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Abstract:

Our society is immersed in a technological environment which influences not only students learning process but also the methodological approaches. Teenagers spend part of their free time playing with videogames or publishing posts on their social networks through their cellphones. This interest towards technological games can be the excuse to implement methodologies where technology takes place. Besides, these social shifts have transformed the concept of literacy, that is how to read and write into the notion of multiliteracy (Cope & Kalantzis, 2009; New London Group, 1996) where these two skills are developed through multimodal channel not only the written mode. One of the active methodologies which could be implemented when teaching English as a foreign language is Gamification since it could foster the development of literacy through a multimodal channel since it combines visual, auditory and written mode. One of the advantages of this active methodology is the increase of motivation and engagement towards the learning process. However, to become a fluent reader in English as a Foreign Language is not an easy task since there is not a total correspondence between the graphemes and phonemes hindering the comprehension of what it is written. The purpose of this study has been to prove if the implementation of a gamified project could strengthen the multiliteracy process and increase motivation towards the learning process. The results show there have been an improvement not only in the comprehension of written texts but also in the level of motivation towards the work of that specific skill.

Keywords:
English as a Foreign language, Gamification, Motivation, Multiliteracy, Reading comprehension.

Resumen:

Nuestra sociedad está inmersa en un entorno tecnológico que influye no sólo en el proceso de aprendizaje de los alumnos, sino también en los enfoques metodológicos. Los adolescentes pasan parte de su tiempo libre jugando con videojuegos o publicando posts en sus redes sociales a través del móvil. Este interés hacia los juegos tecnológicos puede ser la excusa ideal para implantar metodologías donde la tecnología tenga cabida. Además, estos cambios sociales han transformado el concepto de alfabetización, es decir, cómo leer y escribir, en la noción de multialfabetización (Cope & Kalantzis, 2009; New London Group, 1996) donde estas competencias se desarrollan no solo de manera impresa sino atendiendo al concepto de multimodalidad. Una de las metodologías activas que se podrían implementar a la hora de enseñar inglés como lengua extranjera es la gamificación, pues ayudaría a mejorar el proceso de alfabetización combinado no solo material impreso sino visual, auditivo y escrito. Una de las ventajas de esta metodología activa es el aumento de la motivación y el compromiso hacia el proceso de aprendizaje. Sin embargo, llegar a ser un lector fluido en inglés como lengua extranjera no es tarea fácil, pues no existe una correspondencia total entre los grafemas y los fonemas dificultando la comprensión de lo escrito. Debido a esto, el objetivo de este estudio ha sido comprobar si la implementación de un proyecto gamificado podría reforzar el proceso de alfabetización múltiple y aumentar la motivación hacia el proceso de aprendizaje. Los resultados muestran que se ha producido una mejora no sólo en la comprensión escrita de los textos, sino también en el nivel de motivación hacia el trabajo de esa destreza específica.

Palabras claves:
Comprensión lectora, gamificación, inglés como lengua extranjera, motivación; multialfabetización.

1. Introduction

Reading in English as a foreign language is a complex process which develops situations of anxiety and demotivation in the adolescent learners due to the lack of correspondence between graphemes and phonemes, preventing them understand the message. In addition, the National and International reading tests such as Pisa (2022) place Spanish participants´ reading comprehension in mother tongue below the European average due to the lack of reading habits, what makes it difficult to learn an appropriate foreign language. Nowadays, teenagers spend part of their free time in front of a screen playing (Gómez-Gonzalvo et al., 2020) or interacting with social networks since they feel confident with technology.

This social change has had an impact on the educational life of the school (Renandya & Widodo, 2016). The use of cell phones, tablets or laptops has transformed the classroom into a technological learning environment (Kay & Schellenberg, 2019) where students are encouraged to be involved in active tasks to guarantee their learning (Şahin et al., 2019). This situation, where teenagers have access to their devices in class could improve both the attitude towards the learning situation and the development of communicative competence in a foreign language.

The implementation of specific technological tools such as Kahoot, Quizlet, Educaplay, among others (Peña-Acuña, 2024) could be beneficial for this population since they could learn a language while developing their digital literacy. One of the active methodologies that gathers both learning while playing videogame is gamification (Varannai et al., 2017; Xu et al., 2021, Rubio-Alcalá et al., 2023). This reality and interest towards technological games can be the excuse to implement this methodology when teaching English as a foreign language (Orta &Peña-Acuña, 2022). Besides, as scientific literature encourages gamified environments could increase learners' motivation and engagement due to the nature of the methodology which is based on game mechanics (Hanus & Fox, 2015; Millis et al., 2017; Noroozi et al., 2019). This playful atmosphere reduces the anxiety, and the fear students suffer when facing the learning of a new language (Rafek et al., 2014; Rubio, 2004) and benefits pupils´ mental and emotional state to successfully acquire the linguistic competence (Ardoiz, 2017; Author, 2024).

As a result of the hazard task of becoming literate in English in a technological changing world where multimodality should be promoted to acknowledge all the students´ learning styles, this study wants to aim if the implementation of a gamified project in English could improve not only the development of multiliteracy but also, the motivation towards the study of reading comprehension and writing production in a foreign language.

2. Theoretical Framework

2.1. Difficulty in getting multiliteracy in English as a Foreign Language

The technological and social changes have transformed the traditional concept of literacy, defined as the development of reading, and writing in an impress mode into the notion of multiliteracy (New London Group, 1996), which takes into consideration not only the printed texts but also the linguistic, auditory, visual, gestural, and spatial ones (Cope and Kalantzis 2009; New London Group 1996). The New London Group (1996, p. 61) coined this new term of multiliteracies adapting to the "realities of increasing local diversity and global connectedness". So, to become literate in language, participants must read and write in a wide variety of modes both digitally and in the written form (Kalantzis & Cope, 2016; New London Group, 1996).

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One of the main problem adolescents triggers when learning English as a foreign language is the demotivation towards the reading process due to two reasons. The first one is the lack of correspondence between graphemes & phonemes since English is considered an opaque language (Seymour et al., 2003). Due to that, it is compulsory for readers to sound the text first if they pretend to understand the message (Fonseca, 2013). Several are the stages to be able to decode a text.

1. Readers need to associate the graphemes or written words to its phonemes or pronunciation.

2. Then, they must connect the word´s sounds with their visual image to get the meaning.

3. Finally, the word meaning will be stored in the memory to be recovered when it was necessary (Cunningham, 2006; Maloney et al., 2009).

The second reason is that Spanish students are not considered good readers in their mother tongue. According to the results provided by the Pisa survey in 2022, there is a decline in reading performance in 15-year-old students, positioning Spanish learners slightly below the average of the European Union (Organization for Economic Cooperation and Development, OECD, 2022). Besides, these difficulties in their mother tongue are transferred to the foreign language process (Fonseca-Mora & Fernández-Corbacho, 2017), making the procedure even harder. These disadvantages provoke students' demotivation and anxiety when confronting the reading in English.

The use of gamification could minimize these problems since it could promote motivation (Morthy & Abdul Aziz, 2020), reduce participants´ anxiety level (Maloney, 2019) and combine different modes of communication in a very recreational, attractive, and entertaining way due to their digital videogame format.

1.2. Gamification for educational purpose: the improvement of motivation towards reading

Many authors such as Vygotsky (1978) or Piaget (1999) have declared that playing has a high educational value because it facilitates the acquisition of new contents, improves attention, memorization, producing a pleasant and rewarding way of learning. However, it is important to distinguish between educational games and gamification since it seems to be the same, but it has substantial differences (Kapp, 2012; Werbach & Hunter, 2015).

For Huizinga (1939) educational game is a free action that takes place within certain temporal and spatial limits since it has an end; it has obligatory rules which must be accepted; it has a winner what it implies tension at the same time they are enjoying. On its part, Kapp (2012, p.7) describes educational games as a "system in which the players participate in an abstract challenge, defined by rules, interactivity and feedback, which translates into a quantifiable outcome that often elicits an emotional reaction".

On the other hand, gamification is defined as the practice of incorporating game mechanics and dynamics into non-game contexts (Dichev & Dicheva, 2017; Seaborn & Fels, 2015). So, the main difference between both is that in the educational games the content is developed while playing (Johnson et al., 2005) and the game mechanisms stimulate participants' interest (Song & Zhang, 2008), whereas in gamification the game elements are used to engage learners with the content to progress

toward a goal. A well-designed gamification implies an engaging narrative (Hanus & Fox, 2015; Xu et al., 2021) where the participants must cooperate in the mission to get a common goal (Jahn et al., 2021). Besides, this should include several mechanics such as avatars, badges, virtual points, awards, etc. (Osatuyi et al., 2018; Palová & Vejačka, 2020 & Vrcelj et al. 2023). Nevertheless, a suitable gamification implies overcoming challenges through interaction (Bovermann & Bastiaens, 2018; Jahn et al., 2021), well-structured design, continuous feedback (Bovermann & Bastiaens, 2018, Ortiz Rojas et al., 2017 & Schobel et al., 2020) and must provoke what Csíkszentmihályi (1990) defines as flow, which is a state reached by an individual when he/she is totally focused on the enjoyment of the activity he/she is carrying out instead of paying attention to the learning.

Many are the positive effects of including gamification in the learning process such as:

-   The development of communicative skill, digital skill, critical learning, interaction, collaboration, problem- solving (Newcombe and Brick, 2017);

-   Learning outcomes in general (Reinhardt, 2019) and English as a foreign language (Sundqvist & Wikstreom, 2015);

-   Motivation and engagement (Baptista & Oliveira, 2018; Kapp, 2012; Nieto-Escamez & Roldán-Tapia, 2021; Park & Kim, 2021; Xu et al., 2021).

-   Deep learning and critical thinking (Kapp, 2012).

Despite the advantages gamification can bring to education, there are some authors who emphasize the idea that the use of devices can disrupt students' learning since they can waste their time reading and answering text messages or browsing non-relevant websites (Santos & Bocheco, 2017). Nevertheless, if the adolescents are engaged and motivated with the gamification project, they will not waste their time with other tasks. An engaging topic is crucial to motivate them and avoid distraction. So, this methodology could be a good one to promote motivation towards the learning of reading, to improve multiliteracy and to attend individual differences.

3. Methods

3.1. Objectives

The main aim of this research is to find out if a gamified project based on the series *Stranger things* would be beneficial for baccalaureate students, both to promote multiliteracy and to increase motivation to learn English as a foreign language. To answer the study objective, a mixed methodology was implemented, as explained in sections 3.3 and 3.4.

3.2. Participants

A total of 55 learners, 31 girls and 24 boys, aged between 16 and 17, students in the first year of the baccalaureate are the participants selected for this research. All belong to a high and stable socio-economic status, and study at a private high school located in the south of Andalusian region (Spain). They are divided into two groups. Among the participants, there is only one student with special needs, who has an attention deficit disorder (ADD) but that person does not need special adaptation to the materials. All of them struggle to comprehend written texts, particularly when ex-

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tracting specific information and understanding the use of language, puns, and literary devices. A vast majority of students (71%) attend English lesson privately in the evenings.

3.3. Instruments

Several instruments have been carried out to collect mixed data from this research:

-   A questionnaire to check participants´ interests about the type of series they consume, and the methodology previously implemented in their English lessons (quantitative and qualitative data).

-   English written assessment test (quantitative data).

-   An adaptation of AMBT (Attitude and Motivation Battery Test) (Gardner,1985) (quantitative data).

-   Individual interview about the implementation of the gamified project in the English lesson (qualitative data).

-   Direct observation through teacher´s diary (qualitative data).

## 3.4. Teaching intervention phases

A gamified project based on Netflix series *Stranger Things* has been the methodology implemented in this research. It was developed through the second term of the academic year 2022-2023 in the English lessons (three one-hour sessions per week) and it was titled "The Stranger Disappearance".

First, a video about the goal of the game was introduced to hook participants towards the story[1]. The main objective of this gamification is that each cooperative group of students investigate throughout the different missions where Eleven is. To get the clues which have been hidden in the seven missions proposed in this gamification, each group must complete a number of diverse listening, reading and writing activities in English through the use of their tablet or computer. Among the tasks, students must record a video; decode a scratched poster and create a similar one; answer an e-mail; write a podcast and record it; decipher an image or picture to get the answer of a problem; write a text message to the kidnappers, etc. Even though all the skills are taken into consideration, this project develops reading and writing specifically since both are the ones assessed in the EBAU (University Entrance exam) and students of this research are preparing this exam in English. Besides, they were designed to fulfill the multiliteracy principle. All these missions and activities were lodged in a website designed for this project[2].

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1   https://www.youtube.com/watch?v=ngLgHn_MwVc
2   https://sites.google.com/view/strangerdisappearance/home?authuser=0

Picture 1. Website homepage
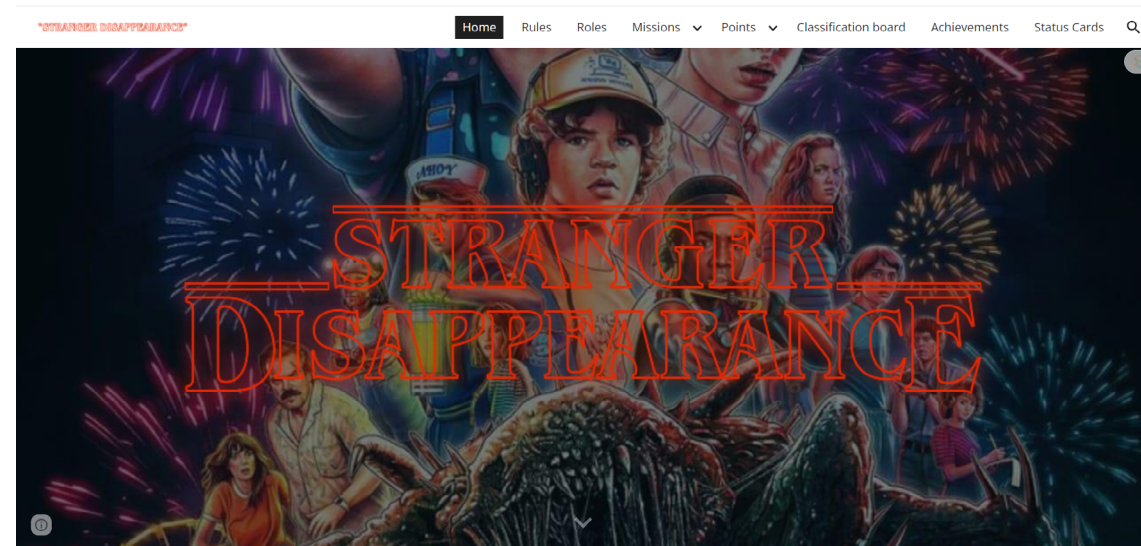
Source: Adaptation of Stranger things series´ picture (Neftlix)

In this site, students have access to the goal of the game; the rules of how to participate in it; the different roles students have to achieve in their group; the instructions of the seven missions they have to complete to end the game successfully to discover where the main protagonist is; the information about how to get points to be able to both to have access to the following mission and to pass the English subject since all the activities are assessed and each learner gets individual and group grade; a leaderboard displayed with the score they are getting individually and in group; information about how to get extra achievements if they complete extra activities and the instructions how and when they can get status cards which would give them some privileges in the game. It is important to pinpoint that students are not allowed to change from one mission to another one unless they get the access code which opens the following mission and a specific number of points and rewards to guarantee that the activities have been developed properly what it means they had acquired the learning goal. The whole game will conclude when each group successfully fulfils the seven missions and find where the main protagonist is. At the end of the project, each group has to be able to complete a gymkhana with all the clues obtained throughout the different missions and to upload the portfolio into Moodle to be assessed by a rubric. This would include all the mini tasks they had done on the website.

4. Results

4.1. Interest test about the consumption of TV series and the methodology already implemented in the English class

First of all, a questionnaire was administered to check participants´ interests about the type of series they consumed, and the methodology previously implemented in their English lessons. All the participants (100%) usually watched series of which only 21% heard them in English with subtitles in Spanish. The rest, 69%, watched it in Spanish. The participants consumed a variety of series genres

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although all of them except one adolescent were followers of the Neftlix series "Stranger Things". That was the main reason for choosing this series instead of another.

As regards as methodology is concerned, none of the respondents knew what gamification consisted of and they remarked that their English lessons did not pursue a specific methodology since they followed the textbook. They worked mainly individually and in rare occasions in pairs. Almost half of the population, 40% had worked with projects in Pre-primary and Primary education but none of them did in the secondary stage. Finally, 100% had some experience playing with videogame either in their cell phones or in their computers. This information guided the decision of the methodology selected and the engaging mission they had to follow throughout the learning situation.

4.2. English written assessment test

The next step in the research was the administration of a written English test at the beginning and at the end of the intervention to check participants´ linguistic competence in English. The results obtained are presented in the following Table:

Table 1. Written test results

	Written test grade (before the research)	Written test grade (after the research)
A+ (Matricula de honor) (10 points out of 10)	1%	2%
A (Sobresaliente) (Between 8-9 points)	8%	13%
B (Notable) (Between 7-8points)	16%	19%
C (Bien) (Between 6-7points)	33%	39%
D (Suficiente) (Between 5-6 points)	30%	19%
F (Insuficiente) (less than 5 points)	12%	8%

Source: own elaboration

The results show that at the beginning of the study, the 63% of the participants were between C and D, that is, they got between 5 and 7 points in their exam; 24% got good marks between 7-9 points out of 10; only1% was able to complete the exam without mistake and 12% failed the written exam. After the implementation of the gamified project, the results improved a little bit, but they were not significant since most of the participants (58%) continued between the C and D grade. Nevertheless, there was an improvement since the 21% of the participants moved from level D to C. The failure rate was reduced by 3%, from 12% to 8%. However, the rest of the data was quite similar.

4.3. Motivation questionnaire

The last stage before the implementation of the gamified project was the administration of a pre and post questionnaire about student's motivation level towards learning English. The results can be checked in table 2 below:

	Pre-test			Post-test		
	High	Medium	Low	High	Medium	Low
My motivation to learn English is	25.45%	49.1%	25.45%	49.63%	29.83%	20.54%
My interest in foreign languages is	12.73%	36.37%	50.90%	27.81%	31.55%	40.64%
My attitude toward learning English is	23.63%	63.64%	12.73%	36.4%	56.33%	7.27%
My attitude toward my English teacher is	10.96%	63.64%	25.45%	36.4%	56.33%	7.27%
My attitude toward my English course is	23.63%	63.64%	12.73%	60.18%	32.55%	7.27%
My parents encourage me to learn English	81.82%	0%	18.18%	81.82%	0%	18.18%

Source: own elaboration

The data collected affirmed that there has been a change in the motivation towards the learning of English. At the beginning of the study, half of the answers (49.1%) felt indifferent towards learning English. However, after having implemented the gamification methodology half of the participants (49.63%) felt motivated in the English lessons. Besides, their interest towards learning new languages also changed a little bit since at the beginning only 23.63% was interested in learning new languages, 36.37% felt indifferent and the other half (50.90%) was not sympathetic with that.

After the implementation, the number of students interested in foreign languages increased from 23.63% to 27.81% and the number of pupils without interest in learning other languages reduced in 10% from 50.90% to 40.64%. Finally, the attitude towards the lessons, the teacher and the process of learning English improved due to the implementation of a gamified project. It is interested to pinpoint that the results from the attitude towards learning English and the attitude towards the English course were identical. The perception of the English teacher also improved from 10.96% to 36.4%. However, there are many students whose perception of the teacher is negative (7.27%) or indifferent (32.55%).

4.4. Direct observation

Qualitative data was obtained through direct observation through a teacher´s diary. At the beginning of the research, students felt anxious and fearful about the implementation of the new methodology because it was a challenge for them to change their daily routine. They have been working with the textbooks the last five years and they felt their English grade would be affected by this new methodology. Many of them were worried about the English EBAU exam. They had to begin working in cooperative groups, with new technologies such as tablets, computers, and cell phones since most of the activities had to be completed online and in groups.

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The first two weeks were complex for both the teacher and the students. Lessons were noisy, and many students did not know what they have to do, how to manage time, what their role in their group was. Besides, they had to get used to working cooperatively, to share information and knowledge among the members to be able to complete the variety of activities proposed cooperatively. This process was hard for them. Nevertheless, once groups understood the dynamics and the rules of the new methodology, their role in the group, the different cooperative structures and the necessity to work cooperatively to success, they became autonomous, and the professor only had to solve doubts and help each group individually.

The video presenting the project, and the webpage was well valued among the students. Besides, working with digital tools, especially videogames, had a positive response among the participants and the learning environment. Most of the students felt motivated by the series decision, the game mechanics and the idea of working cooperatively. Sometimes they were under the impression that they had not learned anything in the lesson since they had spent 45 minutes playing with a videogame. However, when the teacher asked them questions about a grammatical structure, vocabulary, or a concept all of them were able to answer correctly.

Students with a slightly lower English level benefited from this type of grouping and the methodology implemented since they did not only receive explanations from the teacher, but also from their peers, what helped them much more to understand what to do and how to do it. Besides, although at the beginning they were anxious and felt uncapable of participating because they thought their level was not the suitable one, their role in the group obliged them to be active, so their self-perception improved and they began feeling more integrated, useful, and motivated. Their impression can be read in students' evaluation in Annex 1.

4.5. Individual interview results

The individual interview carried out at the end of the study affirmed that 94% of the participants´ answers showed complete satisfaction towards the implementation of a gamified project since they perceived the game was designed especially for them and they were the protagonist of their own learning. This is a significant result. Their level of motivation increased significantly once they got involved in the project and the perception of boredom towards the English subject diminished.

6. Discussion and conclusions

Students are immersed in a world surrounded by technology and the educational system should include them in the learning process since their usage can make it more memorable and meaningful. According to Ausubel (1963, p.58) "meaningful learning is the human mechanism, per excellence, for acquiring and storing the immense number of ideas and information represented in any field of knowledge".

Gamification helps students learn in a healthy competitive atmosphere (Rajendran et al., 2019) while they are developing their communicative & digital skill, critical learning, interaction, collaboration, problem- solving (Newcombe and Brick, 2017), learning outcomes in English as a foreign language (Azar & Tan, 2020; Sundqvist & Wikström, 2015), motivation and engagement (Nieto-Escamez & Rol-

dán-Tapia, 2021; Park & Kim, 2021) and participation in meaning-making activities. These non-threatening and fun environment benefits participants in the development of linguistic competence where students become conscious of their own process.

The main objective of this study was to foster multiliteracy through a gamified project to both promote motivation towards the reading process and to develop reading comprehension and written production of English texts. The findings of this study are in line with those of Rafiq et al. (2019) and Hashim et al. (2019), where students' perceptions about language learning games were surprisingly positive; they found them fun, attractive, encouraging, motivating aside from games helped improve their self-esteem and learning experience. Besides, students learnt English by doing and having fun what it is one of the advantages of gamification. It also favored students to learn from their mistakes immediately after they had finished the activity what improved their English language skills. By including gamification elements into instruction, shy students participated more in the English language learning activities. Therefore, gamification helped teachers improve and evaluate students' language skills quickly.

After the implementation of this intervention programmed, many of these positive effects were developed in the participants of this study. They were active agents who enjoyed the dynamics, were eager to learn and manage to work with different ICT tools, necessary for their future lives. The use of cooperative work and gamification in the first baccalaureate level has proven to be very effective as methodological tools to encourage motivation, participation and commitment changing the learning perspective from a passive to a meaningful one. The fact that students were immersed in an environment of leisure and play provoked curiosity and desire to learn. This effect is important as Csikszentmihalyi stated in (1990, p. 51): "Interest arises spontaneously when the activity is pleasurable and therefore valuable in itself".

On the other hand, working cooperatively was also beneficial since they developed their emotional and social skills necessary for their future job. Besides, with this type of methodology participants developed the ability to select and validate truthful information and the autonomy to understand and produce texts with clarity, coherence, cohesion, correctness, and appropriateness throughout technology, what it would last longer since they are active participants, as Dewey explained (1938, p.63) "learning that results in doing, and doing that is educative, are identical Learning that results in doing, and doing that is educative, are identical ". Similarly, cooperative work fostered the development of emotional and social skills that are essential for life in society. It teaches pupils to work collaboratively with others, as Vygotsky argued. This idea is also supported by Keller, who argued that collaborative work allows for greater achievement, as Lash 1980 (p. 489) stated in his work about Helen Keller.

In conclusion, the implementation of a gamified project in Baccalaureate has been positive and beneficial for the participants since has enable them to develop their linguistic and digital competence autonomously in different communicative situations in a motivational and saved environment. However, it had some limitations since reading and writing are two skills which require a lot of time to be acquired, and the implementation of this project has been very limited. Perception and motivation are two traits who also require time to be developed, and longer research should be establi-

shed. Nevertheless, this study has allowed Baccalaureate learners to be conscious that gamification is an active methodology that can motivate them while improving affective factors, linguistic competence and digital literacy.

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