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Gamification and learning Spanish as a modern language: student perceptions in the university context

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Abstract: Gamification is a methodological strategy that has been applied for several years in the field of modern language learning. It is employed primarily to increase students' motivation by incorporating game elements into an otherwise didactic context. Research into the use of gamification in language teaching has focused largely on characterizing the specific practices involved and on determining the degree of motivation elicited in students. There has been little examination of students' perceptions of gamification or their assessment of its effectiveness for learning a modern language. This study analyses learner perception and motivation among a group of sixteen university students of Spanish as a modern foreign language following participation in a gamified learning experience. Analysis of the information gathered from student perception questionnaires and non-participant observation indicates that the students perceive progress in vocabulary learning but not in grammatical knowledge. The students also report a high level of motivation for the proposed learning activities due to the possibility of working collaboratively with their classmates. The article concludes with reflections on the relevance and didactic implications of gamification as a methodological strategy in modern foreign language teaching at higher education level.

Keywords: gamification; Higher Education; learner perception; motivation; Spanish as a modern foreign language

1 Introduction

Gamification, defined as the use of game design elements in non-game contexts (Deterding et al. 2011), is a methodological strategy generally applied to increase

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motivation among participants in gamified actions (Sailer et al. 2017). Gamification has had a clear impact as a motivational strategy in many areas of social interaction (Hamari et al. 2014), notably in education (Kapp 2012; Werbach and Hunter 2012). Within the conceptual framework of games as part of a pedagogical tradition (Tulloch 2014), gamification in its educational application seeks to motivate and engage students in teaching-learning processes (Alsawaier 2018). Of the different educational contexts in which gamification has been applied, modern language teaching and learning is particularly prominent in the literature. Various studies have been carried out to examine the impact of gamification on vocabulary learning (Hasegawa et al. 2015), grammatical knowledge (Purgina et al. 2020) and oral presentations (Girardelli 2017). Gamification research has also examined the use of new technologies (Pujolà and Apple 2022), the implications of content types for the construction of gamified learning experiences (Batlle and Suárez 2019) and the use of game elements in the construction of gamified learning activities, such as narrative (Batlle et al. 2018) or points, badges and leaderboards (Phillips 2015).

Research has also been developed to examine the perceptions of stakeholders in teaching-learning processes with regard to the implementation of gamification as a methodological strategy. Martí-Parreño et al. (2019) examined teachers' perceptions of gamification, reporting that they consider the gamified approach useful for group work, the development of oral skills and, to a lesser degree, critical thinking and social skills. Furthermore, Sánchez-Mena et al. (2016) reported that gamification is a highly valued strategy among teaching trainees. In the specific area of modern language teaching and learning, Damewska (2020) observed a positive attitude to gamification among teachers, though noting that they express uncertainty about the underlying theoretical conceptualisation of this methodological strategy. Batlle and González (2021) presented the case study of a group of teachers who continued to implement gamified learning experiences several years after receiving initial classroom training in methodology, as they were highly satisfied with the results it achieved, primarily in terms of student motivation and class attendance. Lastly, González and Pujolà (2021) reported that many teachers perceive gamification to be a highly positive strategy for motivating and entertaining students and for consolidating knowledge and teaching contents; however, the same teachers also have a negative perception of the effort required to prepare gamified didactic sequences for class.

Another body of research has focused on students' perceptions of their participation in gamified didactic activities. In studies of student perceptions after an educational escape room activity, Hermanns et al. (2018) and Santos et al. (2019),

report that students value the fact that the gamified approach enables them to learn through play, that it is a collaborative practice through which to express themselves creatively, and that it places them at the centre of the learning experience. López-Pernas et al. (2019), who also focused on the perceptions of participants in an educational escape room, noted that their students valued the element of fun as a positive aspect of taking part in this type of learning experience. Yildirim (2017) conducted a gamified didactic exercise in the field of university teacher training and found that participants displayed a positive attitude to involvement in a gamified learning experience, expressing satisfaction with the learning process, the emotional component, the structure of the exercise, and the use of points and badges. Khuzzan et al. (2021) found that students had a positive perception of gamification because it involves a challenge, an element of competition, greater concentration, a higher degree of engagement and more attention to the tasks they were carrying out. Pratama (2020) reported a positive appreciation of gamification by senior students after a gamified activity with the game-based learning platform *Kahoot!*, which the participants enjoyed using as it allowed them to be more active and provided greater scope for communicating between themselves and with the teacher. Honório et al. (2019) analysed the perceptions of secondary school students in Brazil after a gamified learning activity using mobile technology, observing that the participants were particularly positive about the different game elements involved in the experience, such as virtual goods, teams, social graphs, points, levels, content unlocking, combat, collections, boss fights and avatars. The only element that was not perceived positively was the use of leaderboards. In the field of foreign language teaching and learning, Martín-Queralta and Batlle (2020) found that students had a very positive perception of gamified learning because of its use of play and because the approach is different to that of conventional teaching processes. The participants considered that the activities had helped them improve their understanding of the language in question and of aspects of its culture, although they noted that more tasks focused on language production and grammar would have been desirable.

Following on from these studies, with the aim of looking in greater detail at the practice of gamification, this study examines the perceptions of a group of Spanish as a modern language students of a gamified practical learning experience. Specifically, we address three research questions, two focused on student attitudes and one on the learning itself.

- What is the students' view of the different aspects of language learning involved in the gamified learning experience before taking part in the activity?
- To what extent does the gamified session elicit motivation and engage students in the learning experience?
- What aspects of language and communication do the students perceive they improve thanks to the gamified session?

2 Data and methodology

Data were collected at the Faculty of Education (University of Barcelona) from a group of 16 ERASMUS students who took part in a 30-h communicative-learning Spanish as a modern foreign language course. Ten of the students had level A1+, five A2 and one student had B1. There were 13 female and 3 male students, aged between 19 and 20, each from a different European country. The students completed the course in March 2022.

The gamified experience was designed as a teaching unit to be completed during a single class session lasting 1 h and 45 min. The session was constructed around the following narrative:

In Barcelona, two social media influencers who post frequently about body image and beauty have been kidnapped. The company that sponsors them needs to find them and is offering a sizeable reward.

The students work in small groups to locate the two influencers, assuming the role of detectives tasked with completing a sequence of five activities, or tests. Once they have completed each test, they will receive a number that will form part of a code to identify the kidnapper and find the influencers. The first team to complete the tests will receive the reward from the influencers' sponsor. The aim of the session was to locate the two influencers. The learning objective was to develop the capacity to produce physical descriptions (structures, verbs and vocabulary of physical appearance) through the following sequence of five tests.

- 1st test: The students were asked to relate physical descriptions to a series of images.
- 2nd test: The students were asked to complete a series of statements relating to parts of the body.
- 3rd test: The students were asked to complete a crossword containing the names of parts of the body.
- 4th test: The students were asked to produce a written description of two people, describing their physical appearance and clothing.
- 5th test: The students were tasked with determining the kidnapper's name from a series of letters that they collected as they advanced through the story.

This case study analysis was conducted using a qualitative-interpretative methodology. The students were therefore asked to complete two questionnaires: an initial questionnaire, just before the session, to gather demographic information and details of language skills and how they relate to the game; and a final one distributed at the end of the session, to gather information about the students' perceptions of the gamified learning experience in which they had taken part. The initial questionnaire

contained a block of short answer questions (on demographic information) while the remaining blocks contained questions requiring Likert-type answers (Strongly disagree, Disagree, Agree, Totally agree). The final questionnaire was designed to record the students' perceptions of three aspects of the learning experience: grammar, vocabulary and language skills. It also contained questions designed to gauge the students' level of motivation in taking part in gamified classes and, specifically, which elements of the sessions most motivated them to improve their language skills. The authors also carried out a non-participant observation of the gamified practice to gather information about the teacher's classroom management, the students' attitudes towards the activities they were involved in, and the level of commitment they showed towards the tasks.

3 Analysis and results

In this section we present an analysis of the questionnaires completed by the students to record their perceptions of the gamified learning activity. First, we examine the results of the initial questionnaire, which gathered information about the students' perception of the aspects of language learning incorporated into the gamified learning experience and the use of game elements in language learning. Next, we analyse the results of the final questionnaire, which convey the students' assessment of the gamified activity and their perceptions of the learning experience. Finally, we present the outcomes of the non-participant observation in order to contrast the observers' findings with the data provided by the students.

3.1 Initial questionnaire

The initial questionnaire provided information on each student's relationship with language learning. The data gave a general picture of the students' motivation to study modern languages and their attitude towards certain aspects of the teaching process, such as the methodology used, the integration of technology, and the classroom dynamics.

The students stated various motivations for choosing to study a modern foreign language: the desire to communicate with people from other cultures (11 students); foreign travel (11); personal/emotional reasons (11); learning about aspects of the culture of the countries they travel to (15), and professional or academic reasons (1). The responses indicate that the students' reasons for enrolling in the course were predominantly personal rather than academically or professionally motivated. As a result, the high level of motivation observed is likely to reflect the fact that the students were attending out of personal interest.

The second question in this block was designed to obtain a learner profile of each student. Specifically, the aim was to extract information on which aspects of the learning process motivated them: methodology, collaborative classwork, materials and resources, the meaningfulness of class activities and the use of technology in the classroom. The students were therefore asked to indicate their agreement with a series of statements on a Likert scale. The possible responses are shown in Table 1:

The majority of responses indicate that the students perceive methodology and collaborative work to be the main drivers of their motivation. Minor discrepancies are observed as to whether the classroom methodology affects their results and whether the students deem it important for the class activities to be meaningful. The clearest discrepancy can be seen in the students’ opinion on the use of technology in the classroom: 10 students stated that technology is a source of motivation, while 5 indicated that it does not motivate them at all.

The third question was related to the participants’ learner profiles, eliciting their perceptions of key attitudes for the gamified session and towards games in general (autonomous, motivated, responsible, competitive, cooperative and engaged). The content of this item and the results are shown in Table 2, below.

Table 1: Students’ attitudes towards aspects of the learning process, reported in the initial questionnaire (where 1 is ‘strongly disagree’ and 4 is ‘totally agree’).

Responses	1	2	3	4
1. The methodology used in the classroom affects my motivation			8	7
2. The methodology used in the classroom affects my results		1	9	5
3. To collaborate with my classmates motivates me			8	7
4. The materials and resources used in the classroom encourage my motivation		3	7	5
5. I Need the activities to be meaningful to get involved in them	1	3	4	7
6. The use of technology in the classroom motivates me	5		8	2

Table 2: Students’ self-perceptions as language learners (where 1 is ‘strongly disagree’ and 4 is ‘totally agree’).

	1	2	3	4
Responses				
Autonomous	1	7		7
Motivated		1	1	9
Responsible		1	2	12
Competitive	2	6	1	6
Cooperative		2	5	8
Engaging		2	3	10

As the Table shows, the students express generally positive attitudes in terms of motivation, responsibility, cooperation and engagement. Although the results are less clear for autonomy and competitiveness, in general terms the students’ perceptions seem to suggest a broadly positive attitude to carrying out a gamified learning activity.

The sixth question focuses directly on the use of a gamified approach: “Do you consider that games help learning languages?” As can be seen in Figure 1, all except one of the students expressed a positive view of games. The responses to question 7 also indicate that the students liked to be set gamified activities for learning languages, as shown in Figure 1.

We were also interested in determining what particular aspects of the games appealed to the students. The results for question 10, shown in Figure 2, tell us that for most of the participating students, winning was important but not their primary concern. They did, however, value the interaction with other participants, the liberty to explore the different options that the game offered, and the ability to make a meaningful contribution.

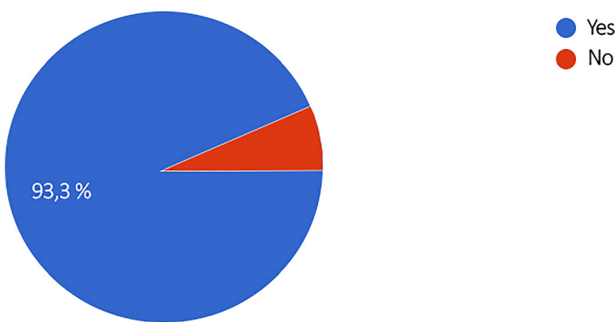


Figure 1: Students’ opinions with regard to whether games are helpful in language learning.

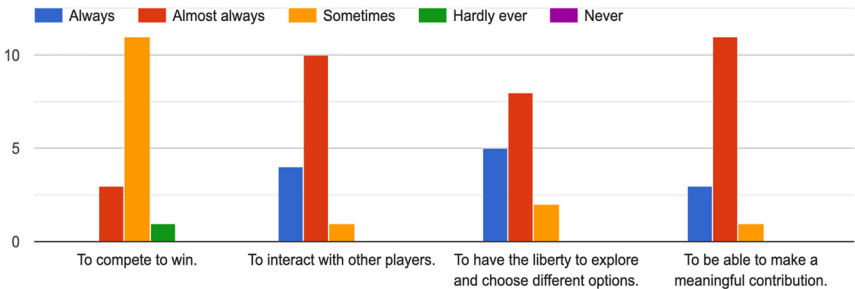


Figure 2: Particular aspects of games that appeal to the students as players.

As the results of the questionnaire show, most of the students expressed a positive attitude towards the introduction of new learning strategies, they were motivated to participate in the games in a learning context, and positively appraised the different aspects of game dynamics that the gamified approach brings to the classroom (collaboration, competition, responsibility, etc.). There was, however, one student who was sceptical about the use of a game approach in class, as clearly illustrated in the responses to questions 6 and 7.

3.2 Final questionnaire

Once they had completed the gamified teaching unit, the students were asked to give their impressions of the session. This section presents the results that focus specifically on aspects of the students’ motivation during the session, their perception of the learning experience and their suggestions for improving the approach.

The first responses refer to the students’ initial impression of the gamified session and to their motivation to take part and attitude towards the activity, as shown in Table 3.

From the responses we can see that the gamified session kept all except one of the students motivated. In addition, the activities elicited the students’ engagement: they were keen to see how the session would be developed. It should be noted, however, that three students stated that they carried out the activities because “[...] it is what I am supposed to do” and two students indicated that they were not motivated by the use of technology in the classroom.

The next set of data is related to the students’ perceptions of the learning experience once they had completed the activities of the gamified session (expressed in response to the prompt, “With these activities I think I have improved ...”).

Table 3: Students’ perception of the gamified didactic intervention in which they took part (where 1 is ‘strongly disagree’ and 4 is ‘totally agree’).

Responses	1	2	3	4
1. The activities kept me motivated		1	7	8
2. The activities kept me engaged		1	8	5
3. I Was curious to discover what was going to happen next		2	9	5
4. When the activities were explained, I was pleasantly surprised		1	10	5
5. I Only did the activities because it was what I am supposed to do	7	6	2	1
6. The technology used in the activities motivated me		2	9	5

From the results in Table 4, we can see that the areas of language competence in which all the students perceived they had improved or progressed were reading, writing and vocabulary, followed by aspects related to speaking and oral comprehension. The aspects in which the students’ perceptions of progress were less generalized were pronunciation, cultural knowledge, grammar and digital literacy.

The students transmitted a clear awareness of the fact that to progress through the activities they needed to demonstrate that they had understood the information given to them, that they had interacted with the other members of their groups to agree on the correct solutions, and that they had been able to use the information obtained to complete the written activities. However, it is also clear that they did not appreciate the importance of formulating their solutions accurately from a grammatical perspective.

The final data are the responses to the following question: “Finally, which changes would you suggest for these activities?” Only eight students proposed areas for improvement, focusing on two main aspects: their difficulty in understanding the instructions and the unnecessary use of QR codes. The responses are presented in Table 5.

Notably, one student reported feeling somewhat stressed by the element of competition and another suggested that the time limit for completing the activities could be removed.

3.3 Lesson observation

As explained above, non-participant observation was used to contrast the students’ perceptions with the information provided by observing teachers. The observers

Table 4: Students’ perception of their improvement in different areas of language competence as a result of the gamified didactic intervention (where 1 is ‘strongly disagree’ and 4 is ‘totally agree’).

Responses	1	2	3	4
1. My oral comprehension of the language I am learning		4	10	2
2. My reading skills in the language I am learning			12	4
3. My speaking in the language I am learning		2	14	2
4. My writing skills in the language I am learning			13	3
5. My vocabulary			9	7
6. My pronunciation	2	7	5	2
7. My grammar knowledge		7	7	2
8. My knowledge of the culture from the language I am learning		8	7	1
9. My digital literacy	2	6	7	1

Table 5: Students’ qualitative assessments following participation in the gamified didactic intervention.

Responses
Maybe explain a bit more that we had to pick up numbers and make letters :)
The competition stressed me a bit but that is just me personal I think!
Better explanation of the tasks in English
The more clear explanation of the activity
Just the code, it was very hard to get it
QR codes where a bit unnecessary
More explanation
No time limit

focused on the following key aspects: the students’ attitude towards the gamified session, the classroom management, the students’ attitude during the activities, and the level of commitment they displayed during the course of the session.

In their comments, the observers highlight the degree of interest shown by the students at the beginning of class when the session was explained. To present the activity, the teacher first introduces the narrative – the disappearance of the two influencers – while their images are projected on the board. The teacher then explains that the students will need to form groups to work through five tests and that groups will be distributed around the class, so they will need to move about. Students are also told that they will need their mobile devices. The students quickly organise themselves into groups and remove their smart phones and tablets from their rucksacks.

Finally, the teacher sets out the instructions for what the students will have to do, outlining the sequence of activities, and explains that they will need to work cooperatively in their groups to complete the tests but that they will also be competing with the other groups. Once they have completed each test, the students must show their solution to the teacher; if the solution is correct, the group wins a number that forms part of the code they will need to obtain the final reward. In addition to working through the tests correctly, students need to manage their time carefully: the fastest team to complete all of the tests gets the reward. At this point, students seem a little uncomfortable. The teacher explains the whole session in one go and the students do not appear to understand exactly what they are expected to do. It is the first time in the course that they have had to work with a greater degree of autonomy, to move around the classroom to complete activities, and to use their mobile devices. The teacher repeats the instructions and the activity begins.

Once the students have understood the activities, they organise themselves into groups, change places to make themselves comfortable, talk amongst themselves using the target language, move quickly towards the activities, download the texts using the QR codes, read through them rapidly, and quickly complete the tests to obtain the numbers that will give them the final code. During the course of the session, the students display a constant interest in resolving the tests correctly. There is excellent collaboration within each group, and the pace of movement between the areas of the classroom where each activity is located reflects a clear desire to finish ahead of the other groups.

The observers' comments indicate that the students had some difficulty understanding the instructions but that they engaged actively in completing the tests and that each team was highly motivated to finish first.

4 Discussion

The suitability of gamification as a didactic strategy in university modern language classrooms continues to be explored. Generally speaking, if an educational innovation is to be deemed suitable for a learning experience, it must be perceived in a positive light by the two stakeholder groups involved: teachers and students. This was the case of the gamified learning experience in a Spanish as an additional language classroom that forms the basis of this study. As explained above, and in line with previous findings reported in the literature (Hermanns et al. 2018; Honório et al. 2019; Khuzzan et al. 2021; Martín-Queralt and Batlle 2020; Pratama 2020), the students broadly perceived the gamified didactic intervention to be suitable for their learning experience. Specifically, all the students perceived an improvement in three aspects of language competence: reading, writing and vocabulary. This reflects the type of tasks set in the gamified didactic intervention, most of which targeted these skills, in addition to lexical aspects of Spanish. We find, then, that the students' appraisal of the learning outcomes depends on the type of activity proposed and the didactic objective of the gamified session, as observed previously in Martín-Queralt and Batlle (2020). It has thus been demonstrated that students perceived their participation in the gamified didactic intervention to be a positive learning experience (see also Hermanns et al. 2018; Santos et al. 2019) and that they deemed it a suitable educational practice for their development as speakers of Spanish as a modern language.

It can be inferred from the questionnaires and non-participant observation that the students perceived the instructions for the session to be a problematic aspect of the experience. As previously reported in the literature (González et al. 2015) it is extremely important to give a clear explanation of the rules of the game and to set out

the instructions clearly. Gamified practice in language teaching and learning consists in framing standard aspects of language learning within a game dynamic. To be able to take part successfully, students not only need to know what the learning objective is, they must also understand how the game mechanism works: what they have to do to win. The gamified experience in this study gave valuable insight, highlighting the students' perception of the excessively complex explanation, which was a potential source of misunderstanding that could hinder their participation in the game. Despite this, there was no suggestion that the students lost motivation as they progressed through the activity. Both the questionnaire responses and the observers' remarks attest to a high level of motivation throughout the session, which is consistent with the findings of previous research (e.g., Khuzzan et al. 2021).

5 Conclusions

An analysis of the results reported above provides clear answers to the questions posed at the beginning of our research. Our first research question was concerned with identifying the students' attitudes towards the different aspects of language learning that would be covered by the gamified session. In the initial questionnaire, completed immediately before the session, in general terms the students considered themselves highly motivated to learn Spanish as an additional language. Similarly, the majority considered games to be a useful resource in foreign language learning. With regard to their role as players, the students did not consider themselves to be highly competitive but they did express curiosity about the activity and an interest in socialising as participants in the game. In relation to our second research question, which concerns the students' perception of learning with a gamified approach, we observed a positive attitude to the experience. This can be clearly discerned from the students' responses: most of the students who took part in the gamified session stated that the strategy kept them motivated in class and engaged in the activities carried out. The aspects that drew the most positive response were the surprise factor and the curiosity the activities elicited, with studies keen to know what would happen next. With regard to the third research question, on the students' perceptions of the learning outcomes of the session, the responses indicate that students felt they had progressed in terms of oral skills, reading comprehension and vocabulary, but less so in grammatical knowledge and cultural awareness.

Having analysed the students' responses regarding the aspects of the session that could be improved and having contrasted this information with the feedback from the non-participant observation, we can conclude that one area clearly requiring improvement is the delivery of class instructions, which reflects the fact that the sequence of tests was generally more complex than the activities developed in

previous classes. On the strength of these results, we would argue that gamification is a strategy that engages students, encouraging them to work through the activities and motivating them to learn. We observe that the aspects in which students perceived the greatest progress are those related to speaking and reading skills and vocabulary learning. The above findings form the basis of our proposals for future areas of research: on the one hand, the importance of explicitly stating the grammar learning objectives of gamified sessions, to ensure that students have a clear perception of what their task involves and that they can gauge their progress; on the other, the need to address the complexity of the activities, improving the instructions given to the students at the beginning of the sessions in order to facilitate the management of gamified learning experiences.

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