COMPARISON OF TWO AUDIENCE RESPONSE TOOLS BY SMARTPHONE AT UNIVERSITY LEVEL

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Abstract

New technologies and Wi-Fi access on the part of the university community have favored the use of a variety of audience response tools (ART), of which smartphones are an example, based on the collection of responses through a connected device.

The present work has a double objective: (1) to study and evaluate the application of two free ARTs (namely Kahoot and Socrative) as tools that foster and encourage students' participation as well as facilitate learning, and (2) to know students' opinion about the functionality of these tools.

A study has been carried out at a Spanish public university, in two last year optional subjects of two different degrees: Degree in Advertising and Public Relations and Degree in Audiovisual Communication. A sample of 60 students from both degrees was selected; having the questions to them presented the same content in order to facilitate the comparison of these two tools, but using a different ART in each degree. The results obtained in this study encourage the use of these tools.

Keywords: Kahoot, Socrative, academic improvement, academic performance, student participation.

1 INTRODUCTION

1.1 e-Learning and m-Learning

Spanish university is mainly concerned with students' lack of motivation and participation, as well as the improvement of their learning process. One of the problems is the methodology used by some of the professors, which does not collect early feedback of the development of their module.

Internet, the development of wireless connections, smartphones, tablets and other technological devices, imply a change in learning contexts, setting new opportunities and challenges [1].

E-learning, is known as the teaching and learning process which uses electronic devices and/or other electronic means. Initially, this teaching methodology was mainly related to distance learning because of its link to the Web [2].

Raised by technological developments, both in devices and in wireless communications, the term e-learning has naturally turned into Mobile-learning (m-Learning) generating a huge interest in the scientific and educational community [3, 4, 5], where researchers highlight that m-learning allows students to realize an autonomous work [6] and to control their learning process [7], putting the rethinking of traditional teaching strategies out [8].

The term m-learning implies the use of technology as a tool inside and outside of the classroom, at any time and anywhere [9]. Previous studies corroborate the fact that the use of m-learning in classrooms may improve the learning process [10]. Mobile handsets may be used as a fundamental tool in classrooms [11], since they offer many possibilities for students, such as mass media and for self-employment or collaborative work [6].

On the other hand, the use of audience response tools (ART) are based on student's active learning through a mobile device. These tools allow students to participate, to be motivated, to communicate and self-employment or collaborative work. Some of them give the chance to use games in the classroom. This concept is known as gamification [12], making an everyday test a recreational and dynamic activity for students, through point strategies, apart from an immediate feedback.

There are different platforms which offer the chance of gamification, the most prominent being Kahoot and Socrative, since they are free and easy to use.
By introducing this type of technologic devices of gamification, through mobile devices available for most of the students, we can achieve more dynamic and entertaining lessons, interactive assessment of students’ performance and higher levels of participation among other results.

This work has a double purpose. On the one hand, audience response free tools (Socrative and Kahoot) are analysed as motivating tools, which promote student’s participation and facilitate learning. On the other hand, students’ opinion about the functionality of these tools is studied. Its application is realized in a module named Marketing in-store, taught in two different degrees, both optional courses at the final year of the degrees of Advertising and Public Relations (with 40 students) and Audiovisual Communication (with 20 students) of a public Spanish university.

1.2 ART: Audience response tools

Even if there is a wide variety of audience response tools (ART), based on the recollection of responses through internet, by means of connect device, mobile (smartphone, tablet, etc) or not (PC), in this study we our basis are two free ART: Socrative and Kahoot.

As it is shown in Table 1, both tools are free, without the students’ necessity of downloading the application in order to answer the questions or the professor in order to create them, having in both cases a double platform: one for students and the other for the professor. Student’s access to the questionnaire is realized by means of a code, which is always the same in the case of Socrative (created by the professor) and different in the case of Kahoot (it is the tool itself the one who gives you the code, which is always numeric, each time that the questionnaire is launched). In order to participate, students have to register at the very moment although identity may be hidden in Socrative.

In order to elaborate an activity, there is no a maximum of questions, but there it is for the answers in the case of Kahoot, since they have to be always 4.

The typology of the questions may be in the casa of Socrative of 3 types: multiple choice, true/false, short answer, without having limitation of digits. While in the case of Kahoot they can be only multiple choice questions, with the limit of 95 digits and 60 answers. In both cases a picture may be added, but in Kahoot also a video can be attached.

By launching the questionnaire in both cases the professor decides if students can answer taking their time or if they have to answer at the very moment in which the question is asked. In the case of Kahoot a response time may be established, while in the case of Socrative a quick answer may be asked. At the end of the session some questionnaires in order to verify (Socrative) what has been learnt during the class and to evaluate it (Kahoot) may be elaborated.

Answers’ feedback is immediate, with Socrative it will depend on the mode chosen by the professor, while with Kahoot there is a ranking with the first 5 participants, since apart from the correctness of the answer also the rapidity is valued.

Teams may be created randomly in the case of Socrative, but not voluntarily. This option exists in Kahoot, but only for 4 teams.

In both cases a report on the results of the session is generated, it indicates the names and the punctuation of each participant.

<table>
<thead>
<tr>
<th></th>
<th>Socrative <a href="http://www.socrative.com">www.socrative.com</a></th>
<th>Kahoot! <a href="http://www.getkahoot.com">www.getkahoot.com</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Free access</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Compulsory download of the application</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>Double platform: for the professor and students</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Access through code</td>
<td>ALWAYS THE SAME</td>
<td>CHANGING</td>
</tr>
<tr>
<td>Participants’ identity</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Participants’ anonymity</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>Indicates the number of participants</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Downloads tests on paper</td>
<td>YES</td>
<td>NO</td>
</tr>
</tbody>
</table>
Download a report with individual questions and answers | YES | YES
Limited number of questions | NO | NO
Response options | ILLIMITED | 4
Establishment of response time | NO | YES
Music | NO | YES
Digit limitation in the question | NO | YES
Different typology of questions | 3 | 1
Pictures | YES | YES
Videos | NO | YES
Immediate feedback | YES | YES
Professor may moderate the progress of questions | YES | YES
Random creation of teams | YES | NO
Creation of voluntary teams | NO | TILL 4
Facilitates the interaction with the professor immediately | YES | YES
Ranking based on hits/time | NO | YES

Source: own elaboration

2 METHODOLOGY

This study has been realized in a Spanish public university, in particular in the module of Marketing in-store, an elective subject in two different degrees: PU 0944 in Advertising and Public Relations with 40 students using and CA 0944, in the Audiovisual Communication Degree, with 17 students using Kahoot, having in both cases the same content, being in this way the comparison of the two ART easier.

During the first session an initial test in order to prove the students’ knowledge of the subject was realized, and then it was realized also during the last session (it was exactly the same test) in order for them to prove what they had learnt.

During the 6 sessions of theory, at the end of the explanation, the test was given to the students, verifying in that moment if the knowledge of the most relevant issues was consolidated or not, given the chance in case of wrong answers to receive an immediate feedback by the professor.

The last day of the module, a questionnaire on the satisfaction about this tool was given to the students.

The total assessment of both modules has been realized collectively, that is, all the students belonged to the same team, getting a group mark, and extraordinarily they could get up to one point more on the final mark, based on the average of results achieved through the ART, promoting in this way class attendance, attention, participation and motivation in sessions of theory.

3 RESULTS

Both subjects had the same questions, but the peculiarity was that in Kahoot there was a time limit for each of the questions (20 seconds), while in Socrative there was no time limit, so students could answer taking their time.

During the first session students realized an initial test on basic knowledge of the subject, getting in both cases an average result under 5 out of 10. In spite of that, during the last session students realized the same test and they got very positive results, being the one of subject which used Kahoot better, with 9 out of 10 points. (See Figs.1, 2).
Students could get up to an extra point of the total result, in accordance with the results obtained in each theory session (a total of 6) after realizing a test with the ART. It is important to highlight the fact that the final mark of the module has been a group mark, including ART results, so if some student missed some session, the average grade decreased considerably. It is because of this, and because of the time limit of Kahoot, that differences in results are observed. Therefore, with the ART Kahoot it has been obtained around 0.5 point on the average, while with Socrative around 0.8 points (see Figs 3 and 4).

This difference is observed also on the final mark of the subject, being Socrative around ¼ points more than Kahoot (see Fig.6), even though the mark, without taking into consideration the extra point, was better just because of some hundredths, in the subject that used Kahoot, the final result was in both cases more than satisfactory (see Fig.5), achieving the overcoming of both subjects by the 100% of students.
In relation to students’ opinion on the functionality of these tools, students of both subjects consider that it is an appropriate tool, even if among the students that have used Socrative, the 15% of them think it is indifferent (see Fig. 7).

Figure 7

Regarding the satisfaction about the ART related to the learning of the subject, around the 90% of students who used Kahoot are satisfied or highly satisfied, while in the case of Socrative the percentage is around 50% (see Fig. 8).

Figure 8

Finally, we would like to highlight the fact that more than 90% of students of both modules consider the activity developed by the ART useful for their future, being in the case of students who used Kahoot, the 100% (see Fig. 9).
2 CONCLUSIONS

We can assure through the results obtained, that the use of these tools motivates student’s class assistance and facilitates learning.

It is also remarkable the fact that students are highly satisfied by the use of these tools, especially because of their usefulness.

We can say that using both ART in classroom activities has a positive impact on the academic results of students.

Results also show that the use of both tools in classroom activities has an impact on professors since they help them to improve those competences that need the use of hardware and software resources and tools. Also, these tools are available for professors in order for them to be able to follow students’ learning in a structural way, making at the same time student’s assessment easy, as well as class assistance control.

The use of these interactive tools increases the participation of students and increase their attention during classroom activities, encouraging the assimilation of content and improving the students’ marks.

All the games that are generated, as well as their specific questions, are stored in the platform, being available for other professors in the future.

There are two kinds of limitations encountered, among others: those related with technology and those related with the methodology used in this research. Regarding technology, first of all, the high dependence of data network. Without an internet data network, the activities cannot be realized. Secondly, professor have to be familiarized with the devices used by students and being prepared, as well as trained, in the use of these resources in order to reduce problems in their application. In relation to methodology, firstly, this study was realized for an elective module with only 60 students, secondly, results were obtained by groups, not individually, so those results should not be extrapolated to other cases.

It would be interesting to examine the use of these ART in a compulsory module with more students, so findings would be more reliable and with individual results. However, it is unquestionable that ART improve students’ willingness to learn, so further studies about their influence on general learning and in particular at university should be carried out.

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REFERENCES


