RESUMEN ANALITICO EN EDUCACION RAE

Información General	
Tipo de documento	Trabajo de grado
Acceso al documento	Repositorio CRAI USTA
Título del documento	Comparative Analysis of Gamification for Strengthening Bilingual Education in Tenth Graders from a Public and a Private School (Análisis comparativo de gamificación para fortalecer la educación bilingüe en estudiantes de décimo grado de un colegio publico y un colegio privado)
Autor(es)	Ríos Moreno, Rudy Angélica; Díaz Rojas, Yurieth Andrea; Guzmán Lozano, Edward David.
Tutor	Diana Margarita Araque Torres
Publicación	Diciembre, 2022
Unidad Patrocinante	Universidad Santo Tomás, Modalidad Abierta y a Distancia, Facultad de Educación, Maestría en Ambientes Bilingües de Aprendizaje.
Linea de investigación	Proyectos dirigidos a través del análisis, la discusión y reflexión para contribuir al bilingüismo y los ambientes de aprendizaje.
Grado	Magister en Ambientes Bilingües de Aprendizaje
Problema a solucionar	Déficit de aprendizaje del idioma extranjero inglés en dos instituciones una publica ubicada en Honda, Tolima y otra privada en Mosquera, Cundinamarca.
Espacio de comunicación	yuriethdiaz@ustadistancia.edu.co edward.guzman@ustadistancia.edu.co rudyrios@ustadistancia.edu.co
Palabras Claves	Gamification, tenth graders, bilingualism, public school, private school, foreign language learning Gamificación, estudiantes de décimo grado, bilingüismo, colegio público, colegio privado, aprendizaje del idioma extranjero
Descripción	
Trabajo de grado que se propone analizar cómo la gamificación puede fortalecer el bilingüismo en estudiantes de décimo grado en un contexto público y privado. Después de analizar los datos recopilados de la prueba previa, la prueba posterior y un grupo focal, los hallazgos revelaron un impacto positivo en el aprendizaje de idiomas extranjeros al involucrar a los estudiantes de décimo grado en el proceso y aumentar	

la interacción entre ellos para tener éxito en una tarea común. Este estudio ofrece algunas ventajas de la gamificación como estrategia para mejorar las prácticas pedagógicas bilingües.

Contenidos

Este proyecto de grado cuenta con los siguientes acápites: iniciando con la introducción en la cual se describe cómo surgió el proyecto de investigación y los contextos; el segundo apartado es la revisión literaria de antecedentes y marco conceptual; el tercero el cual describe la metodología usada en el proyecto de investigación; el cuarto acápite para el análisis y hallazgos de la investigación incluyendo las conclusiones, limitaciones y recomendaciones, y el quinto apartado en el cual se encuentra la bibliografía usada durante el proyecto.

Metodología

En este proyecto de grado se usó el estudio de caso comparativo mixto para hacer un análisis de las percepciones de la gamificación y para contrastar las estadísticas antes y después de la implementación de la estrategia de gamificación. En este proyecto de investigación se usó examen de entrada y de salida y grupo focal.

Actividades generales

Se inició con la identificación del déficit de aprendizaje de inglés en las dos instituciones. Posteriormente, se realizó la solicitud de consentimientos informados de la institución, padres de familia y participantes. Después, se aplicó la prueba de entrada y se realizó el respectivo análisis. Luego, se desarrollo la estrategia de gamificación y el sondeo para implementar en ambos contextos. Además, se hizo la prueba de salida después de la implementación de la estrategia. Para cerrar la recolección de información se desarrolló el grupo focal. Finalmente, se continuo con el análisis de la información recolectada y la elaboración de tablas y graficas para la interpretación de la información.

Impacto a generar

El proyecto de investigación permitió establecer cómo la gamificación puede fortalecer procesos de bilingüismo en estudiantes de décimo grado en dos instituciones. Se percibió como una oportunidad para re orientar la practica pedagógica en los dos contextos incrementando la participación e involucración de los estudiantes en el proceso de aprendizaje del idioma extranjero inglés.

Unidades

Asignatura: inglés. Tema: asuntos de los jóvenes. Recursos: encuesta en Google forms , estrategia de gamificación digital, insignias.

Conclusiones

Este estudio de caso comparativo tuvo como objetivo establecer cómo la gamificación puede fortalecer los procesos de bilingüismo en estudiantes de grado décimo de un contexto público y de uno privado. La investigación examinó la práctica pedagógica con respecto al aprendizaje del idioma inglés antes de la implementación de la gamificación a fin de explorar las experiencias de aprendizaje de la lengua extranjera. Al implementar la gamificación, ésta se logró percibir como una oportunidad de reorientación pedagógica en ambos ambientes de aprendizaje considerando que la estrategia implicó trabajo colaborativo en el avance del aprendizaje y en objetivos comunes, además se incrementó la participación y el compromiso de los estudiantes de décimo grado, lo cual, contribuyó a mejorar su desempeño en la lengua extranjera.

Adicionalmente, para los resultados cuantitativos se identificó que uno de los elementos fundamentales de la gamificación, como lo es la recompensa, fue positivo, pero los datos cualitativos precisaron la necesidad de encontrar un sistema de puntuación más acorde y significativo. Asimismo, la gamificación durante su implementación tuvo características prácticas, accesibles y flexibles que permitieron integrar prácticas al mundo real de los alumnos y alinearse con los intereses de los adolescentes.

También, al comparar los resultados en ambas instituciones se encontró respuestas similares en cuanto a la estrategia de gamificación; al analizar los resultados cuantitativos en el post-test, no hubo diferencias significativas en los porcentajes. Por otro lado, las percepciones sobre el aprendizaje en CTCM e IETAPR se relacionaron con el desarrollo de las habilidades en inglés, pero los estudiantes de décimo grado de IETAPR sugirieron que la estrategia contribuyó a la participación en clase. En ambos ambientes de aprendizaje se incrementó el trabajo colaborativo y la participación. En IETAPR, la estrategia de gamificación generó ansiedad. En cuanto a la recompensa, para IETAPR era mejor buscar otra forma de puntuar, y para CTCM los puntos eran un buen tema.

Como consideración final, los investigadores determinaron que la gamificación debe ser coherente al grado que garantice la posibilidad de mejorar las prácticas pedagógicas y, en definitiva, se vieron fortalecidos los procesos de bilingüismo, como también, convino la comunidad que la estrategia de gamificación fue positiva para su proceso de aprendizaje, quedando como punto de partida para la

transformación que requieren los entornos de aprendizaje bilingües de adaptarse a las necesidades actuales.			
Fecha de elaboración del Resumen	6	01	2023

Comparative Analysis of Gamification for Strengthening Bilingual Education in Tenth Graders from a Public and a Private School

Edward D. Guzmán Lozano, Rudy A. Ríos Moreno, and Yurieth A. Díaz Rojas

Master in Bilingual Learning Environments, Universidad Santo Tomás

Author note

Yurieth A. Díaz Rojas https://orcid.org/0000-0003-1696-7200
yuriethdiaz@ustadistancia.edu.co

Edward D. Guzmán Lozano https://orcid.org/0000-0001-9274-5920
edward.guzman@ustadistancia.edu.co

Rudy A. Ríos Moreno https://orcid.org/0000-0003-1499-4280
rudy.rios@ustadistancia.edu.co

We have no known conflict of interest to disclose.

VIGILADA MINEDUCACIÓN - SNIES 1704

NIT 860.012.357-6
SEDE PRINCIPAL BOGOTÁ: Carrera 9.ª N.º 51 - 11 / PBX: (601) 587 87 97
Línea gratuita nacional: 01 8000 111 180 / contactenos@usantotomas.edu.co
www.usantotomas.edu.co

Table of Contents

Introduction **4**

Literature Review **7**

- Gamification as a Strategy for Bilingualism Processes 7
- Bilingualism for Teenagers 8
- Bilingualism in Public and Private Contexts 10
- Pedagogical Implications of Gamification in Learning 12

Method **13**

- Data collection: Instruments 15
- Gamification Strategy Design 16

Analysis and Findings **17**

- Pre-test 19
- Post-test 24
- Participation 26
- Learning 27
- Challenge 29
- Creativity 30
- Focus group 30
- Graphic 2 31
- Strengthening Bilingualism 32
- Promoting Collaborative Learning 33
- Analyzing the Strategy Development for Identifying Positive and Negative Aspects 34

Rewarding Tenth Graders' Competitiveness in a Gamification Strategy for Collecting Points in order to Win 35

- Conclusions 36
- Limitations and Recommendations 37

References **38**

VIGILADA MINEDUCACIÓN - SNIES 1704

NIT 860.012.357-6
SEDE PRINCIPAL BOGOTÁ: Carrera 9.ª N.º 51 - 11 / PBX: (601) 587 87 97
Línea gratuita nacional: 01 8000 111 180 / contactenos@usantotomas.edu.co
www.usantotomas.edu.co

Abstract

This research paper reports a comparative case study with qualitative and quantitative data that analyzed how gamification can strengthen bilingualism in tenth graders in a public and a private context. After analyzing the data gathered from pre-test, post-test and a focus group, the findings revealed a positive impact in the foreign language learning by engaging tenth graders in the process and increasing the interaction among them to succeed in a common task. This study offers some advantages of gamification as a strategy to improve bilingual pedagogical practices. Most participants perceived the gamification strategy implemented as relevant to maintain developing in the bilingual learning environments.

Key Words

Gamification, tenth graders, bilingualism, public school, private school, foreign language learning

Abstract

Este trabajo investigativo reporta un estudio de caso comparativo con datos cualitativos y cuantitativos que analizaron cómo la gamificación puede fortalecer el bilingüismo en estudiantes de décimo grado en un contexto público y privado. Después de analizar la información recolectada del pre-test, post-test y grupo focal, los hallazgos revelan un impacto positivo en el aprendizaje del idioma extranjero al involucrar los estudiantes de décimo grado en el proceso e incrementar la interacción entre ellos para tener éxito en una tarea en común. Este estudio ofrece algunas ventajas de la gamificación como una estrategia para mejorar las prácticas pedagógicas bilingües. La mayoría de los participantes percibieron la estrategia de gamificación implementada como relevante para continuar desarrollándose en los ambientes bilingües de aprendizaje.

VIGILADA MINEDUCACIÓN - SNIES 1704

NIT 860.012.357-6
SEDE PRINCIPAL BOGOTÁ: Carrera 9.ª N.º 51 - 11 / PBX: (601) 587 87 97
Línea gratuita nacional: 01 8000 111 180 / contactenos@usantotomas.edu.co
www.usantotomas.edu.co

Palabras Clave

Gamificación, estudiantes de décimo grado, bilingüismo, colegio público, colegio privado, aprendizaje del idioma extranjero.

Introduction

The changing education of the last century has meant a series of challenges in the competitiveness and effectiveness of the pedagogical processes. This research project sought to strengthen bilingualism in two learning environments that were codified: 'CTCM[1]', a private school located in Mosquera, Cundinamarca, and 'IETAPR[2]', a public school located in Honda, Tolima. In these two contexts, a problematic situation regarding the learning of English as a foreign language was becoming more challenging than normal. Two of the researchers were active participants of those contexts, and through observation, it was found that there was a learning deficit to acquire the English language at tenth grade in each school. After analyzing that situation and comparing, it was evident that although the institutions are located in different places and have different resources, they share a common English language learning problem. Having this in mind, there are differences in economic resources and opportunities to approach the foreign language, English. Castro *et al.* (2016) concluded that public education makes efforts to cover as much population as possible, but private schools invest in quality education increasing the competence. By understanding the factors that imply the learners' disposition and affinity for technology devices and gadgets (Carstens *et al.,* 2021), the implementation of gamification as a strategy for strengthening bilingual abilities in students, results eligible.

[1] Code name for the private school located in Mosquera, Cundinamarca.
[2] Code name for the public school located in Honda, Tolima.

VIGILADA MINEDUCACIÓN - SNIES 1704

NIT 860.012.357-6
SEDE PRINCIPAL BOGOTÁ: Carrera 9.ª N.º 51 - 11 / PBX: (601) 587 87 97
Línea gratuita nacional: 01 8000 111 180 / contactenos@usantotomas.edu.co
www.usantotomas.edu.co

On the other hand, the COVID-19 brought several situations that transformed education. Educators, learners, administrators and even parents included in their routines the use of technology. This pandemic evidenced clearly the necessity of shifting from traditional education to a student-centered education rethinking the essence of teaching and learning in learning communities (Zhu & Liu, 2020). Moreover, this situation permits teachers to know that there are other methods that can assist pedagogical practices. For instance, online platforms, apps, LMS, web 2.0 and learning games among others served to foster learning. Thus, the terms 'Pedagogy' and 'ICT' cannot, therefore, be separated at present, given that the inherent needs of society demand an exercise that adopts an expertise in the management of several resources. According to the mentioned situation, gamification could be one of the essentials that make part of this mandatory transformation in teaching practices, as seen as an interactive and engaging method for learners (Brull & Finlayson, 2016).

In recent years, Colombian education has realized the importance of being bilingual in order to be part of a globalized world. The ministry of education has made many efforts to improve the quality of language learning. It has suggested a curriculum that serves as a guide to make decisions in the teaching and learning processes highlighting the importance of implementing projects according to the realities and needs of each institution (MEN, 2016). Having that in mind, it generated the opportunity to apply a gamified activity, and to collect information for describing the educational community's responses in terms of bilingualism in two institutions.

Consequently, in most schools, bilingual education in Colombia is highly focused on content and grammar only. Learners study for passing exams instead of acquiring knowledge for problem-solving or life necessities (Brull & Finlayson, 2016), they are asked to memorize

VIGILADA MINEDUCACIÓN - SNIES 1704

information for tests and not for life; it is very common that a student easily forgets information right after they conclude an exam, program or term in their education cycle. Taborda *et al.* (2019) concluded that gamification can increase the engagement and improve the learning process in educational contexts. For this reason, gamification is proposed as a strategy to transform the facts mentioned previously because the intention is to answer to the tenth grade learners' needs focusing on life-long learning and using life skills. It might become, despite some constraints, an important trend in education (Johnson *et al.*, 2014, as cited in Fuerte, 2019), since it represents a particular interest for teenage learners. Gamification encourages learners to participate in classrooms also allowing possibilities of focusing learning on their interests (Mee *et al*., 2020).

Therefore, gamification emerged as an opportunity to intervene a context with the intention of strengthening bilingual processes through the implementation of a gamified activity due to the multiple advantages such as the possibility of increasing interest on learners, by focusing attention on fixed objectives as happens in games (Johnson *et al.*, 2014), time management in the learning process, lower anxiety, higher confidence, and collaboration. The importance of comparing two different contexts was to analyze the perceptions about a gamified strategy for learning of tenth grade learners with different social, topographic and economic contexts. Beyond the differences, the purpose was to reflect upon the learners' reactions and the implications of gamification in their learning process. For that reason, it was chosen to implement this project with teenagers because they are more conscious of the gaming features they may find. As well as getting acquainted about further responses that may arise.

In a nutshell, the main goal for this study was to establish how gamification can strengthen bilingualism in tenth graders in a public and a private context. It has been challenging to detach from the mainstream teaching methods, that is why Colombian bilingual learning

VIGILADA MINEDUCACIÓN - SNIES 1704

environments need to reimagine contexts into dynamic spaces allowing them to be ubiquitous and not bounded to one single location.

Literature Review

Gamification as a Strategy for Bilingualism Processes

Bilingual education in the 21st century has brought some challenges in the different learning environments, and there have emerged many strategies to prepare learners with the abilities to face the future as gamification is to improve the learning process. Prior research suggests that gamification can lead to meaningful advantages because the learners do not have tension in the performance of the subject, and it motivates them to do better, also, developing some skills in students like creativity, problem solving, and critical thinking (Mee *et al*., 2020). It is feasible to optimize the processes carried out in the academy. Likewise, it is possible to adapt, in each one, elements or components that, perhaps, are not sufficiently incorporated to the pedagogical need of the teacher. Nowadays, educators are moving to the next step of having classes that let learners discover learning by themselves. Gamification seems to allow students to find their way of learning and when to do it. For example, recent research argues that gamified lessons are more interactive, engage learners, set the path to explore, and gaming techniques provide an innovative opportunity to be taken into account at the moment of developing curricula (Brull & Finlayson, 2016). So, implementing gamification in two different contexts acquires more importance to observe how the target population responds.

In Colombia, the Ministry of Education intends to help educators and learners foster their learning and teaching process in the acquisition of a second language through some resources. However, it is challenging to catch tenth grade students' attention with traditional resources; for this reason, gamification plays an important role because it has a great potential on learners'

VIGILADA MINEDUCACIÓN - SNIES 1704

engagement. Recent research supports the benefits of gamifying lessons in order to stimulate language learning; gamification helps teachers to improve lesson interactions, assess progress joyfully, keep record of the whole process and make teaching and learning processes more accessible (Pujolá, 2021). In addition, it is also important to make learning more engaging and interesting taking into account academic purposes and learners' needs. According to Prathyusha (2020), gamification for language learning is engaging because it challenges students to have friendly competitions, work collaboratively, make tasks more effective, and strengthen their capacity and creativity, always bearing in mind the objective of learning the target language. Thus, a gamification strategy has a positive prospect to potentiate students' engagement in learning in both settings.

Bilingualism for Teenagers

Foreign language learning has become necessary for teenagers due to it can impact in a meaningful way their academic, personal and professional future. Currently, each day is increasing the need of becoming bilingual as a useful feature on communicative competence and language and academic achievement (Suwanarak, 2013, as cited in Sefedini, 2018). In the same sense, Sefedini (2018) supports that bilingualism is beneficial not only for language development but also for developing other skills such as executive control, communication skills, creativity, awareness, time management and self-confidence. Thus, learners should be guided and engaged in their language acquisition process for them to enhance skills in order to be useful in the future. Regarding both of the contexts, CTCM and IETAPR, learners could be more interested in acquiring communicative skills by means of gamified activities, as well as they may develop abilities that include topics of their interests.

VIGILADA MINEDUCACIÓN - SNIES 1704

It has been thought that games just catch young learners' attention, but it has been found that teenagers prefer these kinds of activities in their language classes too. There is some research that reflects on how teenagers are not quite interested in their English lessons due to the boring course books, and grammar activities, so it is vital for teachers to be aware of learners' needs and interests (Arda & Doyran, 2017). Undoubtedly, there is a need to start adapting the lessons according to learners' needs, interests and motivations to engage learners in the language learning process. Definitely, in both contexts it is vital to apply a strategy that makes learners reflect about their daily life and what occurs in their surroundings.

Bilingualism in Colombia has become a source of opportunities for people, it allows them to be more competent in an increasingly globalized world. Colombian governments, seeing this, have sought a way to include bilingualism as an important concept within schools. Since 2004, attempts have been made for citizens to intercommunicate in a second language, in order to improve the country's economic situation (MEN, 2006). It is important to create spaces where learners can interact with others according to their interests that may have a widespread interaction among different spaces beyond a school. In this way, the technology can be useful to recognize each individual's learning needs. For its part, the English language lacks active participation in non-school contexts, that is, English has no place in environments other than educational ones, as would be thought and expected for a community that wants to adopt it as a secondary language (Martinez, 2016). In this order of ideas, the language practices at different settings must be reviewed in order to become aware. Also, this research project can be a strategy that serves as a guide to other schools.

VIGILADA MINEDUCACIÓN - SNIES 1704

Bilingualism in Public and Private Contexts

The difference between bilingual education in private and public schools occurs because of some factors. For example, the social and cultural backgrounds influence language learning because some learners can be exposed to real contexts due to the journeys that can be done to other countries, others have online resources to go deep after class, and extra classes can be paid. On the contrary, other students just have the lessons at schools, and they do not have the opportunity to study more by themselves. Those are some reasons why some schools have better results in external tests. In this sense, there is a gap between these two settings, and there has been implemented different strategies to have increase the language level. Achievements like the English language motivation and interest have increased among Colombian learners in both contexts, however, there is still a difference between the public and private schools in the results, and the English level is not good enough (Mejia, 2016). Hence, it is vital to start implementing similar strategies in both contexts to reflect about how they respond.

In the same line, there are other factors that influence the difference between public and private contexts in terms of bilingualism. For instance, the socioeconomic status in schools plays an important role because private school learners can utilize updated books and online resources requested by the same institution where these materials are constantly used in the lessons. Núñez *et al.* (2019) analyze that in the private sector learners can access deepening processes such as better didactic materials, more English hours per week and bilingual classes which allow them to obtain better results in ICFES tests. This research analyzes ICFES test results and it was found that there is a considerable gap in the bilingual process; female teenagers have better results than men in public institutions, but this gap is smaller in private schools. Another characteristic is the

VIGILADA MINEDUCACIÓN - SNIES 1704

school hours: private school learners have eight study hours per day while the other population have 6 hours, except for schools that implement extended shifts (Núñez *et al*., 2019).

The contexts analyzed are both monolingual, which seek to adopt bilingualism as a tool that can improve competitiveness in a world where work offers are increasingly limited. It can be said that foreign language education has been ineffective, and that, in fact, only the elite society can enjoy effective teaching of a second language (Ordoñez, 2014). Therefore, it could be said that there is a marked gap between private and public education. However, the law requires that students must graduate with a level of B1, according to the CEFR, minimum. For that reason, among learners' interests, there is a connection between the use of technology and the social interactions, in which, arts and sports are most highlighted. Take advantage of gamification due to in this age they are game consumers to close gaps in bilingual education regarding engagement and towards commitment learning. The academic objective of the institutions, then, is to give students the opportunity to function in real situations of everyday life; something that is far from reality due to multiple tensions and obstacles that prevent it from being achieved. In this sense, it is pertinent to review the possible pedagogical implications that gamification as a strategy can have in the learning process.

Pedagogical Implications of Gamification in Learning

Gamification is being used for several reasons in educational contexts nowadays. It offers many opportunities to engage learners because it is attractive and fun. Hence, some authors have suggested that gamification generates interest in the learning process, collective support, and improves the communication skills (Koivisto & Hamari, 2019; Wangi *et al.*, 2020). Based on that, it clearly goes beyond just having an enjoyable class, it contributes to developing some useful abilities for the real world. It can make learners connect their ideas with others to make

VIGILADA MINEDUCACIÓN - SNIES 1704

decisions and succeed as a group. For that reason, this project promotes engaging students in the foreign language and other skills such as critical thinking and problem solving which positively contribute to their life and future.

Furthermore, gamified environments have some advantages that can influence learning. To support this, Udjaja (2018) shows through research that the use of GALL (Gamification Assisted Language Learning) has an impact on pupils' learning performance, learning attitude and in-time interactions. A recent research supports this when implementing gamified learning tasks to enhance contextualized learning experiences for low achievers. In accordance with Lin *et al.* (2019) deviations of pre-attitude and post-attitude indicate that the participants seemed to have higher confidence, preference, attention, learning strategy and lower anxiety; also, interactions could engage the learners in processing information and this results in meaningful and effective learning. By considering this, one of the most required elements to improve the bilingualism at the schools of this study, are the importance of students' engagement and the upgrading of their confidence to express themselves in a foreign language.

Learning can happen anytime and anywhere. It is important to make it more engaging in order to increase students' attention and help them to develop their unique potential. According to Lavoué *et al.* (2019) in their research it was demonstrated that students who had adapted gaming features spend significantly more time in the learning environment; on the contrary, the students who did not have adapted gaming features presented a high level of demotivation and they spent just the time required in the lessons. This supports the idea of adapting gaming features in learning environments in order to enhance pupils' engagement in learning. Thus, this study uses a gamification strategy as an opportunity to approach bilingual learning environments,

VIGILADA MINEDUCACIÓN - SNIES 1704

strengthen bilingualism development, and be acquainted with the benefits for the learning processes.

Method

The design corresponded to a comparative case study through a mixed methodology. Taking into account both learning environments shared a common English language learning deficit. This allowed the two researchers that were part of the contexts could intervene with the gamification strategy to be analyzed, compared and have a wider perspective. It is called 'mixed' for the combining research methodologies where backgrounds can involve different social contexts. The process requires an initial gathering of data which will be categorized for a numeric analysis and description of its qualities (Timans *et al.,* 2019).

This research project employed comparative case study as a type of research study. In accordance with Goodrick (2014) comparative case study is defined as all the analysis related to the contrast of two or more cases that have a common aim and can be carried out by implementing the aforementioned approaches. Both processes merged together in order to intervene in two contexts with the purpose of contrasting and understanding the behaviors presented in each background. In consequence, this research aimed to contrast two schools and analyze how those settings responded to a gamification strategy. In this sense, the type of research study allowed the researchers to identify the similarities, differences and common patterns found.

The contexts integrated a private school located in Mosquera, Colombia and a public school located in Honda, Colombia. The first school is called "CTCM", it had an adequate infrastructure in the different spaces. The school was equipped with some technological devices for carrying out the teaching and learning process. The school program aimed to consolidate the

VIGILADA MINEDUCACIÓN - SNIES 1704

work and knowledge construction cooperatively, that is why, it was mandatory that class plans included activities for the students to learn and get along with others, however, the curriculum focus was the development of abilities for financial management and marketing, it also followed the regulations established by the Ministry of Education (MEN, 2016) for bilingual education in Colombia which set a minimum standard of goals that students need to reach for mid-secondary studies. On the other hand, the public institution is named “IETAPR". It had an appropriate infrastructure for the educational community. The English classes had a room that contained updated technological devices but unfortunately it did not have internet connection. The curriculum was also aligned with the ministry of education guidelines. It took into account basic standards of competences, basic learning rights, and the suggested curriculum. In addition, tenth graders had four hours of English lessons plus two more for specialized English lessons.

In this sense, the contexts had some differences in infrastructure, curriculum, and goals; each one had its own characteristics in the way bilingualism was developed. For that reason, it was done an analysis, and it was found a difference in the bilingualism perspective, so it seemed interesting to analyze how the gamification strategy responded, since it was identified that there were different insights regarding bilingualism and bilingual education, both backgrounds kept some similar characteristics as the way they were configured, but some other characteristics had disparities, all of them sensitive to analysis.

The participants were teenagers whose age range were between 14-17 years old; they were students enrolled in mid-secondary, specifically tenth grade; 10-A and 10-3. Those grades were chosen because they had the average age to understand the characteristics of games and in this way, they could take advantage of the gamification strategy. It has been found that gamification is an opportunity in a teenage EFL classroom because of the engagement it has

VIGILADA MINEDUCACIÓN - SNIES 1704

(Stocker, 2020). Tenth graders had the qualities of critical thinking and autonomy which contributed to the gamification development. The target population were learners from those grades and from each school who were chosen randomly.

In regards to the data collection instruments, the planned method involved the use of three mechanisms for obtaining the information required to be processed then analyzed. It was possible through a consent certificate provided by each principal, parents, and tenth graders (see appendix A). This consent allowed tenth graders to participate in the gamification strategy, pre-test, post-test, and focus group; they were applied to participants only, and it was done in Spanish.

Table 1

Data collection instruments

Instruments	Time	Purpose
Pre-test (see appendix B)	1 session / 20 minutes - May 27th (IETAPR) May 31st (CTCM).	Pre-test is a data collection instrument that evaluates prior information the research is developed that improves the quality of life research (Hu, 2014). A tool for data collection that consisted in understanding the learners' insight for EFL prior to the implementation of the gamified strategy.
Post-test (see appendix C)	1 session/ 25 minutes August 26th (IETAPR & CTCM)	The post-test allows the researchers to identify disparities between the previous and final data collected (APA, n.d). This instrument was focused on collecting information regarding participants' perceptions, thoughts, and opinions after the implementation of the gamification strategy.
Focus group (see appendix D)	1 session / 30 minutes. September 13th (IETAPR) September 14th (CTCM)	It consists in fixing concern to a specific group as a sample where they will be inquired about different details of information regarding their backgrounds (George, 2021). It involved gathering information from participants selected from the educational community.

VIGILADA MINEDUCACIÓN - SNIES 1704

NIT 860.012.357-6
SEDE PRINCIPAL BOGOTÁ: Carrera 9.ª N.º 51 - 11 / PBX: (601) 587 87 97
Línea gratuita nacional: 01 8000 111 180 / contactenos@usantotomas.edu.co
www.usantotomas.edu.co

Note. This table presents the data collection instruments, the length, and explains why they were appropriate for the research study.

Gamification Strategy Design

The gamification strategy was adapted from an online template called "family feud" (see appendix E1). It consisted of dividing a class into two teams, each team was a family. The families had to answer a series of questions in order to collect points. The more points they had, the more chances they had to be the winners. The questions were made by thinking about current teenagers' issues (see appendix E2). Each question had four possible answers, each answer had points from 10 to 100. The points were assigned according to a previous survey that was done through google forms (see appendix E3) in which they were given the questions, four answer options and the possibility to write another one if they wanted. The most voted had the highest score, and the less voted had the lowest score. Also, the family who had more points in each question were given a badge according to the question issue (see appendix E4). The family who won was the one that had the highest score.

Analysis and Findings

The research project's purpose aimed to establish how gamification can strengthen bilingualism in tenth graders in a public and a private context. The data collection took place from May to September 2022, and the data analysis was done during the second semester of 2022. The data was collected by two of the researchers, one in each context, it is to say, direct participants, and the three researchers analyzed the data. The tenth graders' responses (See appendix E5) from the pre-test were organized in two Excel tables (one for IETAPR and one for CTCM, see appendix E6) in order to consolidate the percentages from each category to contrast

VIGILADA MINEDUCACIÓN - SNIES 1704

the data gathered from each institution. Similarly, it was done for the post-test (See appendix E7) quantitative results (see appendix E8), but for this collected qualitative data, an analysis to identify codes was carried out (see appendix E9). Furthermore, to have tenth graders' perceptions about the gamification strategy the researchers developed a focus group session with nine questions. The recordings (see appendix E10 and appendix E11) were transcribed for deeper examinations (see appendix E12 and see appendix E13, respectively), additionally they were the resource for the excerpts used in the analysis.

The researchers did descriptive statistics to interpret pre-test and post-test quantitative results from tenth graders in the public and private school. Descriptive statistics is a type of analysis which intends to present the amount of data as simply as possible; there are three main types which are measures of frequency, measures of central tendency, and measures of dispersion (Mishra *et al.,* 2019). The last data collection instrument was the focus group, and the transcriptions were analyzed in detail to identify tenth graders' perceptions from both schools. Since responses were collected in Spanish, the sample excerpts were translated to English. The patterns identified were organized in codes and then sub categories were established to group the information, and assigned a color to each one to be placed in the main category (See appendix E14). A code is an interpretative act which is most often a word, phrase or sentence that symbolically represents an important portion of the data (Saldaña, 2009). Subcategories are patterns or relationships that emerge from the major categories and fit under them (Hatch, 2002). From the post-test and focus group, the categories and subcategories were created based on the statements and questions that were included in each data collection instrument, and those were synthesized in a post-test graphic (see Graphic 1, page 25) and a focus group graphic (see

VIGILADA MINEDUCACIÓN - SNIES 1704

graphic 2, page 31). The categories and subcategories displayed the results and perceptions from tenth graders after the implementation of the gamification strategy.

Since the method entailed both quantitative and qualitative attributes for data collection and analysis, this research involved a deductive approach whose model for processing the information implied the establishment of default patterns, it is to say, the categories of the investigation were identified and defined in the design of the pre-test instrument; the second stage of analysis was carried out through an inductive manner to establish emerging findings based on data, according to the focus group and the post-test. However, as stated by Hatch (2002), models of qualitative analysis can enact deductive attributes, notwithstanding, they comprise inductive characteristics. According to the previous statement, some patterns at the moment of the collection of data emerged inductively, increasing the amount of tenth graders' insights noticeable for study for both educational institutions. Hence, process consisted of:

1. Establishing and determining a set of categories or domains and patterns for the data collection instruments.
2. Collecting quantitative and qualitative data.
3. Identifying new emerging patterns.
4. Selecting data excerpts to support elements found. (Hatch, 2002).
5. Depicting data acquired to literature review information and finding connections.
6. Reflecting upon findings and outcomes.

For the first stage, the pre-test data collected from IETAPR and CTCM was synthesized by the three researchers into one table (see table 2 pages 19 and 20 , respectively) in order to explore the tenth graders of two groups in a public and a private school based on their language learning experiences regarding resources, gamification and collaborative work. In this order of

VIGILADA MINEDUCACIÓN - SNIES 1704

ideas, the pre-test allowed the researchers to compare the bilingual practices carried out in each institution. The process involved tenth graders from both institutions, IETAPR School and CTCM school. The initial data analysis was reached from a quantitative data collection approach, where numerical evidence and percentages were gathered from the pre-test aforementioned for subsequent qualitative interpretation.

Table 2

IETAPR and CTCM pre-test results

QUESTION / SCALE	% Likert Scale Variables					
	Strongly disagree	**Disagree**	**Neutral**	**Agree**	**Strongly agree**	**School**
Learning						
Sta.1. Ing.com I have used English to communicate everyday situations.	0,00%	0,00%	16,67%	83,33%	0,00%	*IETAPR*
	0,00%	0,00%	50,00%	50,00%	0,00%	*CTCM*
Sta.2. Rit.Apren. In class, I can advance at my own pace and reflect on my learning process.	16,67%	0,00%	0,00%	66,67%	16,67%	*IETAPR*
	0,00%	16,67%	0,00%	16,67%	66,67%	*CTCM*
Sta.3. Sign.Proce. During classes, the activities that have been done are significant for my learning process.	0,00%	16,67%	0,00%	50,00%	33,33%	*IETAPR*
	16,67%	16,67%	0,00%	66,67%	0,00%	*CTCM*
Sta.4. Estr.Jueg. I have been able to learn using strategies such as games in the English classes.	0,00%	0,00%	0,00%	66,67%	33,33%	*IETAPR*
	0,00%	16,67%	16,67%	33,33%	33,33%	*CTCM*
Collaborative Work						

VIGILADA MINEDUCACIÓN - SNIES 1704

NIT 860.012.357-6
SEDE PRINCIPAL BOGOTÁ: Carrera 9.ª N.º 51 - 11 / PBX: (601) 587 87 97
Línea gratuita nacional: 01 8000 111 180 / contactenos@usantotomas.edu.co
www.usantotomas.edu.co

Sta.5. Inte.Compa. In the English classes, I do activities that allow me to interac with my classmates.	16,67%	16,67%	0,00%	33,33%	33,33%	*IETAPR*
	0,00%	0,00%	16,67%	33,33%	50,00%	*CTCM*
Sta.6. Alc.Obj. Doing activities in collaboration with my classmates allows me to achieve my goals easier.	0,00%	0,00%	33,33%	50,00%	16,67%	*IETAPR*
	0,00%	0,00%	16,67%	50,00%	33,33%	*CTCM*
Participation						
Sta.7. Part.Mom.Clas. The activities encourage me to participate in the different moments of the class.	16,67%	0,00%	16,67%	66,67%	0,00%	*IETAPR*
	0,00%	0,00%	33,33%	33,33%	33,33%	*CTCM*
Resources						
Sta.8.Mat.Aten. Resources that have been used in the English classes have caught my attention.	0,00%	0,00%	33,33%	33,33%	33,33%	*IETAPR*
	0,00%	16,67%	16,67%	66,67%	0,00%	*CTCM*

Note. This table demonstrates the students' responses in regards to IETAPR and CTCM school. The encoding above (*Sta.number)* corresponds to the code given to each statement that is used later in the analysis.

Sta.1. Ing.com. According to tables 2 and 3, it was identified that in the public school the majority of participants have used English language to communicate in different situations of their daily life. There was a minority of participants that had a neutral position related to the language usage. Contrasting that information with the private context, it was identified that half of participants took advantage of the English language to communicate, and half of them had a neutral position. In this sense, the data collected suggested that most learners were in continuous interaction with the language, and some others that did not have a huge use or a low one.

VIGILADA MINEDUCACIÓN - SNIES 1704

Therefore, the opportunity of a gamified strategy, as said by Pujolá (2021) will develop the interaction between students and teachers and will contribute to the learning of a foreign language.

For the data results of Sta.2. Rit.Apren., it was found that responses from students were quite dissimilar, since the comparison presented many divergences in regards to their selection. In this sense, it can be said that at the public school and private school most learners considered they could take their time in class to learn, and a low percentage perceived that they did not have the time to reflect and learn according to their learning pace. It has been found that learning games give learners the chance to learn at their own pace, and time (Brull & Finlayson, 2016).

In line with Sta.3. Sign. Proce., the results indicated that at IETAPR students felt their processes were significant, while at CTCM, they felt they just did not meet the knowledge's relevance they have had in their environment. Thus, it could be inferred that at both schools the participants had mixed opinions in regards to the meaningfulness of their English lessons, some participants believed they were appropriate, and some others did not. External research suggests that games in language learning make people feel happy and satisfied, and it contributes to acquiring knowledge (Udjaja, 2018).

In relation to Sta.4. Estr.Jueg., IETAPR students consented that in the methodologies of this subject they actually learned through gamified approaches. Brull and Finlayson (2016) affirmed that learners felt more engaged when class methods included game attributes. However, at CTCM the results could demonstrate that third quarters of the students have interacted with game methods for learning. On the other hand, only few learners have not established contact with gamified learning methodologies. Again, the perceptions were unvarying for IETAPR context, when compared to CTCM.

VIGILADA MINEDUCACIÓN - SNIES 1704

In the Sta.5. Inte.Compa., it was found that in the public school, a minority of students had a negative perception regarding the interactions they had in class. On the other hand, more than half of them manifested there were opportunities to learn with pairs. In dissimilarity, at the private school, most of the students consider that collaborative work strategies were highly implemented in this environment. Just one student did not adopt a specific position. Taking this into account, it could be inferred that there was sufficient collaborative work and participants had the opportunity to interact with others in their learning process. In accordance with Udjaja (2018), activities during cooperative learning can accentuate experiences if interactions are influenced by strategies that reinforce work collaboratively.

Regarding individual goals achievement through collaborative learning (Sta.6. Alc.Obj.), it had positive responses for IETAPR school. Likewise, at CTCM in regards to group assignments. As a result, more than half of the learners in both contexts agreed on the importance of working with classmates, a low percentage of participants did not feel it as a relevant matter since they adopted a neutral position. Research suggests that the implementation of games in language lessons helps learners to collaborate and achieve common goals and have a better performance (Prathyusha, 2020).

The statement related to participation in the English lessons (Sta.7. Part.Mom.Clas.). The data pointed out that at IETAPR a minority of participants did not feel committed to participate, and a little bit more than half considered that the class activities encouraged them to participate. However, at CTCM one third of the participants were neutral in the participation they had in class, and most of the participants at the private schools felt encouraged to participate. There was a difference related to participation between these institutions. Previous studies related to gamification unveiled how users engage just for trying how it works (Koivisto & Hamari, 2019).

VIGILADA MINEDUCACIÓN - SNIES 1704

In the last statement (Sta.8.Mat.Aten.), the responses from both schools, although not identical, were homogeneous, nevertheless, they tended to feel less attracted to the available materials in their institution contrary to IETAPR school, surprisingly, at none of the schools no one believed that the materials they used were totally adequate. Unexpectedly, the results portrayed that materials seemed to be not adequate enough for learners at CTCM school, in spite of Núñez *et al.* (2019) statements where it is mentioned the huge difference in resources between public and private education, where students enrolled in a private institution have access to a more complete collection of materials in contrast with public institutions. Similarly, as stated by Rodríguez and Araque (2019) the implementation of innovative strategies for learning, considering the advances in technology in heterogeneous communities results relevant when referring to resources.

The pre-test results indicated a general overview about learning, collaborative work, participation and resources from both institutions in order to identify how those contexts are carrying out their bilingual practice. By fostering this premise, one of the side implications of applying a gamified strategy is to strengthen bilingualism as much as possible.

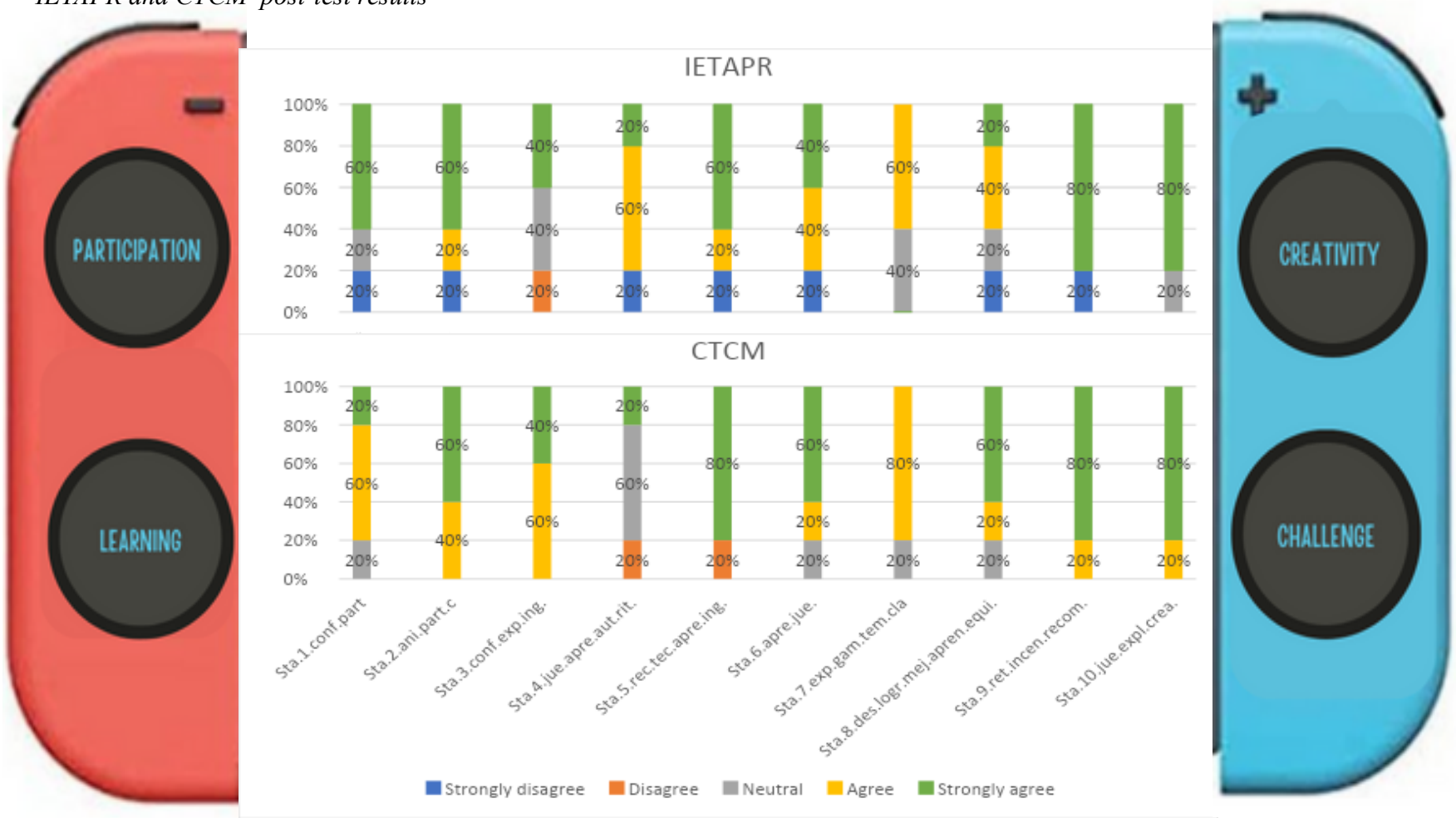
Post-test

The second data collection instrument was a post-test with a Likert scale and an open-ended question, so the information was analyzed quantitatively and qualitatively. The aim was to determine the results obtained from two groups of tenth graders in a public and a private school through a strategy of gamification. The target population was the same as in the pre-test and tenth graders were coded. This post-test was applied to some tenth graders from IETAPR public school and CTCM private school after implementing the gamification strategy that was chosen by the researchers.

VIGILADA MINEDUCACIÓN - SNIES 1704

Graphic 1

IETAPR and CTCM post-test results



NIT 860.012.357-6
SEDE PRINCIPAL BOGOTÁ: Carrera 9.ª N.º 51 - 11 / PBX: (601) 587 87 97
Línea gratuita nacional: 01 8000 111 180 / contactenos@usantotomas.edu.co
www.usantotomas.edu.co

Note. This graphic displays the students' quantitative responses and previously established categories. The statements are coded as follows: Sta.1.cont.part: - I felt confident participating without fear of making a mistake during the game. Sta.2.ani.part.c - The game encourages me to participate in different moments of the class. Sta.3.conf.exp.ing - I felt confident expressing myself in English in the game. Sta.4.jue.apre.aut.rit. - The game helped me to learn autonomously and at my own pace. Sta.5.rec.tec.apre.ing. - Technological resources help my English learning process in class. Sta.6.apre.jue. - I prefer to learn through the game methodology. Sta.7.ex.gam.tem.cia - Through the gamified experience, the topics and instructions are clearer for me now. Sta.8.des.logr.mej.apren.equi - I feel challenged to achieve goals and improve my learning process by working collaboratively. Sta.9.ret.incen.recom The challenges encouraged me to make efforts to obtain rewards. Sta.10.jue.expl,crea. The game allowed me to explore my creativity to solve the challenges. For the analysis, the statements are named just as each code given.

Participation

As said by Suarez and Rodriguez (2018) participation is one of the aspects that are improved when encouraging language interactions at English as a Foreign Language - EFL connected to collaborative work. For **sta.1.conf.part,** it was identified that tenth graders in both contexts were very engaged in participation since the majority agreed on them having confidence for taking part in the activity as well as reducing their fear of making mistakes, a low percentage of tenth graders felt insecure when participating. Equally important by comparing **sta.2.ani.part.c** in both contexts, it is found that the gamification strategy significantly motivated

VIGILADA MINEDUCA

NIT 860.012.357-6
SEDE PRINCIPAL BOGOTÁ: Carrera 9.ª N.º 51 - 11 / PBX: (601) 587 87 97
Línea gratuita nacional: 01 8000 111 180 / contactenos@usantotomas.edu.co
www.usantotomas.edu.co

participation in class among students in both schools. But, there is a minority in IETAPR school that disagrees with this statement.

Analyzing the results of **Sta.3.conf.exp.ing**, it was identified that a minority of students did not feel confident talking in the foreign language during the implementation of the strategy, a low percentage did not express agreement or disagreement, and, also, more than half of tenths graders felt confident expressing their ideas in English during the strategy. In contrast, at CTCM, every learner agreed on the statement.

Learning

Sta.4.jue.apre.aut.rit. made visible some important divergences for the two of the backgrounds, at IETAPR, the responses were positive, except for a minority who expressed that the activity did not boost their autonomous learning. For CTCM, the results evidenced that the majority of learners adopted a neutral position. Additionally, a low percentage had mixed responses divided into disagreement and strong agreement. In regards with **sta.5.rec.tec.apre.ing,** the majority of tenth graders in IETAPR and CTCM considered that technological resources contributed to their English learning process. However, few of them did not feel that those resources could help them in their learning process. In words of Araque (2022) spaces require to be reimagined in terms of technology for detaching from traditional methodologies, so as to approach to meaningful learning and education for life.

In line with **Sta.6.apre.jue,** the results demonstrated that, in both contexts, the majority of tenth grade students expressed their preference regarding learning through game methodology, and a low percentage expressed strong disagreement at IETAPR, and other low percentage

VIGILADA MINEDUCA

NIT 860.012.357-6
SEDE PRINCIPAL BOGOTÁ: Carrera 9.ª N.º 51 - 11 / PBX: (601) 587 87 97
Línea gratuita nacional: 01 8000 111 180 / contactenos@usantotomas.edu.co
www.usantotomas.edu.co

communicated neither agree nor disagree with the statement at CTCM. The responses collected revealed that the gamification strategy increased the chances for learning new vocabulary since the amount of learned words grew among the tenth graders during the lesson. For instance, CTCM-ST1 said "... I learned new verbs and improved my vocabulary a little…". Likewise, some participants agreed that the gamification strategy was exceptionally effective for learning more easily, as shown in the following response, communicated by CTCM_ST4"…this study method is very good and productive and it allows students to learn and understand the topics in a more fun and entertaining way". These affirmations are closely linked to Cameron & Bizo's assertions (2019) where it is evidenced that students find gamification as adequate and engaging to improve their level of achievement by learning in a competitive environment.

Considering **sta.7.exp.gam.tem.cla**, it was evident that in IETAPR more than half of tenth graders view the gamification strategy as an opportunity to have a clear understanding of the topics and instructions in class. Similar happened in CTCM, but with a higher percentage. Some others did not agree or disagree with this issue in IETAPR and in CTCM too but with less percentage. Thus, the gamification strategy increased interest during the English class, and in this way it engaged tenth graders in the learning process. They were interested in the gamification strategy as IETAPR_ST1 supported it "I really liked the dynamic". Likewise, they considered it was innovative, competitive, educational and useful. CTCM_ST2 expressed "It seems to me that it was a very productive, educational and competitive activity, it was very complete". In accordance with (Alomari et al., 2019), gamification has the potential to trigger learners' interest and performance. To unleash the potential of gamification, it is important to take into account

VIGILADA MINEDUCA

NIT 860.012.357-6
SEDE PRINCIPAL BOGOTÁ: Carrera 9.ª N.º 51 - 11 / PBX: (601) 587 87 97
Línea gratuita nacional: 01 8000 111 180 / contactenos@usantotomas.edu.co
www.usantotomas.edu.co

learners' engagement in learning tasks to promote skills and competences development and in this way improve learning outcomes.

Challenge

Analyzing **Sta.8.des.logr.mej.apren.equi** results, the information obtained demonstrated that all the learners at CTCM, except for a minimum percentage, were interested in attaining the goals proposed for that lesson, by cooperatively working with their partners to do what they needed to do in order to succeed in the activity. For example, CTCM_ST1 said "it was interesting to be very competitive with other classmates". A significant part of tenth graders at IETAPR was in agreement with achieving goals collaboratively, a low percentage took a neutral position and the other minority was in strong disagreement. The qualitative responses portrayed that the strategy generated confrontations among participants as IETAPR_ST3 expressed "young people with a bad competitive spirit, made classmates argue as always, defending the sides to which they were participants". Having in mind positive responses, it remained consistent with Pujola's (2021) ideas of learners developing their desire to participate in gamification strategies because they want to be active during the development of it. Tenth graders expressed that it was interesting to integrate with their classmates and exchange learning. In this sense, interaction was meaningful for them. For instance, CTCM_ST1 indicated that "teamwork and exchanging learning with my colleagues was interesting".

Regarding **Sta.9.ret.incen.recom**, in both schools a high percentage agreed that they challenged themselves to get the rewards. However, a low percentage indicated that rewards did not challenge them in the public school. In this sense, it is needed to highlight that most tenth

VIGILADA MINEDUCA

NIT 860.012.357-6
SEDE PRINCIPAL BOGOTÁ: Carrera 9.ª N.º 51 - 11 / PBX: (601) 587 87 97
Línea gratuita nacional: 01 8000 111 180 / contactenos@usantotomas.edu.co
www.usantotomas.edu.co

graders consider the rewards are important to make efforts. For example, CTCM_ST3 expressed "I really liked to win points against people who showed interest in the activity". In accordance with Prathyusha (2020), gamification in language learning is a meaningful strategy to inspire learners to accomplish the goals in order to obtain the rewards the game offers.

Creativity

Sta.10.jue.expl.crea. had homogeneous responses for both contexts; most of tenth grade learners agreed on the statement regarding the gamification strategy and the improvement of creativity for resolving the competitive events. But, a few participants expressed a neutral position at IETAPR. Prathyusha (2020), states that gamification is engaging in language learning because it encourages learners to have friendly competitions, work in collaboration, make tasks more effective, and strengthen their capacity and creativity.

Focus Group

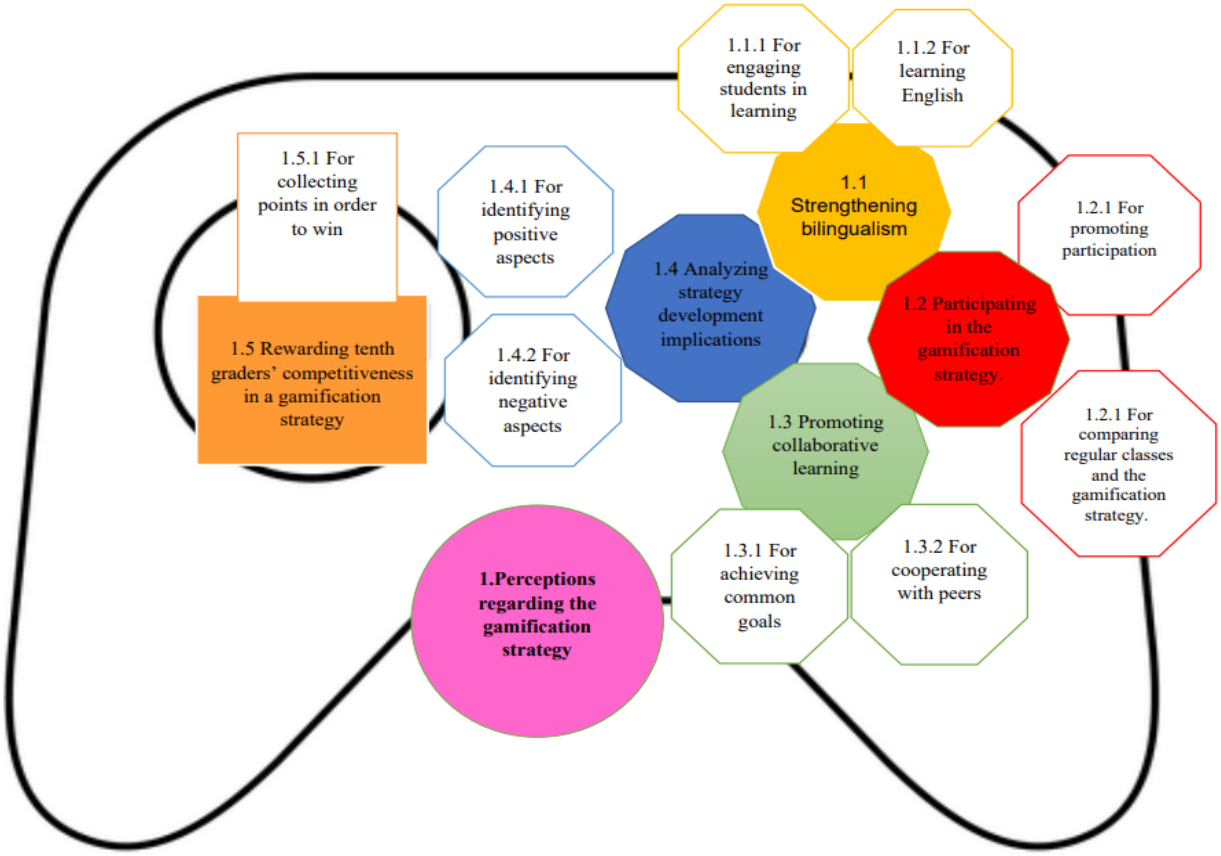
As described by Hatch (2002), a focus group method was included for this study; elements such as session observation, group interview with individual questions that sought to capture reflections and insights from participants, where moderators elicited detailed answers. This instrument aimed to contrast tenth-graders' perceptions in the aforementioned contexts regarding their experience after participating in a strategy of gamification. A graphic design was included with categories and subcategories that arose from the qualitative data and its respective analysis. Likewise, tenth graders were coded for each institution as IETAPR for the public school and CTCM for the private school.

VIGILADA MINEDUCA

NIT 860.012.357-6
SEDE PRINCIPAL BOGOTÁ: Carrera 9.ª N.º 51 - 11 / PBX: (601) 587 87 97
Línea gratuita nacional: 01 8000 111 180 / contactenos@usantotomas.edu.co
www.usantotomas.edu.co

Graphic 2

IETAPR and CTCM Focus Group Results



Note. This graphic displays the categories and subcategories that emerged from the last data collection instrument.

Strengthening Bilingualism

Analyzing the research data from tenth graders' perceptions, it evidenced that they were especially engaged in the learning process during the application of the gamification strategy in both schools. They conveyed favorable comments about engaging and understanding during the strategy development. "I feel it (the strategy) can help a lot in my learning process in a positive

VIGILADA MINEDUCA
NIT 860.012.357-6
SEDE PRINCIPAL BOGOTÁ: Carrera 9.ª N.º 51 - 11 / PBX: (601) 587 87 97
Línea gratuita nacional: 01 8000 111 180 / contactenos@usantotomas.edu.co
www.usantotomas.edu.co

way (..) to think and react faster and quicker, when listening and speaking" (CTCM_ST5) and IETAPR_ST1 said "It (the strategy) can have a positive effect, since it is fun and students can both learn and have fun at the same time…".These statements are aligned with Lavoué et al. (2019) when gamification is applied, learners become more engaged and learning is improved.

Regarding the bilingual learning process, it was identified that the gamification strategy contributed to improve language skills. At CTCM, it highlighted speaking, pronunciation, and vocabulary. For example, CTCM_ST4 said "I consider that we learnt a lot of vocabulary and a part of pronunciation, just to say each word and to know its meaning for using it right away". In the same line, at IETAPR it was found that they improved speaking, vocabulary and spelling. IETAPR_ST2 said "so, I believe, as I said previously, speaking and spelling for we had to try to transmit the idea, find proper words (…) it was interactive, it was a process in which we had to speak". All these responses are interconnected to the words of Mee et al. (2020) when it was expressed that the use of activities such as gamification can bring in learners' interest in acquiring a second language instinctively, without noticing they are actually learning.

The IETAPR research results showed a positive perspective in tenth graders due to the fact that they expressed that they got more engaged in class with the gamification strategy than in a regular class, and tenth graders considered their participation increased significantly. For example, IETAPR_ST2 said "it is something unusual compared to what we do in class, due to some people participated, but not everybody did. Instead, this was a task for two teams, (…) and most of them did participate (...) or the majority". Thus, these results support the claim that gamified learning environments are more engaging and improve learners' participation (Lavoué

VIGILADA MINEDUCA

NIT 860.012.357-6
SEDE PRINCIPAL BOGOTÁ: Carrera 9.ª N.º 51 - 11 / PBX: (601) 587 87 97
Línea gratuita nacional: 01 8000 111 180 / contactenos@usantotomas.edu.co
www.usantotomas.edu.co

et al., 2019). On the other hand, at CTCM tenth graders perceived that in a regular lesson there was an explanation and activities to be completed, but the gamified lesson allowed them to participate more. CTCM_ST4 expressed "it is positive because people feels motivated to speak although they make mistakes due to they participate and learn, but there are people who stay quiet", and CTCM_ST2 said "it influences positively on participation compared to a regular class that were just the explanation and the pedagogical activity". In accordance with Lavoué *et al.* (2018), participation increases in learners who are active during a gamification experience.

Promoting Collaborative Learning

The focus group in IETAPR revealed that collaboration among tenth graders increased because, for them, it was important to win the competition. IETAPR_ST3 stated "it strengthened the teamwork because we collaborated between all for the words and the pronunciation". Tu & Huang (2019) mentioned that there are meaningful opportunities to develop cooperative learning and increased interaction among learners. Cooperative learning in CTCM was quite different from IETAPR due to tenth graders focused on having right answers and not most of them collaborated. CTCM_ST1 said " I can say that there was teamwork in Family Feud because others tried to imitate the ones who knew more (...) some tenth graders stayed at the back trying to write each word or idea, it was used enough".

Analyzing the Strategy Development for Identifying Positive and Negative Aspects

The data collected from IETAPR revealed that the gamification strategy was eye catching and encouraged tenth graders to share together. For example, IETAPR_ST2 affirmed that "I am sure that many of my classmates are also attracted to this type of activity because it makes us live

VIGILADA MINEDUCA

NIT 860.012.357-6
SEDE PRINCIPAL BOGOTÁ: Carrera 9.ª N.º 51 - 11 / PBX: (601) 587 87 97
Línea gratuita nacional: 01 8000 111 180 / contactenos@usantotomas.edu.co
www.usantotomas.edu.co

together and leave the routine". At CTCM, the gamification strategy helped to get familiar with the language and to keep implementing gamified lessons. CTCM_ST3 said "Getting familiar with the language without needing to say what this word translates, how I can add it in other phrases (…)" and CTCM_ST1 said "(…) I think that the strategy is so good if it is done frequently". Referring to Prathyusha (2020), gamification is engaging for the reason that it challenges students to have friendly competitions and work in a collaborative way, always taking into consideration the objective of learning the target language.

Nonetheless, there were some downsides at some points during the application. From the IETAPR perspective, the time to answer makes them feel anxious. Considering, IETAPR_ST2 said "this kind of dynamics could generate some kind of anxiety, and I think that is the negative". meaning, the competitiveness could generate discussions among participants. IETAPR_ST1 said "some classmates did not get along well, some cheated and said the words to the classmates that were in front, so there was always a clash between those two sides". Learners can experience emotions such as frustration, wonder, mystery, and amusement, each providing a personal connection to the game or others playing the game (Lazzaro, 2004, as cited in Brull & Finlayson, 2016).

Rewarding Tenth Graders' Competitiveness in a Gamification Strategy for Collecting Points in order to Win

Rewarding is one of the essentials and principles of gamification strategy (Udjaja, 2018). However, according to IETAPR tenth graders' perceptions, it was one of the most criticized items among learners. The participants objected how negative it resulted for the work teams to

VIGILADA MINEDUCA

NIT 860.012.357-6
SEDE PRINCIPAL BOGOTÁ: Carrera 9.ª N.º 51 - 11 / PBX: (601) 587 87 97
Línea gratuita nacional: 01 8000 111 180 / contactenos@usantotomas.edu.co
www.usantotomas.edu.co

lose a round or even worse the game, because it generated conditions of demoralization and discouragement. IETAPR_ST2 said "I believe that the points issue, because it produces tensions among the work teams. It should be a dynamic game, without the need of having a winner or a loser team". On the other hand, CTCM tenth graders' perceived the gamification strategy made them compete with their classmates. CTCM_ST1 said "to compete with other students, with your own friends, so, it is like to see it like a game, and that is good, to play for learning (…)" These considerations contrast opinions from literate authors as Brull & Finlayson (2016) who affirmed that scoring encourages competence and helps learners keep on the activities.

Conclusions

This comparative case study aimed to establish how gamification can strengthen bilingualism in tenth graders in a public and a private context. The research study recognized the pedagogical practice regarding the English language learning prior to the gamification implementation for exploring language learning experiences. By implementing gamification, it was perceived as an opportunity of pedagogical rerouting at both bilingual learning environments considering that the strategy implicated collaborative work for advancing in learning and in common goals, also it increased tenth graders' participation and engagement which contributed to improve their foreign language performance.

In addition, in the quantitative results it was identified that one essentials of gamification such as rewarding was positive, but qualitative data suggested finding a more meaningful and pleasant scoring system. Additionally, gamification during its implementation had practical,

VIGILADA MINEDUCA
NIT 860.012.357-6
SEDE PRINCIPAL BOGOTÁ: Carrera 9.ª N.º 51 - 11 / PBX: (601) 587 87 97
Línea gratuita nacional: 01 8000 111 180 / contactenos@usantotomas.edu.co
www.usantotomas.edu.co

accessible and flexible features which permitted it to integrate practices to learners' real world and aligned to the teenage interests.

Furthermore, comparing the results at both institutions it was found similar responses regarding the gamification strategy by analyzing the quantitative results in the post-test, there were not significant differences in the percentages. On the other hand, the perceptions regarding learning in CTCM and IETAPR were related to the development of English skills, but IETAPR tenth graders added that it contributed to the engagement in class. At both learning environments, the collaborative work and participation increased. At IETAPR, the gamification strategy generated anxiety. In terms of rewarding, for IETAPR it was better to find another way for the scoring, and for CTCM the points were a good issue.

As a final consideration, the researchers determined that gamification should be consistent to the degree that it grants a possibility to improve bilingual pedagogical practices, and bilingualism definitely was strengthened as well as the community accepted that the gamification strategy was positive for their learning process. It remains as a way to start the transformation that bilingual learning environments require in order to fit the current needs.

Limitations and Recommendations

The researchers consider that it would be substantial to determine how deep the selection of these basics (achievement, skill, reward, among others) could affect learners' performance either positively or negatively. Then, further studies will be required to focus on the gamification rewarding system with the intention of setting appropriate attributes for the scoring arrangement. Furthermore, in accordance with tenth graders' perceptions it is important to take into

VIGILADA MINEDUCA

NIT 860.012.357-6
SEDE PRINCIPAL BOGOTÁ: Carrera 9.ª N.º 51 - 11 / PBX: (601) 587 87 97
Línea gratuita nacional: 01 8000 111 180 / contactenos@usantotomas.edu.co
www.usantotomas.edu.co

consideration their interests and needs to select an appropriate type of gamification to engage them more and also keep implementing gamification strategies that include some game features they have done before.

At the moment of doing a comparative case study, it should be taken into consideration that the participants have similar commonalities regarding age, educational level, and interests due to this, it can influence positively to the development of the project and to the data collection. On the other side, one limitation could be that just two of the researchers could interact in their respective context and the other one could not participate in any of them.

VIGILADA MINEDUCA

NIT 860.012.357-6
SEDE PRINCIPAL BOGOTÁ: Carrera 9.ª N.º 51 - 11 / PBX: (601) 587 87 97
Línea gratuita nacional: 01 8000 111 180 / contactenos@usantotomas.edu.co
www.usantotomas.edu.co

References

Alomari, I., Al-Samarraie, H., & Yousef, R. (2019). The role of gamification techniques in promoting student learning: A review and synthesis. *Journal of Information Technology Education: Research,* 18, 395-417. https://doi.org/10.28945/4417

APA. (n.d.). *APA Dictionary of Psychology*. APA Dictionary of Psychology. Retrieved from: https://dictionary.apa.org/pretest-posttest-design

Araque, D. (2022). Los smart classroom y ambientes de aprendizaje híbridos ¿ dónde está la innovación?. *Sol de Aquino*, (21), 58-61. Retrieved from: https://revistas.usantotomas.edu.co/index.php/soldeaquino/article/view/7812

Arda, S., & Doyran F. (2017) Analysis of young learners' and teenagers' attitudes to English language learning. *International Journal of Curriculum and Instruction,* 9 (2). Retrieved From: https://ijci.wcci-international.org/index.php/IJCI/article/view/81/56

Brull, S., & Finlayson, S. (2016). Importance of gamification in increasing learning. *Journal of continuing education in nursing, 47* (8), 372-375. Retrieved from: https://pubmed.ncbi.nlm.nih.gov/27467313/

Cameron, K. E., & Bizo, L. A. (2019). Use of the game-based learning platform KAHOOT! to facilitate learner engagement in animal science students. *Research in Learning Technology,* 27. https://doi.org/10.25304/rlt.v27.2225

Carstens, K. J., Mallon, J. M., Bataineh, M., & Al-Bataineh, A. (2021). Effects of Technology on Student Learning. *The Turkish Online Journal of Educational*

VIGILADA MINEDUCA

NIT 860.012.357-6
SEDE PRINCIPAL BOGOTÁ: Carrera 9.ª N.º 51 - 11 / PBX: (601) 587 87 97
Línea gratuita nacional: 01 8000 111 180 / contactenos@usantotomas.edu.co
www.usantotomas.edu.co

Technology, *20* (1), 105–113. Retrieved from: https://pdf4pro.com/amp/view/effects-of-technology-on-student-learning-6c9a12.html

Castro Aristizabal, G., Giménez, G., & Pérez Ximénez-de-Embún, D. (2016). *Desigualdades educativas en América Latina, PISA 2012: causas de las diferencias en desempeño escolar entre los colegios públicos y privados*. Sello Editorial Javeriano. http://dx.doi.org/10.13140/RG.2.2.21193.13925

Fuerte, K. (2019). El Informe Horizon mira hacia atrás por primera vez. Instituto para el Futuro de la Educación. Tecnológico de Monterrey. Retrieved from: https://observatorio.tec.mx/edu-news/informe-horizon-2019-mira-hacia-atras-por-primera-vez

George, T. (2021). *What Is a Focus Group? | Step-by-Step Guide & Examples*. Scribbr. Retrieved from: https://www.scribbr.com/methodology/focus-group/

Goodrick, D. (2014). Comparative Case Studies: Methodological Briefs - Impact Evaluation No. 9, *Methodological Briefs* no. 9. UNICEF Office of Research. Available here: https://www.unicef-irc.org/publications/754-comparative-case-studies-methodological-briefs-impact-evaluation-no-9.html#:~:text=Comparative%20case%20studies%20involve%20the,work%20or%20fail%20to%20work

Hatch, J. A. (2002). Doing qualitative research in education settings. State University of New York Press. Taken from:

VIGILADA MINEDUCA

NIT 860.012.357-6
SEDE PRINCIPAL BOGOTÁ: Carrera 9.ª N.º 51 - 11 / PBX: (601) 587 87 97
Línea gratuita nacional: 01 8000 111 180 / contactenos@usantotomas.edu.co
www.usantotomas.edu.co

https://ebookcentral.proquest.com/lib/bibliotecausta-ebooks/detail.action?docID=3408084

Hu, S. (2014). Pretesting. In: Michalos, A.C. (eds). Encyclopedia of quality of life and well-being research. Springer, Dordrecht. https://doi.org/10.1007/978-94-007-0753-5_2256

Johnson, L., Adams Becker, S., Estrada, V., Freeman, A. (2014). NMC horizon report: 2014 higher education edition. The New Media Consortium. Taken from: https://cdc.qc.ca/pdf/2014-Horizon-Report-creative-commons-copy.pdf

Koivisto, Jonna & Hamari, Juho. (2019). Gamification of physical activity: A systematic literature review of comparison studies. Retrieved from: https://www.researchgate.net/publication/332371183_Gamification_of_physical_activity_A_systematic_literature_review_of_comparison_studies

Lavoué, E., Monterrat, B., Desmarais, M., & George, S. (2019). Adaptive gamification for learning environments. *IEEE Transactions on Learning Technologies*, *12* (1), 16-28. Taken from: https://www.researchgate.net/publication/324430336_Adaptive_Gamification_for_Learning_Environments

Lin, S. Y., Chen, M. P., Wang, L. C., Kao, Y. T., Zou, D., & Xie, H. (2019). *Enhancing low achievers' EFL learning with interactive digital technologies* . In 27th International Conference on Computers in Education, *ICCE* , (pp. 617-623).

VIGILADA MINEDUCA

NIT 860.012.357-6
SEDE PRINCIPAL BOGOTÁ: Carrera 9.ª N.º 51 - 11 / PBX: (601) 587 87 97
Línea gratuita nacional: 01 8000 111 180 / contactenos@usantotomas.edu.co
www.usantotomas.edu.co

Asia-Pacific Society for Computers in Education. Retrieved from: https://apsce.net/icce/icce2019/proceedings/paper_112.pdf

Martínez, S. (2016). Bilingualism in Colombia Higher Education. *Enletawa Journal*, *9* (2), 91-108. https://doi.org/10.19053/2011835X.7547

Mee Mee, R. W., Shahdan, T. S.T., Ismail, M. R., Abd Ghani, K., Pek, L. S., Von, W. Y., Woo, A., & Rao, Y. S. (2020). Role of gamification in classroom teaching: Pre-service teachers' view. *International Journal of Evaluation and Research in Education (IJERE)*, 9 (3), 684–690. http://doi.org/10.11591/ijere.v9i3.20622

Mejía-Mejía, S. (2016). ¿ Vamos hacia una Colombia bilingüe? Análisis de la brecha académica entre el sector público y privado en la educación del inglés. *Educación y Educadores*, 19 (2), 223-237. Retrieved from: https://educacionyeducadores.unisabana.edu.co/index.php/eye/article/view/4458

Ministerio de Educación Nacional (MEN). (2006). Documento No. 3: una construcción colectiva por el mejoramiento integral de la gestión educativa. Bogotá. MEN.

Ministerio de Educación Nacional (MEN). (2016). *Orientaciones y principios pedagógicos – Currículo sugerido de inglés – Eco Web 2.0*. Colombia Aprende. Recuperado de: https://eco.colombiaaprende.edu.co/2021/09/07/orientaciones-y-principios-pedagogicos-curriculo-sugerido-de-ingles/

VIGILADA MINEDUCA

NIT 860.012.357-6
SEDE PRINCIPAL BOGOTÁ: Carrera 9.ª N.º 51 - 11 / PBX: (601) 587 87 97
Línea gratuita nacional: 01 8000 111 180 / contactenos@usantotomas.edu.co
www.usantotomas.edu.co

Mishra, P., Pandey, C. M., Singh, U., Gupta, A., Sahu, C., & Keshri, A. (2019). Descriptive statistics and normality tests for statistical data. *Annals of cardiac anaesthesia*, *22*(1), 67-72. 10.4103/aca.ACA_157_18

Núñez, J., Téllez, O., & Monroy, J. M. (2019). Diagnóstico del estado del bilingüismo en Bogotá. Retrieved from: https://www.repository.fedesarrollo.org.co/bitstream/handle/11445/3906/Repor_Diciembre_2019_N%c3%ba%c3%b1ez_T%c3%a9llez_y_Monroy.pdf?sequence=1&isAllowed=y

Ordóñez, C. L. O. (2014). Bilingüismo en contexto monolingüe: contra la corriente. *Miríada hispánica*, (10), 107-128. Retrieved from: https://www.researchgate.net/publication/279960252_Bilinguismo_en_contexto_monolingue_contra_la_corriente

Prathyusha, N. (2020). Role of gamification in language learning. *International Journal of Research and Analytical Reviews (IJRAR)*, *7* (2), 577-583. Retrieved from: https://www.ijrar.org/papers/IJRAR2004090.pdf

Pujolà, J. T. (2021). Gamification: Motivating Language Learning with Gameful Elements. *Research-publishing.net*. Retrieved from: https://files.eric.ed.gov/fulltext/ED614098.pdf

Rodríguez, S. M., & Araque Torres, D. M. (2019). Maestría en Ambientes Bilingües de Aprendizaje, estudio de pertinencia. Retrieved from: https://doi.org/10.15332/dt.inv.2021.01748

VIGILADA MINEDUCA

NIT 860.012.357-6
SEDE PRINCIPAL BOGOTÁ: Carrera 9.ª N.º 51 - 11 / PBX: (601) 587 87 97
Línea gratuita nacional: 01 8000 111 180 / contactenos@usantotomas.edu.co
www.usantotomas.edu.co

Saldaña, J. (2009). *The coding manual for qualitative researchers*. Sage Publications Ltd. Retrieved from: https://www.sagepub.com/sites/default/files/upm-binaries/24614_01_Saldana_Ch_01.pdf

Sefedini, M. (2018). An investigation of the effect of bilingual education on language achievement of Kosovar teenagers. Retrieved from: https://knowledgecenter.ubt-uni.net/conference/2018/all-events/117/

Stocker, E. (2020). *Gamification in the EFL Classroom: The Effect of Gamification on Student Engagement in Teenage Learners of English* (Doctoral dissertation, Karl-Franzens-Universität Graz). Retrieved from: https://unipub.uni-graz.at/obvugrhs/download/pdf/5343207?originalFilename=true

Suárez, I. R., & Rodríguez, S. M. (2018). Language interaction among EFL primary learners and their teacher through collaborative task-based learning. *Profile: Issues in Teachers' Professional Development*, 20 (2), 95-109. https://doi.org/10.15446/profile.v20n2.63845

Taborda, J.P., Arango, J., Collazos, C. & Gutiérrez, F.L. (2019). A proposal of a catalog of gamification patterns: A way to improve the learning motivation. *Journal of Information Technology Research (JITR)*, *12* (4), 34-49. 10.4018/JITR.2019100102

VIGILADA MINEDUCA

NIT 860.012.357-6
SEDE PRINCIPAL BOGOTÁ: Carrera 9.ª N.º 51 - 11 / PBX: (601) 587 87 97
Línea gratuita nacional: 01 8000 111 180 / contactenos@usantotomas.edu.co
www.usantotomas.edu.co

Timans, R., Wouters, P., & Heilbron, J. (2019). Mixed methods research: what it is and what it could be. *Theory and Society, 48*(2), 193-216. https://doi.org/10.1007/s11186-019-09345-5

Tu, H. L., & Huang, L. W. (2019). The English Teaching Strategies of Competitiveness and Cooperation in Gamification. In *Proceedings of the 2019 3rd International Conference on Education and Multimedia Technology* (pp. 400-403). Retrieved from: https://doi.org/10.1145/3345120.3345184

Udjaja, Y. (2018). Gamification assisted language learning for Japanese language using expert point cloud recognizer. *International Journal of Computer Games Technology*, *2018*. https://doi.org/10.1155/2018/9085179

Wangi, N. B. S., Setyosari, P., Kuswandi, D., & Dwiyogo, W. D. (2020). Integrating gamification in a blended learning entrepreneurship course: discussing student learning and achievement motivation. *International Journal of Innovation and Learning*, *30*(1), 91-113. 10.37200/IJPR/V24I7/PR270962

Zhu, X., & Liu, J. (2020). Education in and after Covid-19: Immediate responses and long-term visions. *Postdigital Science and Education*, *2* (3), 695-699. https://doi.org/10.1007/s42438-020-00126-3

VIGILADA MINEDUCA

NIT 860.012.357-6
SEDE PRINCIPAL BOGOTÁ: Carrera 9.ª N.º 51 - 11 / PBX: (601) 587 87 97
Línea gratuita nacional: 01 8000 111 180 / contactenos@usantotomas.edu.co
www.usantotomas.edu.co