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GAMIFICATION IN THE EDUCATIONAL FIELD: ANALYSIS OF THE USE OF GAMIFICATION IN A TOURISM DEGREE

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Degree in Business Administration and Tourism

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Key words:

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ABSTRACT

During the last decade, with the implementation of new technologies, learning systems have changed and educational institutions have had to adapt to the new era. Gamification is one of the techniques that is gradually being introduced in this field to evolve the current educational era. Using gamification tools in the classroom generally motivates students more; however, some teachers are still reluctant to introduce games in their lessons. This study analyses the real usage of gamification by a group of teachers at the Tourism Faculty from the *Universitat de les Illes Balears* (UIB) identifying how beneficial they believe this technique is for them as teachers and for their students. To conduct this study a questionnaire was administered to these lecturers to see their perspective. The results showed that gamification is well-known, although it is not used by almost a third of teachers surveyed. Regarding the teachers' views on the usefulness of gamification for students, the first outcomes suggest that this technique is not as beneficial for learners as other studies have found. At the end of the study a proposal is included with some ideas about how to implement the gamification technique in some of the subjects of the Degree of Tourism at the UIB.

Key words: gamification; Higher Education; motivation; Kahoot; Tourism degree.

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1. INTRODUCTION

Contemporary students have been influenced by the technological era, where distraction is the common subject in education, especially in higher levels. Technology has made several aspects of the world change, modifying the educational industry into a more digital field than the traditional system. E-learning is being used more than ever, particularly since last year due to the pandemic where in-person education is not always possible. Consequently, engaging students virtually is more difficult since they are not in a learning environment as could be a class in a high school or at university.

Nowadays, most university students are people who were born between 1995 and 2003 and are known as the Z generation (Varannai, Sasvári & Urbanovics, 2017, p. 1). This generation is characterized by having grown up among diverse technologies, finding any type of information just in a few seconds and playing a lot of video games for long hours since games entertain them. Therefore, introducing game elements in their university classes may motivate them to learn more. It is hence essential to adapt the educational system to the new trends since our students' way of learning is also changing as they have much more access to resources than the previous generations.

There are many ways to introduce game elements into a lecture, such as gamification, serious games, or simulations (Kiryakova, Angelova, & Yordanova, 2014, p. 1), although this study I will only focus on gamification, which will be explained in detail in the next sections. The usage of games in other contexts is something that began to be implemented a long time ago, for instance "the military had been using games and simulations for hundreds (if not thousands) of years" (Zichermann & Cunningham, 2011). Nevertheless, the concept of gamification was created for the first time in 2002 by Nick Pelling, a British computer programmer (Kamasheva et al., 2015, p.77).

With regards to these events, in this study I will dive into the term of gamification in order to see the real usage of this technique in education, knowing its benefits and drawbacks before implementing the methodology in the learning system. Additionally, I will analyse how gamification could be implemented in higher educational levels to be as effective as in secondary education. As a result, a small proposal will be included to show empirically how gamification could be implemented in the Tourism Degree at the *Universitat de les Illes Balears* (UIB from now onwards), the object of investigation.

This study aimed to analyse how familiar this concept is within the Tourism Degree at the UIB. To carry out this purpose, in the next sections, relevant information will be provided in order to understand the contribution gamification implies when implementing it in lectures. A revision into gamification tools will be done to figure out how this methodology could be used in a class. Finally, a study is presented to analyse deeper the use of these techniques at the UIB from the perspective of tourism lecturers, the sample of the study. After that, the results will be examined, and I will draw some conclusions.

2. CONTEXTUALIZATION

Our educational system is nowadays constantly changing. Since the emergence of the Internet, students are becoming less involved in lessons as there are more distractions as before the digital period. Additionally, motivation and commitment are one of the main topics regarding education and when it comes to students that have lots of technological devices and tools they can reach, it is even more difficult to catch their attention in the lessons. Consequently, captivating students becomes a trial for the teachers that are involved in the learning process of the students.

For that reason, improving the motivation as well as the engagement of students could solve some of the educational problems, such as the attendance to lessons or an active participation in class.

To understand how motivation and engagement could be improved, it is necessary to deepen the basis of the method that will achieve it. To start with, I will describe the *Self-Determination Theory*, developed by Richard M. Ryan and Edward L. Deci. It is based on the Maslow pyramid of the human needs as Brühlmann, Mekler, and Opwis point out, this theory is an “approach for making predictions about the quality of motivation and the effects of rewards on intrinsic motivation” (2013, p. 6). In spite of this, there are some studies that demonstrate that in a context where a student has autonomy, “fosters intrinsic motivation and exploratory behaviour” (Brühlmann, et al., 2013, p. 6) which means that giving students the autonomy they find in games, motivation will be encouraged.

Another theory is relevant for this research, concretely, the *Flow Theory*. This theory carried out by Csikszentmihalyi stated that “flow is considered as the optimal experience, a state of mind and body with absorption and enjoyment” (Brühlmann et al., 2013, p. 12). The brain perceives studying as an effort, so it is more difficult to learn as there are no mental patrons that allow the student to be motivated to study. Consequently, it is necessary to approach education as the opposite, as an exertion in order to let the brain enjoy to easily absorb the concepts of the lesson. For that reason, gamification, which is based on both theories, will be essential to contribute to the change of the learning system.

Gamification is “about relying on intrinsic motivation through autonomy, mastery and purpose” (Marache-Francisco and Brangier, 2013, p. 126). This concept gained relevance a few years ago. Consequently, some studies have been published on this topic, some of which I will analyse here.

In the next sub-section, the concept of gamification will be studied by mentioning the advantages as well as the disadvantages of the methodology supported by some studies, demonstrating in a realistic way the benefits gamification brings. Furthermore, some gamification techniques will be explained in detail before deepening into the study in section 3.

2.1 GAMIFICATION

The concept of gamification can be defined as “the use of game design elements in non-game contexts” (Groh, 2012, p. 39). Other authors define this term as “the application in non-gaming or professional contexts video game techniques” (Marache-Francisco & Brangier, 2013, p. 126). Looking at those descriptions, I can extract that gamification implies implementing elements from video games, such as the progress, points obtained for doing any action required or categories in any context totally separated from the game. The most common sectors that nowadays are applying this technique according to van Roy and Zaman are “marketing, informatics, politics, education and health” (2015, p. 1). In this study I will only focus on the education sector, by analysing the advantages and disadvantages within the industry.

It is important not to confuse this concept with the term serious games which “are designed for a specific purpose related to training, not just for fun” (Kiryakova et al., 2014, p. 1). In other words, serious games are designed to transmit information to the user through a game scenario in order to accomplish a solution for a problem. On the other hand, gamification is designed to “increase motivation and commitment, and to influence user behaviour” (Kiryakova et al., 2014, p. 1).

As was mentioned before, gamification techniques are being implemented more often than before, and the educational field is not an exception. In spite of that it is essential to analyse their benefits and drawbacks to actually discover the positive and negative points gamification brings to the field of education before deepening in the study presented in section 3.

To begin with, this technique presents some advantages as the engagement and motivation it brings to students to complete the course. As stated by Marache-Francisco and Brangier motivation comes from “emotional and persuasive elements such as accomplishment with self and social challenges and relevant feedbacks, self-expression and relationships mechanism” (2013, p. 128). Therefore, if students are more motivated to attend lessons, their results will improve whenever the characteristics already mentioned are implemented, so their engagement could also increase. That way, students can improve their knowledge as well as their skills, as stated by Kiryakova et al “gamification affects students’ commitment and motivation” (2014, p. 3).

Putz, Hofbauer, and Treiblmaier, (2020) looked at the main advantages’ gamification has once it is implemented in secondary education. They analysed different workshops in order to realize if gamification improves education. These workshops were differentiated by incorporating or not gamification elements in the diverse groups. Several hypotheses were presented to determine that “gamification exerts a positive impact on knowledge retention” (Putz, Hofbauer, & Treiblmaier, 2020, p.1).

These authors define five types of hypotheses, although only one of them is relevant for my dissertation. The hypothesis is the following:

- Hypothesis four: “The level of knowledge retention in the gamified group does not differ between younger (<20 years) and older students” (Putz, Hofbauer & Treiblmaier, 2020, p. 6). This hypothesis is supported as the

p value ($p < 0.01$) is close to 0,01 when the older group exceeds the young group in the assessment and conversely, p value is 0,02. The results present approximately 99% and 98% of confidence, respectively. Therefore, the correlation of variables (no impact of participants' age and the effect of gamification measures) are highly related. This affirmation proves that gamification could be implemented in higher education, as this technique does not differ from younger and older people.

In addition, Putz, Hofbauer and Treiblmaier point out that “gamification in education enhances social and practical skills such as problem solving, collaboration and communication” (2020, p.9). Consequently, gamification not only improves students' knowledge but aids to enhance relevant competences and skills.

As a result, I can state that several studies conducted in the last few years have found that gamification motivates students no matter which educational level they are undertaken. Most of them have been carried out within secondary education levels such as the study carried out by Putz et al., (2020). On the other hand, to the best of my knowledge, not much research has been carried out on the use of these tools at university level. An exception is Varannai, Sasvári and Urbanovics (2017) who speak about the importance of the implementation of the gamification technique not only in the compulsory education but in the higher one.

This empirical study shows how through the use of the Kahoot! Application, that will be detailed in section 2.1.1, teachers can motivate students to improve their knowledge. This study explains how the application works and how the motivation level of students increases significantly. The study they conducted was based on the main target group, the Z generation. The sample was composed of 86 students from non-IT and IT degrees of The National University of Public Service and The University of Miskolc, respectively. In this section, I will focus on the results drawn from the non-IT students, as my study will be carried out within the Faculty of Tourism (see section 3 onwards). The results found by these authors present gamification as a suitable tool to implement in higher education. Concretely, Varannai, et al., (2017, p. 6) verified that gamification impacts non-IT students as far as the tool used satisfies their needs regarding its easy receptiveness. Finally, Varannai et al (2017, p. 6) conclude that gamification is a key to engage students to attend lessons actively.

Furthermore, online learning, according to Kiryakova et al “creates favourable conditions for the implementation of gamification” (2014, p. 2). The traditional learning system is constantly changing because of the Internet. However, lately, it has been changing faster due to the health crisis, Covid-19. This pandemic has accelerated the changes in education, introducing online teaching systems as the most common way to teach courses. Because of this new situation, it is also important to mention some research done about how gamification could enhance online education.

As has been recently experienced by students, it is easy to disconnect from the lecture while you are doing online classes because of several distractions (using one's phone to send or receive messages, check one's social media accounts,

look at one's email accounts...). A possible way to avoid this is by using gamification to motivate students in order to follow the course (Osipov et al., 2015, p. 71). Furthermore, gamification "can have benefits to support a wider range of students in their online learning experiences and motivation" (Bovermann, & Bastiaens, 2020, p. 15), and, as a result, the quality of education improves.

Notwithstanding the advantages shown, gamification has some disadvantages that teachers should be aware of to not misuse this technique in education. For instance, as explained by Marache-Francisco and Brangier gamification could bring negative effects to students, as they could "focus on quantity over the quality to obtain some reward" (2013, p. 128). For some competitive students, the importance of winning could overcome the fact of improving their knowledge or learning skills, so rewards become more significant than the fact of receiving a good quality education. Furthermore, gamification presents some ethical issues, as stated by Kim and Werbach "gamification is a technique to change players' behaviour" (2016, p. 163) as a consequence manipulation could appear when implementing this technique. Nevertheless, more research needs to be conducted on this since "no rigorous normative work has been published to examine whether gamification really is manipulative" (Kim and Werbach, 2016, p. 163).

2.1.1. GAMIFICATION TOOLS

Nowadays, with the Internet, it is easy to implement gamification as there are some tools or applications that will help the teacher to carry out the lesson. These applications were developed to implement gamification effortlessly to avoid the lack of engagement of students. Consequently, these tools are based on game elements introduced to the education system as a way to engage students to learn. According to Kiryakova et al (2014, p.3) the three most popular tools related to education are Socrative, Kahoot and Flip Quiz, while regarding the study of Elsaid, (2020, page 135) the main tools are: Duolingo, Socrative and Kahoot. Therefore, in this section, I will analyse two of the main gamification tools: Socrative and Kahoot! as both of them are mentioned in these studies, although in section 3 I will analyse the real usage of the different tools in the degree of tourism at the UIB.

To start with, Socrative is defined by Pintado and de Cerio (2017, p. 1) as an application created by Amit Maimon at the Massachusetts Institute of Technology in order to make an interactive class. This tool allows to "capture the interest of the student, promotes the involvement in a continuous working, favours collaboration in the classroom combating the "scenic fear" and allows to strengthen knowledge" (Pintado, & de Cerio, 2017, p. 1). This application offers people to play individually or in teams and a variety of activity types, including quizzes, surveys and group exercises can be used. Some research has been carried out in different degrees; however, I will focus on tourism education, as it will be the degree studied in section 3. The study was performed by Elsaid, H. (2020, p.135) affirming that Socrative is an effective tool to evaluate the students' progress in tourism education.

The second application is Kahoot, defined by Bicen and Kocakoyun, (2018, p. 75) as a tool that is being used to improve the support provided by teachers and the attendance of students at university. This tool offers activities in a quiz format to implement in the lessons as a way to “learn an idea, practicing a skill or reviewing a lecture” Elsaid, (2020, p. 135). With regards to some research, this tool can be efficiently applied in education, as it has a good influence on students as that motivates them to contribute to the lesson (Bicen, & Kocakoyun, 2018, p. 89). Furthermore, this study agrees with Wang and Tahir (2020, p. 13) as they describe Kahoot as a positive tool to implement in the learning process.

All these tools, even the ones that are not being described, share some aspects, concretely Socrative and Kahoot present most of their activities in a quiz format in order to make it easy to elaborate and use for teachers and students, respectively. In addition, the main objective of these tools is to make it different as a way to engage students in the learning process. Nevertheless, these tools are the best-known as they present their contents in different ways, each of them provides some added value to the lesson. Therefore, it will be necessary to explore each of the tools in order to see what they offer, and which one better fulfils the needs and the learning requirements of the course.

To conclude, regarding the relevance these tools have on implementing gamification, the last section will present a proposal according to how to implement one of these tools at the Faculty of Tourism at the UIB, in order to suggest teachers how to implement this technique as a way to increase students' commitment with the degree.

2.2 OBJECTIVES

Regarding the previous sections, most of the research is focused on compulsory education. Therefore, the main purpose of the study is to deepen the research of gamification at university level since less attention has been placed on the use of gamification techniques within this educational level.

For that reason, the main objective of this study is to analyse the frequency of use of gamification in higher education, concretely in the Tourism degree at the UIB as well as to suggest a proposal for increasing its implementation within the Faculty of Tourism. Consequently, the aim of this document is to analyse some lecturers' familiarity with the concept of gamification to collect data in order to investigate the implementation of this methodology at the mentioned degree and through which tools they have used gamification. To obtain this information a survey was administered to them. This questionnaire will be analysed, and the results will be interpreted in order to elaborate the conclusions.

Finally, the results obtained in the study will allow to determine the answers to the following research questions:

- “Are teachers of the tourism degree familiar with the concept of gamification?”
- “Is gamification being implemented by teachers within the tourism degree? If so, which tools are they using?”
- “Is it beneficial to use this technique at higher education level?”

3. THE STUDY

As mentioned above, as far as I know, not much research has been done on the use of gamification tools at university level. For this reason, in this study I designed my own questionnaire in order to analyse the situation and see how this technique is being implemented in education within the degree of Tourism at the *Universitat de les Illes Balears* (UIB). In the following subsections, the survey will be explained in detail, and the results will be interpreted in order to draw some conclusions. In addition, different gamification techniques were presented in this study for the purpose to analyse which ones are the most and less popular among tourism teachers in order to afterwards present a proposal that can be implemented in the Tourism degree.

3.1 PARTICIPANTS AND DATA COLLECTION

To carry out this study an online questionnaire was administered to teachers of the Faculty of Tourism at the UIB. In total 41 answers were obtained. According to Martí-Parreño, et al. (2016, page 685) this topic has no correlation with the gender of the participants and age (Martí-Parreño et al., 2016, page 686); for this reason, the respondents were divided into two groups: the ones who had already implemented gamification at least in one lecture and the ones who have not applied it before. Furthermore, participants who once have used gamification will be represented by three different segments, concretely the Language Department, the Business Department, and the Economic Department, that will be explained in detail in section 3.4.

Data was collected through an online questionnaire and administered via Google Forms (full version of the questionnaire is available on the following link: https://docs.google.com/forms/d/e/1FAIpQLScncoA9MDN0wUVHYmNIDNUmL-qGfTqes6ecWtkDGRfTy8ECxg/viewform?usp=sf_link). The questionnaire was carried out online for several reasons: a) it was easier to reach professors from the tourism degree; b) this way the survey was totally anonymous, so they could answer it as freely as they want, so that they could give their real opinion without being affected by social pressure and finally, c) the most important reason is, because of the actual pandemic situation that does not allow us to meet people in person as frequently as before. Moreover, it is important to mention that this type of questionnaire will not be representative of the different UIB degrees, but the results and conclusions will be specifically for the Tourism degree.

3.2 RESEARCH MATERIAL

This questionnaire was based on 15 questions as a way to obtain diverse information about the usage or not of gamification methodologies and the different reasons. This survey combines different types of questions, among which there are open-ended and closed-ended questions, short answer questions, Likert-scale questions, and multi-choice questions to get to know which gamification tools are known by the participants.

To start with, two questions were presented as a closed question (yes or no) in order to see how familiarized the teachers are with gamification and to know if they have implemented this concept in their courses. From there onwards, the

questionnaire adopted two different paths depending on whether the teachers answered positively or negatively in the previous question.

The former participants, represented by the respondents that have used this technique before, were shown a list of tools such as Kahoot, Socrative or Super Teachers Tools, so the participants can answer the multiple-choice question according to how many tools they have already used in their classes. Then, two questions were presented as a scale question from 1 to 5, where 1 represents “not beneficial at all” and 5 is “very beneficial”. These questions were chosen to analyse how they perceived the implementation of gamification in their classes regarding both students and lecturers. Finally, two open questions were included, one with a quantitative type of answer as a way to indicate how many times they have used gamification and the other one was a qualitative-based question in which they were asked to name the subject(s) in which they have implemented this technique.

On the other hand, for those participants who have not used gamification, a multiple-choice question was selected in order to know if they will implement gamification in the future. Then, three scale questions were presented, two of them were identical as ones asked to the other participants and the third one was based on a five-degree Likert scale, where 1 belongs to “I totally disagree” and 5 to “I totally agree” according to how lecturers perceive gamification as a methodology that could be more implemented in the future.

At the end of the survey, after those two parts, the participants return to answer the same questions. In this section a close question was included to analyse if the participants will implement gamification, followed by an open question chosen to find out the reason behind why they will implement or not this technique. Finally, a video was shown to make them much more familiar with the concept. Then, the two questions mentioned before were made again to see how many participants will change their opinion once they have knowledge about the topic surveyed.

3.3 ANALYSIS

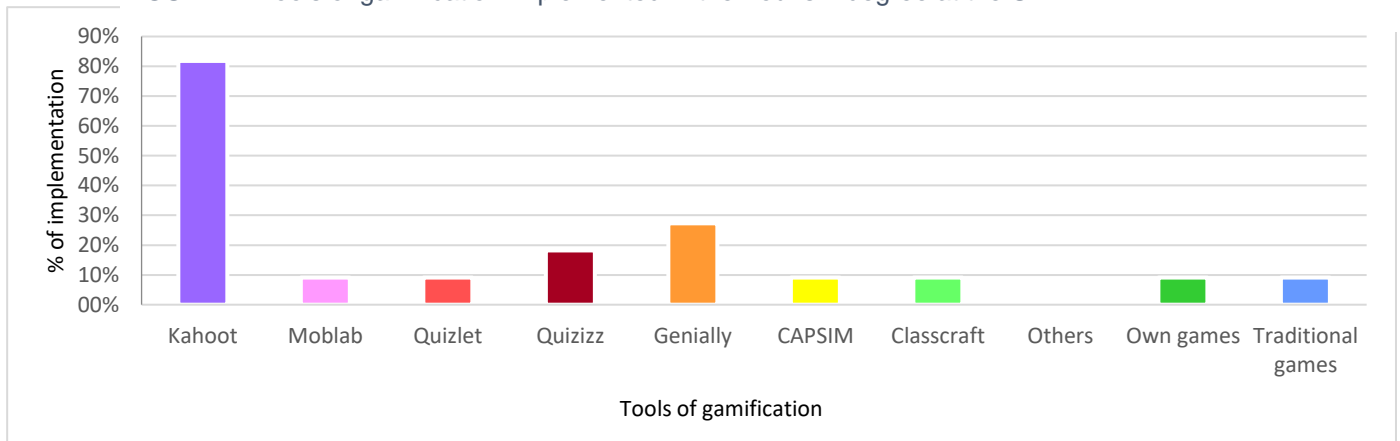
As mentioned above, the questionnaire was designed with the help of Google Forms, which at the end offers the replies in diverse forms according to what the program finds more appropriate for each question. So, this system shows charts or figures, with their respective percentages of the different answers given by the participants. In section 3.4, the results will be analysed as detailed as possible in order to come up with some findings that will support the proposal. Google forms presents the replies in three different ways: a summary of all the answers and questions, the replies for each question separately and finally the answer of each participant. To analyse this study, I have used the charts to show the overall results as well as the question’s section to look at some issues in more detail.

3.4 RESULTS

In this section I will describe the results of the study. All questions will be interpreted to actually understand how gamification is being implemented in the Tourism degree at the UIB. To begin with, it is remarkable that more than a half of the participants (58.5%) are aware of this concept although only 11 of the total sample (26.8%) affirmed they were using this technique in their classes at the Faculty of Tourism. This can be explained by several reasons, however the main one is the lack of information about the tools there are available to apply gamification. In addition, there are several opinions that explicitly express the fact that this technique is not beneficial for students, although that will be analysed in depth in the next paragraphs.

To start with, I will focus first on those 11 participants who have already used this technique. A list of diverse gamification tools was presented to them, as shown in Figure 1 below. We can observe that they coincide that the most used tool is Kahoot used by 81.8% of respondents, followed by Genially represented by 27.3% and 18.2% of the participants affirmed they had implemented Quizizz. Even though there are a lot of other tools that teachers can use as gamification elements in education, such as Quizlet, Moblab, Classcraft, CAPSIM, traditional games and games created by themselves, they were only chosen by 9.1% of our subjects. Finally, there have been a few tools that have never been used, represented in Figure 1 as *others*, and they include Socrative, Super Teachers Tools, Elever, MyClassGame, PearDeck, Edmodo Gamificación, Trivinet and Plickers.

FIGURE 1. Tools of gamification implemented in the Tourism degree at the UIB



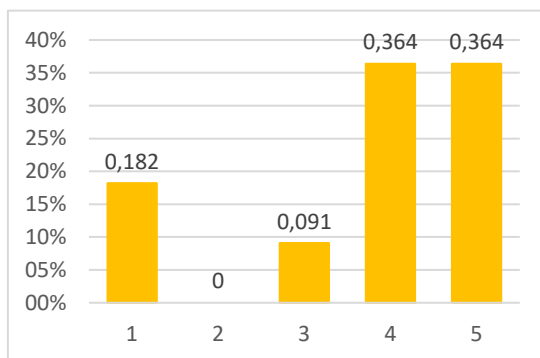
Source: Google Forms

Regarding the information obtained from the previous chart, two questions were made in order to comprehend how useful these techniques had been from both sides, for lecturers as well as students, in respect of the participant's perspective. As described above, the scale was presented from 1 to 5, where 1 is "not beneficial at all" and 5 is "very beneficial". Comparing the results from both of them looking at figures 2 and 3, we can infer that most of the participants partially agree on the benefits using gamification in education brings for them and for the students.

Concerning students, almost 20% of the replies consider that this methodology is not beneficial at all for students, almost a 10% reflect an indifference about its benefits and 36.4% of the participants contemplate gamification as beneficial for students while the rest (36.4%) consider this concept very beneficial for them. Therefore, the average of replies was calculated considering that there were 11 answers for this question and the percentages shown in Figure 2 allowed to obtain the mean: $\frac{(2*1+0*2+2*3+4*4+3*5)}{11} = 3.73$. With this result, we can state that according to these teachers surveyed, gamification is considered as almost beneficial for students and it will motivate them to study the subject.

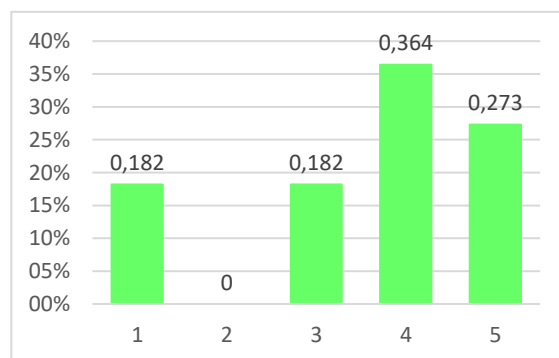
With regards to the advantages of gamification tools for teachers, the percentages do not vary considerably from the student's chart. The only variance was from one reply moving from very beneficial (5) to an ambivalent answer (3). The mean was once again calculated giving an average of 3.55. Therefore, we can see that the mean was affected, leading to a minor perception of the benefits regarding the lecturers' perspective from using gamification in their lessons.

FIGURE 2. Usefulness of gamification for students from the perspective of lecturers who have already used this methodology



Source: Google Forms

FIGURE 3. Usefulness of gamification for teachers from the perspective of lecturers who have already used gamification



Source: Google Forms

In connection to those participants who have already implemented gamification in at least one lesson, as mentioned in Section 3.2 I will structure the results obtained as follows: the Language Department, the Business Department, and the Economic Department. Consequently, in this part I will analyse them each in more depth.

To begin with, all the segments have the same number of participants, concretely 4 except for the Economic Department which counts with 3 participants. As a result, departments are divided proportionally. It was not explicitly indicated time frames, so answers are diverse for this question.

First, I am going to explain the answers given by the teachers of the Language Department, composed of these subjects: English, English 3, French, and Catalan. As shown in Table 1, they implement gamification from 4 to 12 times when it comes to digital gamification techniques, in order to review the concepts before an exam. Nevertheless, they have been implementing this technique for 26 years in a traditional way, without the Internet. With regards to the Business Department formed by the Tourism Marketing, Introduction to Business, Training

in Organization and Strategic Business Management teachers, they have used this technique between once to every lesson in this department's classes. Finally, the Economic Department comprising Industrial Economics, Economics, and Statistics, seem to have been using this technique in diverse topics of their subjects. Consequently, those participants who have already used this concept, are implementing it numerous times in their classes, although this number can vary a lot from one department to another, as a sign of acceptance of this methodology in some tourism lessons at the UIB.

TABLE 1. Division of participants who have already used gamification into departments and how many times they implemented it

LANGUAGE DEPARTMENT		BUSINESS DEPARTMENT		ECONOMIC DEPARTMENT	
Subject	Times	Subject	Times	Subject	Times
English	Numerous times	Tourism marketing	Once	Industrial economics	Several topics
English 3	Four times	Introduction to business	Two years	Economics	Ten times
French and Catalan	Twelve times digitally, 26 years traditionally	Training in Organization	In each lesson	Statistics	Twelve times
English	More than ten times	Strategic Business Management	Each year		

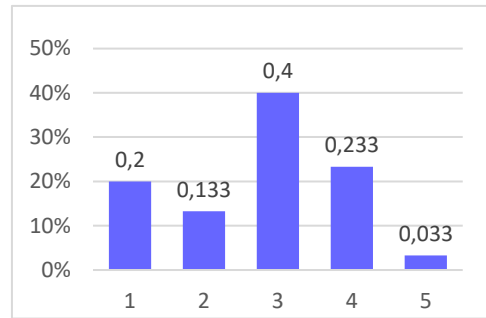
Source: data collection from Google Forms

To continue this study, I will now analyse the views of the 30 participants (73.2% of the replies) that have never implemented gamification techniques in their lessons before. They were given a list with several options to analyse the reason(s) why they have never used gamification tools before. Consequently, the most common idea, represented by 36.7% of the replies was defined by the intention of implementing it, although they do not have enough information about the tools available to apply gamification. This was followed by the idea of not having the knowledge about carrying this technique out, chosen by 9 out of the 30 participants. The third reason was the lack of benefits it brings to students; however, this topic will be discussed again later. Finally, some of the teachers affirmed although they had not used gamification techniques before, they were thinking about doing so in the near future. Furthermore, a few of the participants consider the high number of students they have in a lecture as a disadvantage to carry out this methodology, although this study will not be focused on the optimum number of students to carry out this methodology.

Regarding these reasons, the questionnaire was introduced in a Likert-scale format from 1 to 5, where 1 means "I totally disagree" and 5 "I totally agree" a question to see how these 30 participants will perceive gamification techniques in the future. An average of 2.77 out of 5 was obtained (see Figure 4), and therefore, we can say that these respondents do not believe this technique will be implemented more frequently in the future of higher education.

FIGURE 4. Gamification seen as a future educational technique

As shown in this line graph, there are various answers for this question, even though it is significant that only 3.3% of these participants totally agree on the implementation of this concept in the coming years, while 20% totally disagree on that.

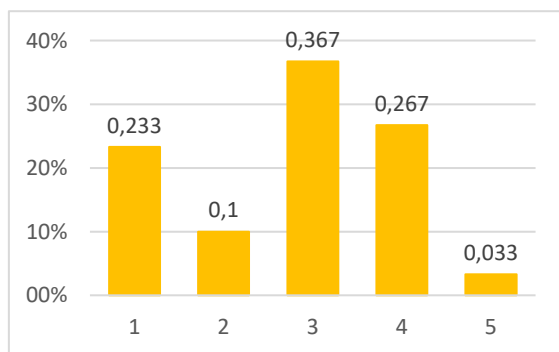


Source: Google Forms

As aforementioned, one of the questions that the teachers who had used gamification before were asked was the usefulness of gamification technique, I thought that it would be relevant to analyse the same two questions from the perspective of the participants who had not used gamification, as the perception of this concept may have changed. Consequently, a comparison will be done by contrasting the answers by the 11 participants who had used gamification versus the 30 participants who had not in order to get an overview.

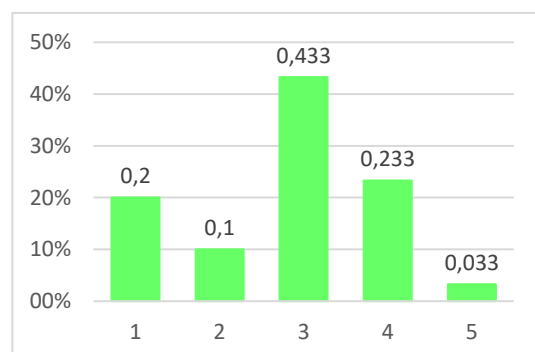
First, I will analyse the two figures below (Figure 5 and 6) to obtain the average. Comparing the two of them it is observable that both almost coincide in the results. In Figure 5, we can see that 23.3% of the replies totally disagree about the benefits that can cause the gamification concept in the students. However, only one of the teachers believes it very beneficial to implement it. As a result, the average obtained from this chart is 2.77. In the next figure (Figure 6), the situation is quite similar, even though the intermediate option (3) increases representing 43.3% of the total replies. Consequently, the mean counts for 2.80. Therefore, those averages reveal that for these 30 teachers surveyed, it is non beneficial to carry out gamification for students nor for lecturers as both means do not reach a 3 out of 5, the turning point.

FIGURE 5. Usefulness of gamification for students from the perspective of lecturers who have never used this technique before



Source: Google Forms

FIGURE 6. Usefulness of gamification for teachers from the perspective of lecturers who have never used this technique before



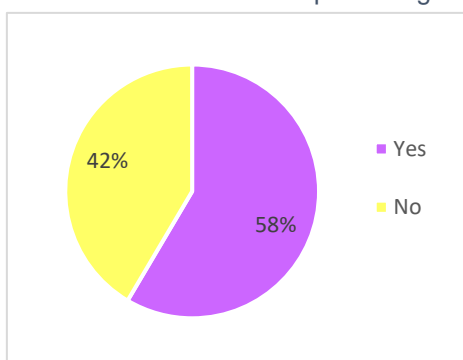
Source: Google Forms

Comparing these results to the previous ones, the average is almost one point higher in both figures (Figure 2 and 3). Therefore, the participants who have been using this methodology before seeing the benefits it could bring for them and their

students, while those respondents that have never used it are more prone to decline the benefits of gamification. For those reasons, these questions are exclusive because they rely on the fact of using or not the technique. Nevertheless, both of them coincide at not being very beneficial for both cases studied, for this reason further research has to be done to see in more detail the perspective of teachers regarding gamified lessons or non-gamified ones.

Finally, regarding the last two questions, different perspectives will be presented in this study to see if gamification could be implemented in higher education, concretely at the Faculty of Tourism at the UIB.

FIGURE 7. Intention to implement gamification in the Tourism degree



In order to make it possible, participants were asked if they perceive implementing this methodology in their lessons as a good idea. As can be observed in Figure 7 more than a half would do so, while 42% would not. That answer was combined by an open question to understand their decision.

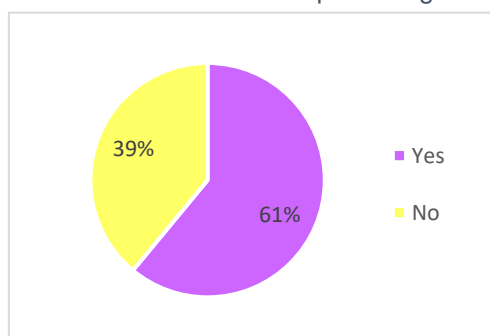
Source: Google Forms

From those who will be applying gamification, they see it as an innovative dynamic concept that could motivate students. In addition, they perceive it as a tool that helps students to easily remember the subjects' topics. On the other hand, the rest of the participants see this technique as a tool that slows down the learning process, without making any progress on student learning.

Therefore, most of the respondents agree on the possibility to implement gamification in the future because of the benefits it could bring to the learning process by encouraging students through this different methodology. Nevertheless, 42% of the respondents disagree with that view, as they think it is not a methodology suitable for higher education.

Lastly, a video about gamification was shown in order to familiarize them with this concept and observe if some participant changes their opinion in any case through the Yes or No range, knowing that the answer will be influenced by the video.

FIGURE 8. Intention to implement gamification influenced by the explained concept



As is visible in this figure, only one participant changes their perspective. It is interesting that the respondent has never implemented this methodology before. Nevertheless, it is not conclusive that by knowing about the concept in more detail, will change the participants' point of view.

Source: Google Forms

To end up, I will bring to this study some findings from the results of this survey. First, I would like to mention that Kahoot is the main tool that is being implemented in the tourism degree at the UIB, even though less than a third of the total sample of teachers have been using it in their lectures. In addition, this study generates the opposite as it was seen in the contextualization section since, this methodology is believed to be not that beneficial for tourism students and lecturers. Consequently, further research has to be done in order to come up with conclusive results of the sample taken. Furthermore, a wide range of respondents have not yet carried out gamification because of the lack of resources they have to prepare a gamified lesson or because of the unfamiliarity they have with the different tools. For all these reasons, a proposal will be suggested in the next section in order to describe some ideas to put into practice the use of gamification in higher education.

3.5 PROPOSAL

According to previous results, most of the teachers that denied having implemented gamification in the lessons admitted that it was due to two reasons: the lack of information on what tools are available in the market to carry out this methodology and the unfamiliarity to elaborate a gamified class properly. As a consequence, in this section, a proposal will be presented to suggest ways in which Tourism university teachers can prepare a class with gamification techniques.

The aim of this section is therefore to propose a gamification technique applied to the higher education level, in our case within the Tourism degree at the UIB. The objective will be to implement this tool in the content of a lecture, to see the evolution of students and actually see which concepts are clear or which ones are not. It is important to set a goal in order to make this technique as effective as possible according to Kiryakova et al. (2014, p. 3).

Kiryakova et al (2014, p. 2) define all the steps needed to develop this technique as follows:

- Determination of learners 'characteristics: even in this section a specific tool will be given, it is important to analyse which tool is more suitable for the students (in section 3 there is a list of tools that can be implemented). Furthermore, these authors mentioned the importance of being aware of what knowledge and skills teachers want their students to achieve during the course.
- Definition of learning objectives: once the first point is clarified, it is important to set different goals regarding the content of the subject, related to the point before, knowing what teachers want students to get from the course.
- Creation of educational content and activities for gamification: in relation to these authors, it is essential to create interactive content. Nowadays this is possible due to the different applications there are to prepare a gamified class. At the end of this section, I will develop this part deeper by proposing an idea.

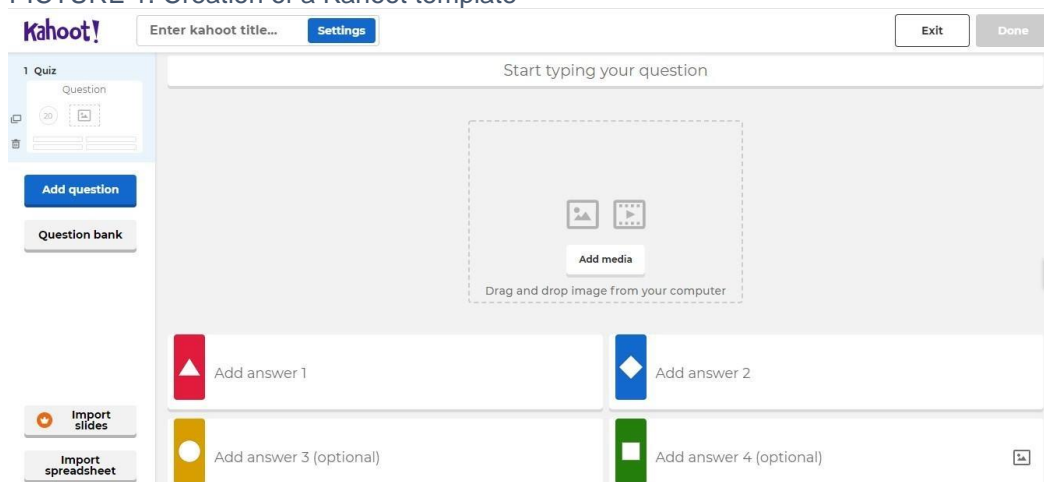
- Adding game elements and mechanisms: to finish, it will be essential to introduce tasks that will allow the student to get points, classification or rating that will be correlated to the learning objectives.

Independently of the steps given, it is important to choose a tool that will help teachers carry out all the steps to implement gamification in the Tourism degree at the UIB. In this proposal, Kahoot is presented as the chosen gamified application since it appears to be the most used tool by Tourism teachers at the UIB, as shown in section 3. Therefore, as many lecturers have used it, I could state that it is because of the ease of use the application offers to its users. Additionally, according to Bicen and Kocakoyun “Kahoot is the most preferred mobile application” (2017, p. 21) by educational students at Near East University.

Regarding the third step, I will propose an idea to implement as an activity for gamification. These activities could be implemented in any subject of the degree of Tourism, although in this section I will focus only on two of them. These subjects are: *Gestión del Patrimonio* and *Marketing*. The first subject has been selected because of the heritage resources we have in Majorca that will facilitate the development of an activity for gamification. Additionally, I opted for *Marketing* since gamification is being implemented in the marketing field, that is why I think it could be beneficial to see this methodology from the learning perspective before applying it in marketing jobs.

To start with, Kahoot requires one to set an account where users can choose between teacher, student, personal use, or professional use and then they can select among school, higher education, scholar administration and professional. Once the user has the account, the webpage of Kahoot, which is available from any type of device (laptop, mobile, tablet...) will guide the user to understand the functioning of this application. In Image 1, we can observe the main features of creating a Kahoot session, i.e., the different characteristics the tool presents in order to create a quiz. The user can add images and videos to their questions; these questions can vary from true or false questions to open-ended ones. Therefore, lecturers can design their Kahoot following the requirements of learning objectives.

PICTURE 1. Creation of a Kahoot template

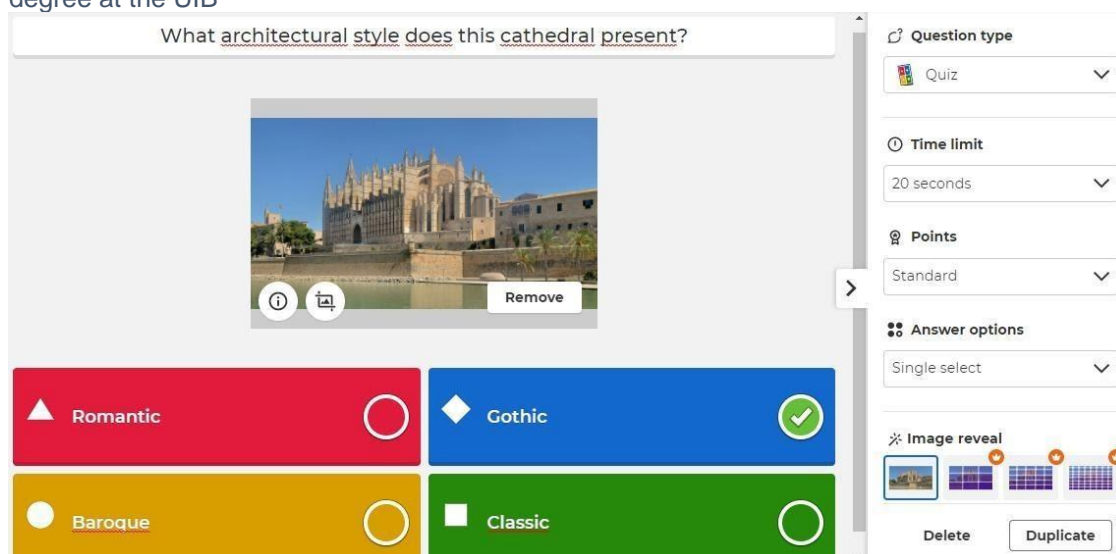


Source: Kahoot webpage

The proposal of this section is focused on the implementation of the game *Trivial* during the length of the course. This activity could be played at the end of a topic as a way to consolidate the theoretical concepts of the subject. That way it could be easier for teachers to implement game elements by granting points to students when the activity is carried out. The activity will consist of a Kahoot quiz created by the teacher where groups of students will compete in order to obtain the best score. The points obtained in the activity will be kept until the end of the course, that is, they are cumulative. Furthermore, at the end of the course, a final activity will be played in order to see the skills and knowledge obtained from the subject. Finally, at the end of the semester a reward will be offered to students such as one extra point in the final exam. It is not necessarily a physical reward but an incentive for students; since the teacher will have already analysed their profiles at the first step of implementing gamification, they will already know about the motivations of their students.

Regarding the subject *Gestión del Patrimonio*, the final activity will consist of making the game *Trivial* but on an excursion in Palma or any village of the island to acquire knowledge by visualising the real heritage of Mallorca. The activity could consist of visiting diverse monuments and then answering the questions from Kahoot, as in Image 2. In terms of the *Marketing* subject, the final activity consists of the same game although a modification needs to be done in order to adapt the content to the subject. For instance, by changing monuments to stores in Palma as a way to select in which marketing mix they are focusing on at that moment (price, product, place, promotion) or to analyse on what push or pull strategies are they focusing their promotions. Finally, as most of the tourism subjects are related to tourism in the Balearic Islands, it will be possible to implement gamification in the different subjects by changing the topic of the activity.

PICTURE 2. Example of a *Trivial* question for the subject *Gestión del Patrimonio* from the Tourism degree at the UIB



Source: Kahoot webpage

4. CONCLUSION

This study was conducted in order to analyse the low frequency use of gamification in higher education, concretely in the Tourism degree at the UIB. Regarding the research part, as I previously analysed in the Contextualization section, gamification provides several benefits such as students' motivation and engagement leading to an active participation. This way teachers could face the problem of attendance and interaction in their classes, without obliging any student to participate or omitting compulsory attendance. Additionally, gamification not only helps the learning process of the student, but it also enhances their skills and competences.

The outcomes of this study reveal some similarities and differences with previous research conducted within the field. To start with, I found that Kahoot is the most used tool at tourism studies at the UIB (see section 2). Nevertheless, some aspects such as the utility that gamification provides to students is contrary to the results from several articles cited in the Contextualization section. In previous studies gamification was found to contribute to benefiting students' learning process in secondary and higher education, whereas this study came up with some different results that will be summarised deeper in the next paragraph.

Giving these outcomes, my research questions could be answered in order to prove the previous results. These findings obtained in this study indicate that more than a half of the teachers surveyed from the Tourism degree have already heard about this new methodology. However, there is still a lack of familiarity with the concept, understanding familiarity as the knowledge and use of this technique, as almost a third of the participants implement gamification in their lectures. Consequently, a proposal was presented in order to motivate teachers from this degree to use gamification in their lectures before denying this methodology. With regards to the tools used, I would like to point out that according to the research, I have already mentioned that Socrative and Kahoot are the most known gamification applications. However, within the Tourism Faculty, Kahoot is the most implemented one whereas Socrative appears not to be used by any surveyed teacher although there are more tools that are being used in this faculty such as Genially or Quizizz. Finally, according to the benefits gamification brings to the educational system, there are differences among the replies. For those who have implemented gamification before, it is seen as partially beneficial to use this technique in university lectures. Nevertheless, those teachers that have not used this recent methodology do not perceive it as beneficial for students nor lecturers.

To conclude, future research would be needed from the students' perspective to know how they perceive the implementation of this methodology in classes. A comparison will be needed between gamified lessons and non-gamified ones in order to identify how useful it is for students to learn with this technique. Additionally, although in my dissemination the applications were chosen according to what other studies found, it would be interesting to investigate which tools are more suitable for students of the Tourism Degree at the UIB. Furthermore, it would be remarkable to carry out future research in order to expand the results to a broader range of degrees to have knowledge about the benefits of implementing gamification in other faculties at the UIB.

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