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## Guadalingo: a case study of a gamified video game for learning Spanish as a foreign language

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### Abstract

*A gamified video game is a game that combines elements of the video game world with educational objectives. In other words, it is an educational tool that applies the elements of the game — like narrative, aesthetics, points, levels, challenges, rewards, missions, characters etc. — to motivate the student and facilitate learning. The reason why I decided to verify the effectiveness of the gamified video game Guadalingo, as a motivating tool in the educational context, is because I am convinced that it adapts to the needs and requirements of new generations of students, as well as the skills required for the 21st century. This study aimed to evaluate the impact of Guadalingo on learning, motivation, overall satisfaction, and as well as in the development of digital skills of the students enrolled at the West University of Timișoara. This quasi-experiment was conducted over 3 academic years, from 2021 to 2024, and both qualitative and quantitative instruments were applied. The results showed a significant improvement in engagement, flow, the feeling of well-being, autonomy, and increased attention span, and support the conclusion that the use of Guadalingo is fun and motivating for students and facilitates Spanish language acquisition.*

**Keywords:** engagement; flipped learning; flow; gamification; higher education;

### Introduction

In recent years, the gamification strategy is increasingly used in the educational system to enhance student engagement and motivation. By integrating game mechanics and strategies (video game, role-playing game, board game, etc.) into a non-game environment, such as an educational environment, gamification aims to motivate and inspire students to actively participate in their learning journey. This strategy has the potential to transform the traditional education system by stimulating students' intrinsic motivation, generating a dynamic and engaging learning experience.

Beginning of the 21st century, the process of teaching-learning-assessing foreign languages has become increasingly technology-oriented. This phenomenon is due to the new needs of learners, called by researcher Marc Prensky in 2001 “digital natives”. They

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feel comfortable with technology and electronic devices from an early age and consider technology to be an integral and necessary part of their lives. They communicate and learn mainly through electronic devices and social networks.

The educational systems, when based on conventional teaching methods, often struggle to capture the attention of "digital natives". Gamification offers solutions for stimulating attention, engagement and developing a sense of achievement and progress by incorporating gamification-specific elements (e.g.: narrative, aesthetics, objectives, missions, instant feedback, rules, cooperation, competition, sanctions, rewards, levels, role-playing, etc.). Therefore, dynamic and interactive learning environments will be created, motivating students to actively participate in their own learning process. From fostering a sense of community and collaboration to promoting critical thinking and problem-solving skills, gamification has the potential to transform the way students connect with the subjects they study. As a result, this strategy develops the skills needed for the digital age, preparing students for the job market.

Gamification-related motivational theories have a neuroscientific explanation. Experts have stated that when the learner feels good while performing tasks, he or she releases a number of neurotransmitters such as dopamine, serotonin, acetylcholine, oxytocin and endorphin which activate the three cognitive processes: motivation, attention and memory. It is these three cognitive processes that help to increase academic performance and improve learning, eliminating lack of concentration, uncomfortable classroom climate, demotivation, etc. This is reinforced by Francisco Mora's statement: "Without emotion there is no curiosity, there is no attention, there is no learning, there is no memory" (2014, p. 65). Also, according to Burns (2012), inhibitory neuromodulators can be released in the brain that block the mechanism of forming new connections if the learning context is unpleasant. In this case, it is very important for the teacher to correctly design the gamified system, so as to provoke in the student a series of positive emotions such as enthusiasm, surprise, and triumph over the challenge.

The quasi-experiment described in the current article was implemented over 3 academic years (from 2021 to 2024) in order to observe the impact of gamification in learning Spanish in higher education. I would like to mention that I used the gamification strategy in the review activities in order to deepen the previously acquired knowledge. On the other hand, to accelerate the learning process of Spanish, the students who wanted to participate in the quasi-experiment completed 20 missions, A2 level, in *Guadalingo*, as homework. Specifically, the objectives of this study were: (1) to identify the impact of the video game *Guadalingo* on the acquisition of Spanish as a foreign language in relation to flow, academic performance, and behavior of the students; (2) to evaluate the students' perspectives on learning Spanish through *Guadalingo*.

The reason why I decided to verify the effectiveness of gamification as a motivating tool in the educational context is because I am convinced that it adapts to the needs and requirements of new generations of students and the skills needed for the 21st century. It is important to emphasize that for a successful implementation of gamification, it is

necessary that it be constantly improved with new strategies or methodologies, that it is in accordance with the educational objectives and students' needs, that there is a prior design of the gamified system and, most importantly, that the teacher has digital skills and knowledge related to gamification in order to achieve effective learning.

### Theoretical background

The term *gamification* first appeared in 2008 and has gained increasing relevance since 2010 (Deterding et al., 2011; Seaborn and Fels, 2015). Unlike games, gamification is characterized by its serious purpose. Definitions of gamification vary and usually focus either on the elements and mechanics of the game, or on the game process and playful experiences in serious contexts. Game elements are, for example, levels, points, badges, leaderboards, narratives, avatars, missions, challenges, feedback, progress, diplomas, rewards, penalties, collaboration, competition, timing, etc. (Zainuddin et al., 2020). Deterding et al., (2011, p. 2) define gamification as "the use of game elements in non-game contexts". Kapp et al., (2014, p. 54) highlight the use of "game-based mechanics, aesthetics and thinking to engage, motivate and promote learning and problem-solving". Zichermann and Cunningham (2011, p. 14) explain this concept as "the process of game design and game mechanics to generate engagement and problem solving". Rodrigues da Silva et al. (2019) mention that gamification emerged to "increase an individual's engagement, motivation and attitude by using games in non-game contexts".

Imma Marín (2018, p. 91) stated that gamification can completely transform the classroom by adding game-like elements to the school/university curriculum. It is only necessary that all students enter the game or be drawn in, little by little. In the field of education, platforms such as *Guadalingo*, *ClassCraft*, *Class Dojo*, *Toovari*, *Kahoot!*, *Blooket*, *Duolingo*, etc. have been created to turn learning into a challenge, where each student has a mission and chooses his/her own itinerary, visualizing his progress. According to Hamari et al., (2014), gamified activities aim to influence student behavior while increasing the enjoyment of learning, academic performance, and motivation of students.

García Muntión y Monta Seisdedos (2024) define the concept of gamification as "the strategic use of elements and dynamics inherent to games and their culture (aesthetics and ways of thinking) in non-game contexts (marketing, education, communication, etc.)". In relation to education, it is understood as "the strategies for the intentional use of game components to enhance learning by increasing attention, participation, and motivation. In this case, the goal is learning, and what is incorporated from the game is reinforcement" (p. 14).

*Guadalingo* is a virtual experiential learning platform created by Edinumen Publishing House in 2016. Is designed as a video game that allows learning Spanish in an immersive environment. It is aimed at teenagers, young adults and adults and can be used from various devices (computer, tablet or mobile phone) with an Internet connection, although to access it is necessary to purchase a license. The objective of the video game is to complete the missions of each level, which take place in different locations of a

fictional Spanish-speaking city (Díaz Bravo, 2019, p. 64). Its name is inspired by that of numerous cities that begin with the Arabic prefix *Guada-*, followed by *-lingo* (which refers to the language).

*Guadalingo* is an app used to improve the learner's motivation and social behavior, enriching the learning experience: the more Spanish is practiced, the more fun, rewards and the feeling of learning is more significant. The student will be able to create and customize their avatar, access new content as they progress in the game, receive rewards, give gifts, redecorate their home, visit their friends, all while learning and practicing Spanish. Since learning is linked to experience, this teaching concept illustrates Edinumen Publishing House's principle according to which the best way to learn a foreign language is in an immersive situation, traveling to a foreign country and interacting with locals.

*Guadalingo* enhances the sense of immersion by creating learning environments that allow the student to communicate and practice the language. Living in a Hispanic country is recreated thus accompanying the study of the Spanish language with opportunities for interaction, socialization and progress.

The platform consists of levels A1, A2 and B1. Each level includes 25 teaching units or missions, as they are called in the game, which are described at each level, along with the functional, grammatical and lexical content covered. Its contents also follow the Curricular Plan of the Cervantes Institute, as well as the descriptors of the American Council on the Teaching of Foreign Languages.

Díaz Bravo (2019, p. 64) states that its use can be very varied, either as a complement to face-to-face Spanish classes, as a substitute for the exercise book, or to put the flipped classroom methodology into practice, as it is possible for the students themselves to prepare content through the video game prior to the face-to-face class.

Through the *Learning Journal*, the student has to overcome the tasks presented by the game in different interactive scenarios that simulate real-life situations. The types of activities are varied and all skills are practiced through meaningful activities. At the end of each mission, and depending on the results obtained, the student will be able to access new complementary exercises depending on the educational content to be reinforced. The student's work will be reflected in their *Learning Journal* and *Learning Dictionary* as he or she discovers new vocabulary during the different challenges.

The teacher can create learning spaces (e.g. socialization spaces, monitoring spaces, etc.) within this digital platform in a simple, intuitive and accessible way both inside and outside the classroom. This innovative solution enables the guidance of student learning in a fun, motivating and truly effective environment, giving the teacher the tools to personalize the Spanish language classes. The platform allows for easy, dynamic and real-time progress tracking and assessment of students; creating tasks and activities assessed through collaborative activities, group conversations, discussion forums; adding your own content (presentations, documents, videos, images).

In terms of *Guadalingo's* features and functions, missions will unlock as they are successfully completed. Students can check, in real time, in the *Learning Journal*, which missions have been successfully completed and which ones they still need to complete. In addition, they can consult the theory of each mission and the teacher's suggestions or instructions. The teacher can reorganize the educational content that is being worked on to create his/her own itinerary or to adapt it to the curriculum or textbooks, assign deadlines to the missions that students have to complete, and keep a close track of each student's work. Moreover, the progress bar of missions and the different tasks completed allow the student to be aware of his or her own learning, which favors the emergence of metacognitive strategies and long-term learning (Calvo-Ferrer, 2017).

Regarding the type of activities, in each didactic unit or mission of the game there are tasks characteristic of video games whose objective is language teaching-learning, for example: puzzles (which consist in ordering the words of a sentence or fragments of letters), quizzes (which include activities with automatic answer: word relationships, true or false answers or multiple choice), dialogues, simulations of everyday situations, obtaining and using objects, etc.

In terms of skills, all missions contain short written messages that can be heard and that contribute to improving the skills of understanding written and auditory messages. For example, within the game there are numerous simulated dialogues between the student and the characters in the game. In addition, students can improve their written expression skills through the tasks they send to the teacher or through written interaction via chat with other colleagues. They can also practice oral communication skills through activities that involve voice recording. It should be noted that oral interaction between students is only possible if the teacher has previously assigned such an activity to them.

As for the lexicon, *Guadalingo* has a *Dictionary* containing all the vocabulary found in each mission, and by clicking on those words, the student can listen to the pronunciation and read the definition of those words, adapted to the student's level in order to understand it. In addition, learning the lexicon is achieved both thanks to the numerous vocabulary activities and the impressive semantic field of clothing, accessories and food, with which the student can personalize and energize his avatar.

Grammatical aspects are practiced through a wide range of multiple-choice activities, but especially through simulated real-life conversations. On the other hand, in the *Theory* section, students can consult the explanations and other aspects related to the grammatical contents that appear in each mission. The feedback is automatic and immediate and unlimited attempts are given to the student until the correct answer is obtained. See Figure 1. *Guadalingo's* multiple-choice activities below as an example.

**Figure 1**

*Guadalingo's* multiple-choice activities. (Own source)



The gamification elements that can be observed in the *Guadalingo* video game are: background music, sounds that are emitted when a wrong or correct answer is chosen, game aesthetics, avatar customization, the feeling of immersion, solving missions, instant feedback, socialization between players, progress, stimulating emotions, obtaining rewards and prizes, etc. When successfully completing missions, students receive coins as a reward with which they can purchase a much better house, furniture, clothing, accessories, food, etc. In addition, *Guadalingo* also features games such as *Guess Who's Who?* and *The Hangman*. All these playful elements create a sense of satisfaction in students through the desire to experience that "happiness" again by completing new missions or games (Díaz-Bravo, 2019, p. 67).

Everyday life areas are simulated: the avatar's home, educational institution, restaurant, supermarket, travel agency, canteen, office, museum, cinema, market, hospital, shops, park, etc. There are socialization areas where students can play with each other and interact through real-time chat. Thus, *Guadalingo* has many elements of the virtual world: the avatars can teleport to different areas and interact with other avatars in immersive situations. See Figure 2. *Guadalingo's* map below as an example.

The examples provided above show that *Guadalingo* is a well-designed highly effective and fun Spanish language learning platform that can be easily adapted to different learning programs, textbooks and educational contexts for A1, A2 and B1 levels.



**Figure 2**  
*Guadalingo's map*

Source: <https://www.apkmonk.com/app/com.bigbangbox.guadalingob2c/>



Erhel and Jamet (2013, p. 164) argue that knowledge of the correct answer improves memorization and cognitive processes during learning. This type of feedback is found in *Guadalingo*, unnoticed, since, for example, in a conversation with a virtual character, the student must complete an activity consisting of selecting the appropriate options to correctly form a sentence from a grammatical point of view. When this task is completed correctly, his avatar repeats the correct sentence and integrates it into his dialogue (it appears in a written vignette), so it is no longer a feedback message, but is integrated into the conversation. Another illustrative example can be found in a mission in which students have to learn to write a formal letter: after several activities in which they must order the fragments of a text, the complete letter is shown, thus offering feedback consisting of the visualization of the correct answer, which at the same time constitutes valuable input for the improvement of written expression (Díaz-Bravo, 2019, p. 67). See Figure 3. *Guadalingo's* feedback below as an example.

*Guadalingo* continues the series of games that have used virtual worlds to successfully teach Spanish by exploring the benefits of the students' sense of immersion in environments that replicate real life (Adams et al. 2011; Melchor-Couto 2011; Canto 2012; Jáuregui 2012; Robles and Díaz-Bravo 2017).

It should also be noted that an experimental research carried out at the University of Salamanca and presented by José Miguel Sánchez-Llorente (2018) in the Edinumen webinar "Does gamification influence the teaching-learning process of Spanish students in immersion?" illustrates positive results following the implementation of the gamified video game *Guadalingo*. The research was applied to a group of 301 students who studied Spanish at the University of Salamanca (therefore, in an immersion context).

**Figure 3***Guadalingo's feedback.* (Own source).

The findings have shown a very positive impact in terms of the development of the degree of affectivity and perception of learning by the students who used *Guadalingo*. They were much more willing to be tested voluntarily at the end of the course (83% of the group using *Guadalingo* took the SIELE exam, compared to 28% of the control group), due to the loss of fear of being tested, and perhaps also because they felt more involved in their learning of Spanish and, therefore, more motivated. These results are in line with studies on the use of virtual worlds in foreign language teaching, which also show the development of the affective component (increased self-esteem, positive perceptions of one's own learning, loss of fear of speaking in the target language) (Chen 2016; Robles and Díaz Bravo 2017, Díaz-Bravo, 2019).

## Methodology

This investigation proposes the following methodologies:

- Simulation method. It will activate students cognitively and affectively by simulating real-world situations. In this way, students can learn from their own mistakes, evaluate the effects and make inferences from their own actions. In this quasi-experiment, the gamified video game will be used to create an immersive context, where students will investigate and complete a series of missions and challenges.
- Learning through discovery, exercise, and problem-solving. A series of tasks will be designed with the aim of practicing the knowledge acquired but also of assimilating new information in order to create meaningful learning. I have found that *Guadalingo* stimulates learning through discovery; thus, students become autonomous and develop a series of skills by overcoming the missions. By providing them with the necessary information to complete the missions, the teacher will be a guide in their learning process. In addition, the missions have a progressive degree of complexity; in this way, students' motivation increases as they progress in solving them.



### **Participants**

The context of this study was the implementation of an gamified video game in the subjects *Spanish language*, *Translation Skills*, and *Practical Spanish language course* of the Department of Modern Languages and Literatures, Applied Modern Languages and Modern Languages and Literatures, of the West University of Timișoara during three academic years (from 2021 to 2024). A total of 89 female and 10 male students, with ages between 19 and 22 years, participated in the experience and voluntarily completed the questionnaires and interviews. The students were informed from the beginning about the research.

### **Instruments**

In conducting this experiment I used quantitative and qualitative techniques. The data collection techniques used were: interview (15 students were interviewed), document analysis, field diary, audio recording, and questionnaires.

- Interview

The structure of the interview included the following aspects: recounting the experience following completing the 20 missions in *Guadalingo*, mentioning the skills developed through the video game, specifying the strong and weak points of *Guadalingo*, etc. The interviews were in the form of natural conversations and meant to generate a pleasant and trusting climate in which the interviewees felt comfortable and relaxed while speaking.

- Document analysis

In this quasi-experiment, I was particularly interested in the analysis of formal and administrative documents (the subject project, the didactic project), checking the accuracy of solving the missions, and assessing the use of *Guadalingo* video game.

- Field diary

In the field journal I wrote down student's feelings, reactions, and impressions after completing the missions. I also added some ideas and reflections following the spontaneous conversations and interviews with the participants. This field diary was the starting point in the development of the investigation.

- Audio recordings

I audio recorded the students during the interviews and spontaneous conversations with the aim of presenting the behaviors, reactions, attitudes, and impressions of the students after playing *Guadalingo*.

- Questionnaire

I created two questionnaires in Spanish by using the Google Forms tool. The first questionnaire requested the students' permission to audio record the interviews and the spontaneous conversations, ensuring their anonymity among colleagues.

The second questionnaire was adapted from the *Game Experience Questionnaire* model to assess students' perception of the gamified video game and consisted of 11 closed-ended questions, with two answer options (yes or no) and one open-ended

question. These answer options were chosen because they did not require a consistent effort on behalf of the respondents. This questionnaire was completed after each student had completed a minimum of 20 missions and included the following evaluation scales: efficiency, autonomy, stimulation, immersion, and the generation of positive and negative emotions.

The Game Experience Questionnaire (GEQ) is a standardized instrument developed to measure players' experiences during or after interacting with digital games. It was originally designed by researchers in the EU FUGA project (2005–2008), which focused on measuring the fun and user experience in gaming environments. The GEQ identifies the psychological and emotional responses of players by assessing multiple dimensions of game experience such as immersion, flow, competence, positive and negative affect, tension and challenge.

Law et. al. (2018) conducted a study in which they made a systematic literature review of 73 publications, analysing how and why the GEQ and its variants have been employed in current game research. They concluded that "the GEQ has become one of the most prevalent instruments to measure different key dimensions of the player experience" (p. 264). Another research conducted by Rebhi et. al. (2023) focused on adapting and validating the GEQ for Arabic-speaking populations. The study confirmed the questionnaire's reliability and validity, supporting its applicability in diverse educational and cultural settings: "the instrument appeared to be valid and reliable tool for assessing game experience in Arab countries". Therefore, I applied this questionnaire because is widely used in studies with different game genres, and it has a multidimensional structure based on solid theoretical and empirical foundations, featuring well-constructed dimensions.

## Results

### *Assessment*

In order to accelerate the process of learning Spanish as a foreign language and to deepen grammatical and lexical notions, it was desired to observe the impact of the gamified video game *Guadalingo*. DELE A2 and B1 level model exams, taken from the official website of the Cervantes Institute published in 2020, were used to assess students' Spanish language level and skills following the application of gamification, which was used as a strategy to review previously acquired notions. Such an exam consists of three tests: comprehension of a written text, comprehension of an oral text and written expression. The first two tests each contain four activities, and the last one, two activities. Due to limited time, it was decided that students would have to solve one activity for each test.

In the 2021-2022 academic year, first year students, majoring in Applied Modern Languages, benefited from a total of 3 gamified sessions during the second semester. At the beginning of the first semester, the DELE model exam, level A2, was applied in order to observe the students' Spanish language level, and at the end of the second semester,

the DELE model exam, level B1, was applied. The results obtained by the students in the assessment tests showed an improvement in the level of Spanish, even though the difficulty of these tests was gradually increasing. The Table 1 below shows the arithmetic mean of the points obtained following the two assessments:

**Table 1**

*Students' evaluation (academic year 2021-2022). (Own source).*

<b>Applied Modern Languages, first year, subject Spanish Language, academic year 2021-2022</b>	
Initial assessment (level A2)	37, 28 points
Final assessment (level B1)	84,96 points

In the academic year 2022-2023, first-year students, majoring in Applied Modern Languages, experienced a total of eight gamified sessions over two semesters. In this way, a more complex and thorough assessment could be carried out as the courses with these students took place weekly (four hours per week). In addition, at the beginning of the first semester, the same DELE exam model, level A2, was applied for both the initial and continuous assessment in order to observe the differences in points, and at the end of the second semester, the DELE exam model, level B1, was applied. The Table 2 below shows the arithmetic mean of the points obtained from the three assessments:

**Table 2**

*Students' evaluation (academic year 2022-2023). (Own source).*

<b>Applied Modern Languages, first year, subject Translation Skills, academic year 2022-2023</b>	
Initial assessment (level A2)	63,71 points
Continuous assessment (level A2)	85,47 points
Final assessment (level B1)	90,16 points

During the academic year 2023-2024, students from the Applied Modern Languages and Modern Languages and Literatures majors experienced 14 gamified sessions over the two semesters. At the beginning of the first semester, the same DELE exam model, level A2, was applied for both initial and continuous assessment in order to observe the differences in points, and at the end of the second semester, the DELE exam model, level B1, was applied. The Tables 3 and 4 below show the arithmetic mean of the students' results obtained before, during and after the application of gamification.

**Table 3**

*Students' evaluation (academic year 2023-2024, Applied Modern Languages). (Own source).*

<b>Applied Modern Languages, first year, subject Translation Skills, academic year 2023-2024</b>	
Initial assessment (level A2)	35, 98 (3) points
Continuous assessment (level A2)	84, (1) points
Final assessment (level B1)	81, 4 points

**Table 4**

*Students' evaluation (academic year 2023-2024, Modern Languages and Literatures). (Own source).*

<b>Modern Languages and Literatures, first year, subject Practical Spanish language course, academic year 2023-2024</b>	
Initial assessment (level A2)	40, 42 points
Continuous assessment (level A2)	75, 23 points
Final assessment (level B1)	76, 17 points

### **Questionnaire**

A questionnaire was developed in order to evaluate the degree of the satisfaction of students in the academic years 2021-2022, 2022-2023, and 2023-2024 regarding the *Guadalingo* video game. This questionnaire was completed after each student had completed a minimum of 20 missions and consisted of eleven closed-ended questions, with two answer options (yes or no) and one open-ended question. The variables used for the evaluation are: motivation, flow, the usefulness of learning activities, the feeling of well-being and autonomy, increased attention span, the development of critical capacity, and the design of the video game. In general, the evaluation has been quite positive under all aspects. Next, I will present the 12 questions from the questionnaire and the students' answers. See Table 5. Questionnaire - evaluation of the degree of satisfaction of students regarding *Guadalingo*.

A total of 99 subjects completed this questionnaire. The questions were as follows:

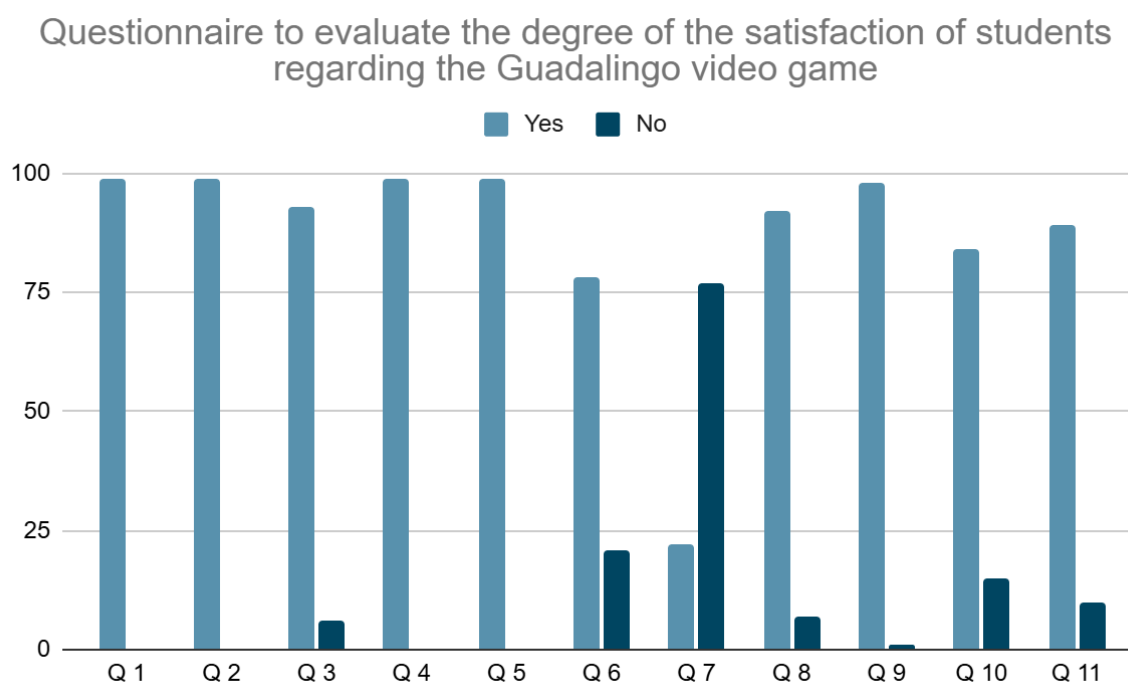
Q 1: Was your experience with the *Guadalingo* video game enjoyable?

Q 2: Did you learn Spanish with the help of *Guadalingo*?

- Q 3: Was the interface of the *Guadalingo* video game easy?  
 Q 4: Were the teaching activities presented useful?  
 Q 5: Did the learning activities motivate you?  
 Q 6: Did you lose track of time while completing the missions?  
 Q 7: Did you feel frustrated while completing the missions?  
 Q 8: Did completing the missions stimulate your imagination?  
 Q 9: Did the instant feedback motivate you to continue your activities?  
 Q 10: Did you feel autonomous while completing the missions?  
 Q 11: Did the rewards motivate you?

**Figure 4**

*Questionnaire - evaluation of the degree of satisfaction of students regarding Guadalingo.*  
 (Own source).



Q 12: What would you change or add if you were the creator of the video game *Guadalingo*?

Some of the students' responses were as follows. See Figure 4. Students' answers in the questionnaire:

- *Sometimes the game was a bit slow, but other than that, it was a very nice experience and I want to repeat it.*



- *I don't think it needs any changes because it's a very educational and engaging game. It's addictive, I can say that.*
- *I would do other types of activities too.*
- *I don't think I would change anything, because the interface is easy to use and everything is well explained so that, regardless of your level of Spanish, you can understand what you need to do.*
- *I really liked Guadalingo because it is interactive, fun and easy. I liked the design but from time to time it was a little slow. I think if I were the creator of Guadalingo, I would try to introduce new missions and make the game run faster.*
- *I wouldn't change a thing. I enjoyed every mission because I learned a lot of new words and I even feel more confident when speaking Spanish. To be honest, at first I didn't think I would improve so much, but I'm glad I can finally say that I've reached another level of knowledge. Thank you very much!*
- *I think it's a very interactive and interesting game. I also like the idea of learning a foreign language this way.*
- *If I were the creator of the game Guadalingo, I would add a final exam that includes everything I learned after completing each mission.*
- *I would change the fact that it's very slow. Otherwise, I really enjoyed it and found it very interactive and easy to learn.*

## Figure 5

*Students' answers in the questionnaire. (Own source).*

Si fueras el creador de Guadalingo, ¿qué cambiarías o agregarías?

99 de răspunsuri

-
Nada
No cambiaría nada
nada
A veces el juego funcionaba un poco lento, pero aparte de eso, fue una experiencia muy agradable y quiero repetirla. 😊
No creo que necesita ningún cambio, porque es un juego muy educativo y cautivador. adictivo puedo decir.
No se que puedo agregar mas porque todo fue muy útil si eficiente en ayudarme
si yo fuera el creador del guadalingo, no creo que cambiaría nada porque es un juego muy interactivo e interesante. Creo que está muy bien hecho y pensado.

### **Interview**

The following will present some of the students' perceptions of the impact of the gamified video game *Guadalingo* on the acquisition of Spanish as a foreign language:

*Student no. 3 - I liked Guadalingo! I especially liked it because we also had a theoretical part from which we could learn vocabulary and grammar in order to solve the next mission. I liked that very much! And I also liked the fact that if you clicked on a command in the game, it would tell you what it was called. I actually looked over the theory before I did a mission and when I did it, it was like this, like a sort of recap. Mmm ... (the difficulty of the missions) it was medium. If I'd read before, like I said I read, then it was much easier. Initially I was solving them without reading and then they seemed harder to me, but after reading, they were easier.*

*Student no. 8 - Yes, at that time I really didn't know very much and from there I learned a lot of expressions from Guadalingo. They were conversations and they really helped me to see certain structures. It really helped me!*

*Student no. 5 - I liked it (Guadalingo) because every time I made a mistake it gave me a chance to correct it until I got it right. It really helped me! I improved my vocabulary and I liked it!*

*Student no. 9 - I found Guadalingo interesting! Personally, I liked it and yes, it helped me learn Spanish because there were many concepts that weren't so easy. Yes, I'm glad I ended up learning them! I remember that I used to get confused when expressing the directions "left" and "right" and I also used to get confused when formulating sentences. I didn't always place the words in a sentence correctly. But I think it helped me know the concepts that used to confuse me.*

*Student no. 12 - Guadalingo helped me a lot and I still remember a lot of words. [...] Guadalingo helped me a lot with grammar and vocabulary. I remembered a lot of words and I also took notes. [...] through gamification I accumulate information that I didn't know and at the same time I recapitulate what I learned.*

*Student no. 2 - I liked it (the Guadalingo game), I liked it because it was a game similar to The Sims and you could make your own house. Also, I could see the names of every object in the house in Spanish. Every command in the game was in Spanish and it helped me learn the language.*

*Student no. 6 - It was very interactive. I really enjoyed it! I learned a lot of vocabulary, but also a lot of grammar. The missions were not very difficult, and I even realized that I could solve them. I liked the exercises where we had to put the words in the correct order and that was very interesting.*

### **Discussions**

From the results obtained, it can be noted that *Guadalingo* is a very useful didactic resource and produces a practical approach to subjects that are essentially theoretical.

This fact causes the interest in and dedication to their study to grow in the students since they also have fun while learning.

The development of critical thinking or the ability to solve missions is manifested in the difficulties or impediments when it comes to overcoming challenges, ordering words in a sentence, selecting between the true and the false, between the relevant and the secondary, and between the true clues and those that mislead.

The students who participated in this experiment, which lasted 3 years, were not used to obtain learning through innovative resources, which are rather absent in traditional classes. In addition, the proposed gamified activities combined with the *Guadalingo* video game, complemented by the fun factor, causes the contents to be learned and assimilated in a more significant way.

Analyzing the answers given by students in questionnaires and interviews, it can be seen that *Guadalingo* is a useful educational tool. It helped them to learn and/or review the contents of the subject, and they really enjoyed playing the video game because it develops their self-confidence and communication skills in Spanish. The students also mentioned that they could evaluate their knowledge in a playful manner, without being afraid they might give a wrong answer. In general, positive aspects related to the effectiveness of the *Guadalingo* video game predominated. Some negative aspects were that the video game was running slow and that the students would prefer the activities present in the missions to be more diversified.

The video game developed student autonomy by allowing students to work at their own pace and without the teacher's help. They can quickly and easily access the theory and work through it to successfully complete the missions. Therefore, *Guadalingo* is ideal for flipped classes, extra homework, or autonomous reinforcement learning.

Students learn vocabulary and grammatical structures in real-life situations—going to the market, looking for accommodation, meeting people, etc.—which fosters meaningful memory, as words and expressions are associated with specific contexts.

Ramírez, J. A. and Moreno, T. A. (2022) in their master's thesis they developed an assessment tool focused on reading comprehension within the virtual learning environment of *Guadalingo*. Six key evaluation criteria are established: design and aesthetics, pedagogical conditions, user roles, operational functions, reading comprehension development, and assessment.

According to the authors (2022, p. 105) of the study, criteria such as design and aesthetics, user roles, and operational functions are fulfilled within *Guadalingo*. Criteria such as pedagogical conditions related to reading comprehension and development reading comprehension are partially fulfilled within the video game. The authors justify that the activities are not communicative, are limited to stimulus-response exercises, and that there is no space for analysis and/or reflection. They add that the specific needs of learners are not considered when setting learning objectives. Furthermore, they state that the reading comprehension activities do not include intercultural dialogue activities based on the text, and that literal reading comprehension is worked on rather than

inferential or critical reading. The results validate the usefulness of the instrument to improve the pedagogical quality of *Guadalingo*.

Another case study conducted as part of a master's thesis by Lulu Wang (2020) verified the effectiveness of the *Guadalingo* video game. The participants in this experiment were 30 Chinese students residing in Spain during the 2019/2020 academic year at the Polytechnic University of Valencia. These participants were divided into two groups: an experimental group, and a control group. The experimental group consisted of 16 participants, and the control group consisted of 14 participants. These students had a Spanish language level between A2 and B1, were aged between 22 and 25, and the predominant gender was female (26/30). The students participating in the experimental group played the video game *Guadalingo*. In this sense, the students had to complete the first five teaching units or missions.

Furthermore, Google Forms was used to conduct the tests and the final satisfaction survey. Two tests were administered: one to assess the initial level, and another to assess the final level of Spanish language. The experimental and control groups took two language tests. Students who played *Guadalingo* improved 18.71% compared to the initial test. The control group remained at a similar level and only showed a slight improvement of 0.68%. The academic results from both tests (initial and final level) suggest that *Guadalingo* had a positive influence on the students' Spanish language development.

This study also sought to determine the satisfaction of students who participated in the experiment. The questionnaire consists of 10 closed-ended questions using the Likert scale method. The score is given out of 5 points, and each question is summarized into an average score for comprehensive comparison. 1 means very negative and 5 means very positive. Based on the results, the 16 members of the experimental group who participated in the questionnaire were very satisfied with the *Guadalingo* video game and generally agreed with its use and mechanics. Furthermore, it should be noted that the average score for each question in the questionnaire was over 4 points. These responses indicate that participants enjoy the immersive learning environment offered by the *Guadalingo*.

This video game creates contextualised learning, increases motivation, stimulates autonomy, reduces the fear of making mistakes when practising a new language and improves cognitive skills (such as meaningful memory, attention, decision making, strategic thinking). Moreover, the scenarios take place in Andalusian villages, so the student also becomes familiar with local culture and customs. This reinforces intercultural competence, which is essential for language acquisition.

## Conclusions

Once the results have been presented, essentially valuing the opinions of the participating students, I can verify the acceptance and success of what has been learned through the gamification methodology, specifically with *Guadalingo*. The high level of positive

responses to the question of whether they would repeat the experience in class is also worth mentioning. It is an activity that has pleased the majority of the students, enhancing their interests, abilities, and skills.

Based on the concept presented by Bruner (1984), it is necessary to highlight the idea that students should always be provided with a feeling of enthusiasm while learning. Students must become the protagonists, based on previous knowledge and on their preferences, thus achieving significant learning.

Regarding the usefulness of the study, the results are effective for representatives of the academic environment who research the topic addressed in this article. The limit of this research is the small size of the sample, which is due to my intention to evaluate the impact of *Guadalingo* in some of the groups I teach Spanish to. Also, I have to mention that I work with each group of students differently, depending on the group's level of the Spanish language and on the curriculum.

With respect to the future directions, it is important to emphasize that, although the results of this study provide data that demonstrate the effectiveness *Guadalingo*, it would be interesting, in the future, to be able to evaluate the longer-term effects with a larger number of participants so as to allow a more detailed evaluation of *Guadalingo*. I would also like to test the impact of other video games for learning Spanish as a foreign language. Also, further research can include a comparison between *Guadalingo* and video games used with regard to teaching other foreign languages.

In conclusion, the use of the gamified video game *Guadalingo* in university can have benefits in the motivation, flow, and acquisition of student knowledge, and can be successfully applied together with other strategies of active and traditional learning. The game is designed to make the student feel "inside" the language: he/she learns while exploring real-life scenarios, interacting with virtual characters and solving missions.

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