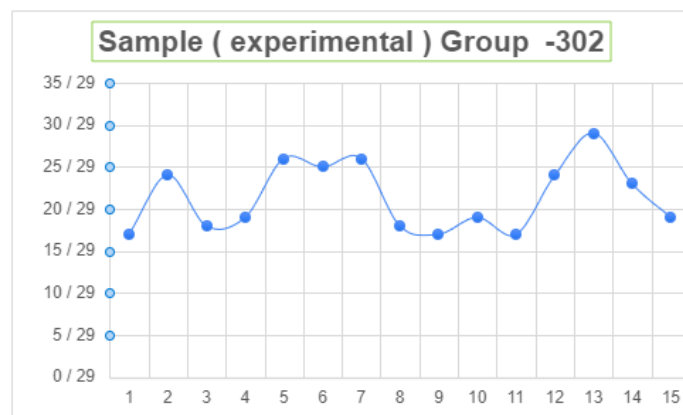
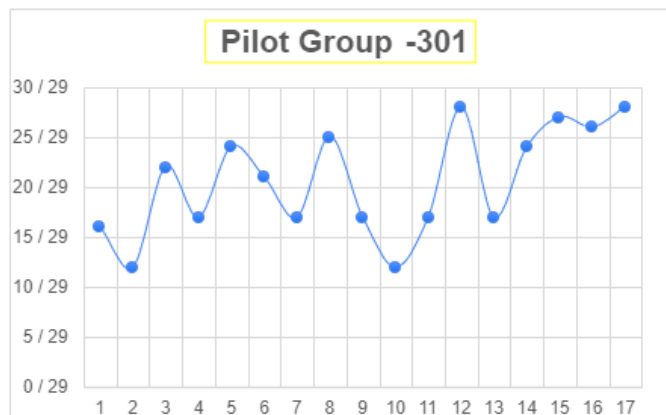
Enhancing of linguistic competences from the usage of Game-Based learning

The development of linguistic competence has been permeated from the usage of different pedagogical strategies, and one of these is game-based learning, therefore it was perceived all along the project and the data analysis process that students at the very beginning of the project were struggling with some competences which are going to be scrutinized in this preliminary category. In addition, it was always noticed the differences in terms of Linguistic competences development between the Pilot (CN) group and the experimental one, since It was observed that in the entry test, students of the experimental group (EX) found it difficult to form sentences using grammatical tenses such as the past simple, however, they have a good command of the present simple, lexical and semantic. On the contrary students of the pilot (CN) group displayed a better performance in the previous entry test demonstrating a slightly higher level of proficiency. This problem in terms of linguistic competences was remarked in the participants and non-observation observation where both (CN) and (EX) not only grammar performance is a difficulty for students but also their listening English skills. By analyzing the audio it was noticed that the level of the audio (A1) was according to what is required for the Colombian education ministry and also it was observed that students struggled to accomplish the listening activities even though these ones were related to the topic seen along the second term and the level was according to the level expected for students to have according to the Basic Standards of Competences in Foreign Languages in Colombia. Nevertheless, is important to highlight that the (CN) had



an easiness to remember the vocabulary previously taught even though they are not being exposed to digital games.

ENTRY TEST DIAGRAM

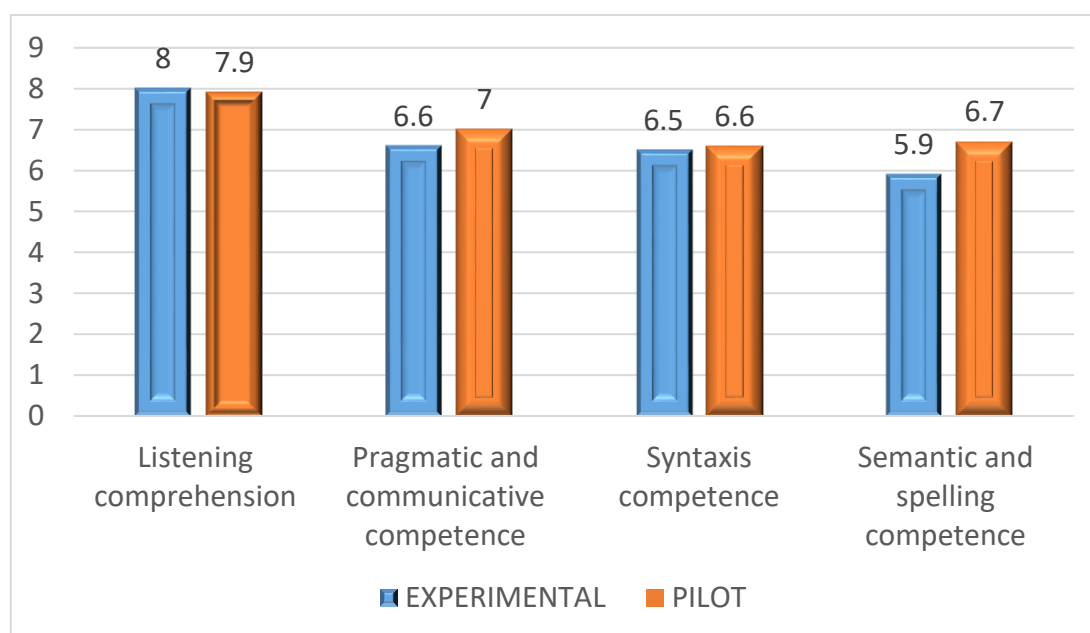


In the following charts they are presented the a diagram that helped to value and the two samples in the entry test.

Therefore, it is relevant to mention our study has shown that educational digital games can help learners develop most of their linguistic competences if they are designed following specific criteria. However, improvements must be made in order to ensure that, through educational games, foreign language learners can develop all linguistic competences in the same degree. In addition, Krystalli, P.(2015) has mentioned that “digital games can help learners develop most of the linguistic competences if they are designed following specific criteria. However, improvements must be made in order to ensure that, through educational games, foreign language learners can develop all linguistic competences in the same degree”.(p 8)

Contrary to Krystalli's ideas, in this research project, it is evident that not all the competences were developed at the same level. Thus, the following chart shows the differences between the Pilot (CN) and experimental (EX) groups.

PILOT AND EXPERIMENTAL GROUPS PROGRESS IN EACH COMPETENCE



The scores (points) correspond to the sum of all the scores obtained in four evaluations in each competence in the Pilot group (CN)

The aforementioned part of this category demonstrates not only the difference in English proficiency between both groups but also enables us to determine the weak points of students. These feebleness points were therefore examined and deepened through the use of game-based learning to find a method through which students could overpass and overcome

it. As a result, it was evidence in the last didactic unit and documentary analysis that in the (EX) it was evident that 5 of 7 students are above-average in all linguistic communicative competences (Syntaxis, Semantic & spelling, Pragmatic and communicative competence, Listening comprehension). This analysis also allows evidence that 6 of 7 students in terms of listening comprehension understand most parts of the audiovisual resource and can accurately answer 75 % of the questions, thus positioning as the skill with the best performance at the end of the project in the (EX) group. Likeness in terms of listening comprehension, in the (CN), it was observed that 7 of 7 students understood most parts of the audiovisual resource and could accurately answer 85 % of the questions, thus positioning as the second skill with the best performance in this sample. In other words, the whole group of linguistic communicative competence displayed an improvement in both groups, but it was still the (CN) whose outcomes decorated a slightly higher performance.

Now in this analysis, it is extremely important to take a look at the other competences; with that in mind, we have the pragmatic and communicative competence where (EX) students had an evident upgrading in the organization of ideas to express themselves orally as well as most of some students were more aware of pronunciation errors they committed in the previous exam thus working more on this aspect to make their discourse more understandable having a high-level of comprehension when speaking. Consequently, students in (CN) had a marked improvement in pragmatic and communicative competence since it was easier for students to organize their ideas to express themselves orally as well and most of them were seriously aware of pronunciation errors they committed in the

previous exam thus working more on this aspect to make themselves clearer when speaking, thus positioning as the skill with the second best-developed competence.

Higher-order thinking skills and memory in a game-based learning design

As per Lai (2011), higher-order thinking skills, often termed critical thinking, encompass the capacity to scrutinize arguments, draw inferences using both inductive and deductive reasoning, assess judgments, and resolve problems or make decisions. Additionally, critical thinking demands a blend of cognitive abilities and attitudes such as objectivity, curiosity, adaptability, a penchant for rationale, a thirst for knowledge, and a willingness to consider diverse perspectives. However, an apparent discrepancy arose in the findings of this analysis. Despite expectations of observing outcomes like critical thinking, collaboration, communication, argumentation, and problem-solving—typically associated with cognitive and higher-order thinking—they were notably absent during participation in non-gamified online exercises.

Therefore, some attached characteristics of Game-based learning such as game design, competition, curiosity, collaboration, individual challenge play an important role when motivating students to complete an exercise. In addition, it was analyzed that the fact of implementing games such as the crossword, the English contest, and the organized word

online games make students learn how to write correctly the word but also their meanings effectively. The previous information is thanks to various neuroscientists who suggest that there is a connection between the stimulus or input provoked by the game and an individual's metacognitive reactions in gamified situations. Consequently, one of the researchers is Sanchez, (2023) who mentions that “multisensory learning can enhance memory retention and retrieval. Different sensory inputs can activate multiple regions of the brain simultaneously, creating stronger neural connections and promoting deeper learning”. In this sense, when students interact with images and different kinds of multisensory learning experiences, the hippocampus, (a brain region crucial for memory) is activated which contributes to the formation of memory retention and retrieval. Finally, it is important to mention that in both groups (EX) and (CN) game-based learning facilitates the building up of new memories and the recovery of existing ones. It is important to mention that when students get a prize or a point in the interface of the game, they feel they are being rewarded, and it is at this moment when dopamine appears enhancing memory consolidations and making it easier to remember positive outcomes caused by positive rewards during the game.

Motivation, cognitive theory, self-learning environment in Game-based learning

Integrating educational activities through digital or non-digital games and simulations has elevated the development of aspects like motivation and thinking in learners, providing them with valuable learning opportunities. The core of gamification lies in motivation, especially when academics connect students' fundamental psychological needs for

competence, autonomy, and interpersonal connections with gamified experiences. This research demonstrates that adopting gamification in teaching methods can notably decrease student demotivation. Utilizing gamified platforms empowers educators to heighten student involvement and promote favorable learning results, (García, López, et al 2023). Investigating the Impact of Gamification on Student Motivation, Engagement, and Performance. Taking into account the aforementioned aspects, it was evidenced during the execution of the project and data analysis collection the motivational factor between the control and experimental groups was kind of different and similar in some aspects since this last one asserted that they felt a sense of relaxation since they did not care about the social pressure of making mistakes, but also it is relevant to mention that online game gives a sense of self-esteem and confidence to the same as the pilot group where the teacher looked for other ways to integrate didactic activities (non-digital games) to catch students' attention; these activities keep students motivation up and served as a way to review the topics of the evaluation in a meaningful way.

However, a variable factor that was evidenced in both groups but was most evident in the experimental group was the safe learning environment since in the students' perception of games, they asserted that they were frightened when going to the board or having the turn to participate since some of them found it difficult due to the low language performance to complete the exercise but also the fact of being exposed to the whole class or facing another classmate made them experienced worry and anxiety, for example, participant (P6) was one of the students who chose that experienced anxiety when going to the board even though it is a student with high English performance. In comparison to the pilot group, it was evidenced

that this group did not feel these emotions with the same intensity in comparison to the experimental group; this could be connected to the lack of experience with the game, the lack of vocabulary, or maybe because they do not feel in comfortable competing with other classmates because of their low English performance.

Peer interaction and sociocultural factors when applying Gamified activities. (emerging category)

The impact generated by integrating didactic activities through digital or non-digital games and simulations is linked directly to the peer interaction given during the application of gamed based learning activities. Vygotsky emphasizes the role of social environment on children's learning. Swain (1985), argues that "comprehensible output in meaningful conversations is necessary for success in SLA". Taking into account the previous aspect, it evidenced during the execution of the project and data analysis collection that the influence of peer interaction between the control and experimental group were slightly different in these aspects since this last one affirmed that within the classroom they felt a little bit more anxious and stressed; this is maybe because most of the game are played individually in contrast to the plays of the English lab where they constantly were asking questions to the teacher and to their classmates when their points were not correct, thus enhancing the interaction between them with the purpose of understand the reasons of the answers, however, this was not evident with the pilot group who stated that the social interaction when doing the grammar exercises in the laboratory allowed them to have some corrections and compare their answers with their classmates.

FINDINGS

In this sections there are presented some findings in relations to the categories and the literature review in order to catch those relations that are meaningful to the whole understanding of the phenomena

Peer interaction and sociocultural category and Krashen's theory

The category of *Peer interaction and sociocultural factors* focuses on peer interaction in gamified activities, and delves into the role of peer interaction in the context of gamified learning activities. It draws attention to the differential impact of peer engagement on control and experimental groups. This aligns with Krashen's affective filter hypothesis, emphasizing how emotional elements impact the results of language acquisition. The heightened anxiety and stress observed in the experimental group due to individual gameplay align with the affective filter's concept, indicating how emotional states can affect language acquisition.

Furthermore, peer interaction differed between groups resonates with Krashen's input hypothesis. Krashen asserts that language acquisition hinges on comprehensible and meaningful input. In the case of the control group, collaborative grammar exercises facilitated interactions that allowed for comparisons and corrections, providing a conducive language learning atmosphere, akin to the notion of comprehensible input in Krashen's

theory. Moreover, the concept of Natural Order Hypothesis expounded in Peer interaction and sociocultural category aligns with the observations in Krashen's theory regarding the sequential development of language competencies. Just as Krashen proposes a predictable order in acquiring grammatical structures, the category illustrates the stepwise progress in language proficiency, where students initially engage with foundational aspects before delving into more complex linguistic components.

Higher-order thinking skills and memory category and Linguistic Communicative - competences

Berges (2013), highlights how integrating game-based learning with grammar teaching impacts linguistic competence and language fluency. While Lai (2011) and Sanchez (2023), focuses on higher-order thinking skills fostered by game-based learning, including critical thinking, problem-solving, and memory enhancement.

These authors touch upon memory enhancement through game-based learning. The category supported by Sanchez (2023), emphasizes the multisensory experiences facilitated by games, activating brain regions responsible for memory retention and retrieval. Meanwhile, Berges (2013) implies that the engaging and interactive nature of games contributes to more effective retention of grammar concepts. In addition, Fithriani (2008) and Figueroa (2015), discusses how game-based grammar learning can make the subject enjoyable and likable for students, impacting their grammar competency. Garcia, Lopez, et

al. (2023), elaborates on how the reward system in games, through dopamine release, contributes to memory consolidation, emphasizing the role of positive outcomes in reinforcing learning experiences.

Motivation, cognitive theory, self-learning environment category and game-based learning

The Motivation and Game-Based Learning category discusses how game-based learning boosts motivation and cognition by integrating didactic activities through games. It emphasizes that gamification reduces demotivation and enhances engagement. Therefore, Game based learning strategy complements this by exploring how game-based learning, through serious games, not only educates but also motivates learners. It emphasizes the importance of balancing educational content with engaging gameplay, aligning with the motivational aspect discussed in Motivation, cognitive theory, self-learning environment in category.

Finally, Game based learning strategy outlines the typology of serious games and their application to optimize the learning process. It mentions that serious games should prompt players to recall mental models and solve problems, emphasizing the importance of learning objectives. This aligns with the finding in the category since it focusses on learning outcomes and the motivational impact of gamification. Both converge on the idea that games should have educational objectives and engage learners, although they explore this from different perspectives.

CONSIDERATIONS

Game-based learning for educational purposes has recently been developed employing advanced gaming technologies thanks to Web 2.0 which offers to creator of this gamified pedagogical content to create learning environments rich in elements such as interactive participation, scoring and ranking of positions, as well as the possibility of incorporating images and elements of significant interactivity. Therefore, in order to achieve virtuous learning outcomes, Game-based learning aims to suit the needs of a new generation of learners known as digital natives and also contribute to the development of strategies that are useful in schools that are in the transition to bilingualism. In addition, this project reaffirms the idea that students prefer learning facilitated by digital educational games to traditional activity-based lessons. Also, Game-based learning can improve motivation, by helping learners gain autonomy and higher-order thinking skills, nevertheless, motivation and self-esteem are more accurately developed in Game-based learning activities when students have the possibility to have interactions either communicatively or by participating in groups; The affirmation entails that low participation and stress on students can be because when they do not have collaborative work when playing a game or when they do not work on Non-gamified activities. In addition, Game-based learning has the function of tracking students' proficiency in a target language if and only if the game participants have clearness about the following items in the game: goals, rules, and goals for learning, flexible difficulty level, informative and constructive feedback, audio and visual effects; and the aforementioned aspects enhance the interactive and visual appearance of the game which is quite relevant on students.

CONTRIBUTIONS IN REGARD OF THE STRENGTHENING OF BILINGUAL LEARNING ENVIRONMENT

Blue ocean strategy

When belonging to the axis of M “Managements” the research is not only intended to boot the development of linguistic skills by itself but also understand that proper bilingual learning environments occur when different levels of public and private schools as well as management policies and all educational communication work together and do it collaboratively. In this sense, the implementation of a dynamic strategy that possibilities the strengthening of a bilingual learning environment takes relevance. Therefore, the usage of the Ocean strategy is suitable for providing schools with a detailed plan that helps them to undertake a real bilingual process.

The strategy was conceived by W. Chan Kim and Renée Mauborgne and is useful to not barking at the wrong tree when understanding the responsibilities of implementing a real bilingual program. “This strategy pays real attention to the concept of Value innovation which is the simultaneous pursuit of distinction and low cost, resulting in a value leap for both buyers and the company”. (Chan Kim & Renee Mauborgne 2023).

To provide a proper understanding problematic and Strategic plan development this rearch used the RICE matric (reduce, rise, eliminate and create)



TABLE 9 RICE MATRIX

REDUCE	RISE
<p>Regarding that one of the competences less worked with students is the communicative competence, it is proposed to reduce the following aspects:</p> <ul style="list-style-type: none"> • Regarding that students have to use 2 books, students and a workbook which are more focused on grammar activities than communicative activities in the lesson planning outlined the importance for teachers to work the most possible on the book, for this reason, it could be decreased the use of books per week thus devoting more time to communicative activities thus enhancing the use of the language in a real context. • Another aspect to take into consideration would be decreasing the number of topics viewed throughout the year since teachers may feel pressured to teach all the grammar topics regardless of 	<p>Taking into account that students only have 1 hour of access to the English laboratory per week, the following options are proposed:</p> <ul style="list-style-type: none"> • Promote using the CAMBRIDGE platform at home to complement the activities that students cannot do during laboratory time. • Train teachers in the use of ICT and game-based learning as a support tool in terms of creating bilingual environments within the institution. • Promote game-based learning in class planning in order to have time allocated for playing games that promote the learning of a foreign language without it being seen as a delay or an activity that interferes with class planning.

<p>whether all the competences are being taught in a balanced way; this overcharge of topics may increase emotions such as anxiety and stress on students.</p>	
<p>ELIMINATE</p>	<p>CREATE</p>
<ul style="list-style-type: none"> • It could eliminate the type of assessment that is focused on a quantitative way and change it to a qualitative way, thus enhancing students' skills and abilities, and improving students' weaknesses without marking them with a number. 	<p>The following long-term strategies can be established</p> <ul style="list-style-type: none"> • Provide tablets by grades (2 and 3) (4 and 5) in the primary area, so that students have more interaction with digital tools that allow them to explore and develop their bilingual skills both outside and inside the classroom. • Creation of another laboratory so that students can have at least 2 hours a week and thus use ICT more frequently to promote and explore bilingualism.

Designing a strategic plan

An internal analysis of the previous instruments led the researchers to conclude that promoting an effective strategy plan was crucial to ensuring the school had a clear path forward. In order to understand some of the issues which are obstructing the school's pedagogical process, and second, to suggest some one-off actions that could be used to orient some changes to the school, including administrative, academic, and financial aspects. With

this in mind, this study took advantage of the strategies titled SEE, JUDGE, and ACT which makes it possible to provide some significant guides that make it possible to undertake significant processes of change. This matrix also possibilities the take of important decision in terms of actions that can positively and negatively affect the educational management of the institution.

TABLE 10 SEE, JUDGE, ACT: DESIGNING A STRATEGIC PLAN

DESIGNING A STRATEGIC PLAN FOR THE EDUCATION MANAGEMENT	
SEE	In terms of SEE, it is quite relevant to comprehend that the populations and the place where the reaching was taking place is in the transition to be a bilingual school, it means that the school has a long walk ahead since even if the students have some important requirements such as qualified teacher, good infrastructure, and some technological features, there is a lack of a clear curriculum plan that must be included in all the educational management of the institution. Also, it is important to remove the view of grammar as a unique strategy to teach English and perceive it as an important component of the linguistic-communicative skill.
JUDGE	Since the school is new in the process of a bilingual school, they should understand that the teaching of English as a divided class is a problem that is affecting the transition toward bilingual, instead, they should create and bet for the promoting of bilingual learning environment that possibility the development of the target language (English) in a holistic way and break the annoying dichotomy between teach English as a requirement and teach English for the life. Reviewing the proposal of

The Ministry of National Education, students at an early age must develop competencies that possibility interaction with other cultures demanding the importance of multiculturalism as a way to promote respect and social value.

ACT How do we respond to the problem?

In terms of advocating real transformation in the school, this study proposes some actions that must be undertaken following some key aspects:

-Transform the perception of English as a divided class, and propose a curriculum change those accounts for notions of bilingual learning environments and valuable characteristics.

-Creations and expiation of the laboratories that possibility the implementation of a game-based learning strategy.

- Mobilize the stakeholders, teacher staff, and different people toward the understanding of bilingualism as a way to promote cultural acknowledgment.

Taking into considerations the two previous matrixes, this study proposed the following actions that can be divided into:

- **Contingent actions** (immediate and corrective actions – certain guidelines for short term)
- **Operational actions** (preventive actions)
- **Strategic actions** (improvement action, the ones that guarantee the provision of the service)

• **Prospective actions** (not carried out now due to various circumstances, but they are scheduled for the future)

DECISION MAKING TOWARDS THE IMPLEMENTATION OF EDUCATIONAL MANAGEMENT IN ACCORDANCE WITH THE DEVELOPMENT OF GAME-BASED LEARNING STRATEGY

DECISION MAKING STRATEGY

DECISION MAKING



Contingent actions

(Academic Level)

Reduced the number of books read per week, allowing more time for communicative activities and thereby improving the use of the language in a real-world situation.

lowering the number of subjects observed during the year because teachers may feel pushed to teach all grammatical topics regardless of whether all competences are taught in a balanced manner.



Operational actions

(Academic Level)

Transform the perception of English as a divided class, and propose a curriculum change that accounts for notions of bilingual learning environments and valuable characteristics.

(Administrative level)

Mobilize the stakeholders, teacher staff, and different people toward the understanding of bilingualism as a way to promote cultural acknowledgment.



Strategic actions

(Financial Level).

Encourage students to use the CAMBRIDGE platform at home to supplement activities that they cannot accomplish in the laboratory.

(Academic Level)

Teach teachers how to use ICT and game-based learning as a support tool for developing multilingual environments in the classroom.

(Academic Level)

Encourage game-based learning in class planning so that time can be allotted for playing games that improve second language learning without it being perceived as a delay or an activity that interferes with class preparation.



Prospective actions

(Academic Level)

Provide tablets in the primary by grades (2 and 3) (4 and 5) so that children have more engagement with digital tools that allow them to explore and develop their multilingual skills both inside and outside of the classroom.

(Financial Level).

Establishment of a second laboratory so that students can spend at least two hours per week using ICT to encourage and explore bilingualism.

DISCUSSION AND LIMITATIONS

Our 2-year analysis of educational management in Bilingualism through Game-based learning in Colegio Agustiniiano Floridablanca showed a well-correlated relationship between motivation, autonomy, and high-order thinking skills with a high preference for learning facilitated by digital education games to traditional activity-based lessons. It was found that 66.7% of students asserted that games-based learning helped them to improve their listening skills as well as their vocabulary acquisition, however, in terms of writing improvement only 28.6% of students asserted in this aspect. This contrasts with one of the possible drawbacks of game-based learning proposed by Drew (2023) where it is outlined that the games often used are not designed for curriculum alignment. This study also analyzed the influence of peer collaboration and communication when it comes to enhancing the four language skills since 66.7 % of students affirmed that they preferred to play in groups since this makes them feel more self-confident as well and 42.9 % stated that the fact of playing with peers helped them with their self- correction awareness. After accounting for aspects such as motivation and self-esteem, 33 % of students experienced some feelings such as anxiety, stress, frustration, and desperation when they played in the classroom without the support of their classmates, we detected that previous feelings were a solid predictor of low participation, regular language proficiency and high levels of stress. We cannot exclude the possibility that the limited time students have to go to the English lab could limit the development of listening skills since in the classroom students can have sound distractors both in and outside the classroom such as the sounds around the school, their classmates, nearby classrooms and animals sounds.

CONCLUSION

This study focused on the implementation of Game-Based Learning as a didactic strategy that not only facilitates the student's learning process to a target language (English), but also aims to support the establishment of a learning environment, and as a result, this study attempts to test the hypothesis that game-based learning strategies can positively affect the development of communicative linguistic competences in the classroom. English is being taught in schools in a way that needs to be rethought and reconfigured so that a new vision of English can emerge. As a result, one of the intrinsic characteristics of online games, dopamine, has a significant impact on the development of higher-order thinking skills and memory; dopamine plays a crucial role in learning because it is believed to strengthen the connections between neurons in the brain, in this sense game-based learning facilitates the building up of new memories and the recovery of existing ones. This study also demonstrates that peer and social interactions have an important impact on academic achievement, as students display better academic outcomes when playing with their peers. As a result of their social interaction, they feel safe, however, when playing individual games, anxiety, depression, and frustration may occur. In addition, the notion of motivation is an aspect that was controversial in this study since there is a negative correlation between games and focusing during a class. Upon learning about the upcoming games, students demonstrated attention and communication with the class, and when students used gamification to learn, they demonstrated an affirmative relationship between motivation and cognitive and

metacognitive constructs, whereas when the didactic strategy was not used, there was a negative relationship between motivation and behavioral disengagement.

IMPLICATIONS FOR FURTHER RESEARCH AND RECOMMENDATIONS

Although we reckon that the mentioned limitations haven't significantly affected the main outcome of our study, future research could aim to incorporate further controls regarding peer interaction during gaming sessions. Students' inclination to engage in these game-based learning activities with peers might be influenced by the convenience of seeking or copying correct answers during gameplay. Thus, future investigations could address this aspect as well. In the same way, it is relevant to consider the addictiveness that games can cause in students since it was observed some feelings of apathy when the teacher did not start the class with a game, or the class finished without playing a game. In this sense, it is significant to observe students' behavior when applying this game-based learning strategy inside and outside the classroom, thus avoiding students perceiving this didactic strategy as entertainment which can lead to its main objective of learning and development of language skills can be affected.

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