

# GAMIFICATION: A PILOT STUDY ON KAHOOT AS AN ADDED TEACHING PLATFORM FOR MARKETING DEGREE STUDENTS

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## Abstract

Formative evaluation should be regarded as a step in the learning process because its major goal is to enhance students' understanding. Game-based learning has become more popular in education, and Kahoot is one of the game-based learning platforms being employed in educational institutions. This study investigated how undergraduate marketing programme students perceived Kahoot! as a formative assessment tool in a private higher education setting. A cross-sectional pilot study was conducted on third year degree students in a private higher education institution in Malaysia. The study used a 14-item survey questionnaire with 31 respondents out of 61 fully completed questionnaire. It was discovered that Kahoot is a potential formative assessment tool that is feasible, useful, and makes learning fun and pleasurable. It can be used to inspire students to learn. Students pursuing marketing degree also felt that Kahoot wasn't the best tool for demystifying difficult concepts.

**Keywords:** Formative; Kahoot; Gamification; Education

## 1. INTRODUCTION

A judgement on a learner's performance based on particular weighted specified goals is referred to as assessment (Maloy et al., 2016; Taras, 2005). Summative and formative assessments are the two different types of evaluation. Summative assessment is an evaluation that occurs after instruction and involves determining whether or not learning has actually occurred (Maloy et al., 2016; Taras, 2005). On the other hand, formative assessment refers to evaluation that offers feedback within the instructional process (Boston, 2002). The importance of formative assessment (assessment for learning) in academic settings is growing. The formative assessment should be viewed as a crucial component to aid the learning process in order to enhance students' understanding of subject matter (Boston, 2002). As a result, the formative feedback needs to be carefully planned in order to increase their comprehension of the material. The "Gamification" of education through game-based learning has grown in popularity (Caponetto et al., 2014; Boston, 2002; Jui-Mei et al., 2011; Burguillo, 2010).

Studies on the topic demonstrate that game-based learning is superior to conventional learning techniques in terms of effectiveness (Wong and Lieberoth, 2016). According to study, students who learn through game-based learning perform noticeably better than those who learn through conventional means (Jui-Mei et al., 2011; Burguillo, 2010). This is due to the fact that game-based learning can help students learn. Studies have also shown that game-based learning can increase students' motivation, encourages engagement with the subject matter, and provide useful feedback while they are learning (Wong and Lieberoth, 2016).

Kahoot is one of the newest game-based learning platforms being employed in educational institutions (Boston, 2002; Jui-Mei et al., 2011; Burguillo, 2010). A real-time, game-based

learning platform that is publicly accessible and popular throughout the world (Boston, 2002; Jui-Mei et al., 2011; Burguillo, 2010). It enables educators to design games-based tests, surveys, and other activities where participants compete with one another. The top responders to each question are made public, and at the conclusion of the Kahoot session, the overall winner(s) will be published (Wong and Lieberoth, 2016). The winners will be shown on the scoreboard after the game (Wong and Lieberoth, 2016).

The most important aspect of Kahoot is that the instructors can export and save the results, including the descriptive analysis data, for later use. Instructors must log in to the Kahoot website (<https://getkahoot.com>) in order to create a Kahoot game (Rischer, 2008; Wong and Lieberoth, 2016). The lecturer can design questions utilising Kahoot's features after selecting an option. Finally, they will be given a code that was generated automatically (Barton-Arwood et al., 2005; Wong and Lieberoth, 2016). Their students can access the game via a laptop or smartphone by using the Kahoot app or by visiting the website [www.kahoot.it](http://www.kahoot.it). The students must register their names and enter the code that appears on the screen. Once the Kahoot game begins, the students will score points for giving accurate answers and for responding quickly. Currently, Kahoot is utilised as an extra tool for formative evaluation during feedback sessions during the COVID pandemic. Students must engage in a Kahoot session during tutorial at particular times, usually three times for each course (short or long semester). There are at least 25 questions asked during each session. At the conclusion of the session, the winners of each Kahoot will be declared.

The purpose of this study is to investigate the perceived effectiveness of using Kahoot as a formative assessment tool in undergraduate marketing programme (Year three) in private higher education institution.

## **2. MATERIALS AND METHODS**

### **2.1 Research design and respondents**

A cross-sectional study was carried out on Year 3 Marketing degree students from a private higher education institution in Malaysia. The university uses three semesters per year, and its course requirements include midterm, assignment, and final exams. The department employs e-learning as a venue for formative feedback and includes two formative assessment sessions in each course.

### **2.2 Assessments and Measures**

The Kahoot survey tool was used for this investigation. As seen in Table 1, there are 14 items in total. Each item is rated by the participants on a 5-point Likert scale, with 1 representing "strongly disagree" and 5 representing "agree" (strongly agree).

Section B						
1	I look forward to playing Kahoot!	1	2	3	4	5
2	I find Kahoot! Interesting.	1	2	3	4	5
3	I find Kahoot! Fun.	1	2	3	4	5
4	I get annoyed when I can't connect to Kahoot!	1	2	3	4	5
5	I feel excited when playing Kahoot!	1	2	3	4	5
6	I enjoy playing Kahoot!	1	2	3	4	5
7	I feel positive when playing Kahoot!	1	2	3	4	5
8	I respond to each item or question in each Kahoot!	1	2	3	4	5
9	I respond as accurately as possible to each item or question in Kahoot! Session.	1	2	3	4	5
10	I like the competitiveness in Kahoot! sessions	1	2	3	4	5
11	I am motivated by the prospect of winning in the Kahoot! Session.	1	2	3	4	5
12	I pay more attention during lectures because I hope to win in the Kahoot! Sessions.	1	2	3	4	5
13	I am eager to learn via Kahoot!	1	2	3	4	5
14	Kahoot! Should be used in higher education.	1	2	3	4	5

### 2.3 Data Collection

The study's participants had 31 respondents in total. Following a formative assessment session, data was collected using a survey. The survey data was extracted from Google Docs and then imported into SPSS Version 23, where data analysis was carried out. On the demographic information, descriptive statistics were run, and a frequency distribution analysis and histogram were used to examine the association.

### 2.4 Data analysis

This study included 61 respondents in total, however only 31 of them completed the questionnaire completely. Male (51.6%) and female (48.4%) involvement was fairly evenly distributed between the sexes. All students enrolled in the marketing programme were included in the research, regardless of their ethnicity. The demographic profile of the respondents is shown in Tables 1 and 2.

**Table 1: Gender**

Gender					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	16	51.6	51.6	51.6
	Female	15	48.4	48.4	100.0
	Total	31	100.0	100.0	

**Table 2: Ethnic group**

		<b>Ethnic Group</b>			
		<b>Frequency</b>	<b>Percent</b>	<b>Valid Percent</b>	<b>Cumulative Percent</b>
Valid	Chinese	22	71.0	71.0	71.0
	Indian	1	3.2	3.2	74.2
	Other Malaysian	1	3.2	3.2	77.4
	African	4	12.9	12.9	90.3
	Middle East	1	3.2	3.2	93.5
	Asia/Others	2	6.5	6.5	100.0
	Total	31	100.0	100.0	

### 3. DISCUSSION

#### 3.1 Promotes engagement and motivation.

One of the well-known online learning platforms, Kahoot, was created to encourage students' involvement in their studies (Charles et al., 2011; Wong and Lieberoth, 2016). According to the majority of research, game-based learning has a favourable effect on students' motivation and engagement in their studies (Charles et al., 2011; Wong and Lieberoth, 2016). Compared to students that learn using traditional methods, it considerably fosters stronger student engagement in learning. One rationale is that game-based learning motivates and engages students to learn by giving them authority (Charles et al., 2011; Wong and Lieberoth, 2016).

Accordingly, this study discovered that students thought Kahoot formative assessment was an enjoyable and stimulating exercise for their learning, confirming the results of earlier studies. Additionally, Plump and LaRosa (2017) discovered that the majority of their students were active Kahoot users. They felt Kahoot had made learning more interesting, user-friendly, participatory, and helpful in helping them comprehend their subjects. This demonstrates that all five of Whitton's (2011) variables for determining student involvement in learning are present in Kahoot to some level. In other words, Kahoot inspires individuals to take on difficulties, enables them to control it, absorbs the activity, and piques their innate interest (Charles et al., 2011; Wong and Lieberoth, 2016). They also perceive the session as a valuable learning exercise. The pertinent data is shown in figures 1 through 3.

In terms of motivation, research have demonstrated that motivated students learn more effectively (Burguillo, 2010). Students' performance can be predicted by incentives, both internal and external (Papastergiou, 2009). Game-based learning is more efficient and capable of fostering motivating learning environments than traditional methods.

This study further supports the idea that students found Kahoot to be an enjoyable learning tool for formative evaluation. If the course is interesting, pleasurable, and fun, students will probably stay in it longer (Burke and Dunn, 2002). During a teaching session in a classroom, this can be implemented into Kahoot. This is shown in Figures 3 to 5.

Previous research demonstrated that, independent of sex, game-based learning was efficient and capable of fostering motivating learning environments (Erhel and Jamet, 2013). The results of this study were used by Kahoot to create concurrent information on motivation. The results are shown in Figures 7 to 9, and it is clear from them that Kahoot does not have a gender-dominated market.

### **3.2 Students' concentration**

Another significant finding was that Kahoot can help students concentrate better on their studies, which may be because it supports a variety of learning styles (Pachler and Daly, 2011; Pelet, 2003). Students are exposed to visual stimuli when they are reading the questions, including images that are presented on the main screen and images that are embedded within the questions (Pachler and Daly, 2011; Pelet, 2003). When it comes to auditory learning, Kahoot engages the auditory learners by introducing music into the games (Wang and Lieberoth, 2016). Kahoot also addresses kinaesthetic learners by requiring them to engage in some form of physical action, if only while selecting their answers (Pachler and Daly, 2011; Pelet, 2003). It is crucial to address different learning styles while teaching because doing so will result in much higher student accomplishment when done so (Burke and Dunn, 2002). This finding's details are shown in Figures 9 to 11.

### **3.3 Ability to explain complicated concepts.**

Students' main worry with Kahoot as a formative assessment tool was that it couldn't explain complicated concepts (Burguillo, 2010; Pachler and Daly, 2011; Pelet, 2003). This is most likely caused by two things: the nature of the subjects, and the teaching methods employed by the instructors (Pachler and Daly, 2011; Pelet, 2003). Students will experience high levels of intrinsic load from difficult courses, and high levels of external load from ineffective instructional practises, both of which will raise cognitive strain. Figures 11 to 14 positively portray the material even if some students have raised the objection that they are not appropriate for higher level degree programmes. This issue did not demonstrate any major difficulties because students were able to interact with Kahoot effectively.

## **4. CONCLUSION**

In order to increase student engagement and motivation, technology is becoming a bigger aspect of classroom instruction. Particularly game-based student response systems can increase student engagement, motivation, attentiveness and concentrations, which will ultimately enhance their learning (Pachler and Daly, 2011; Pelet, 2003).

With the structured questionnaire the analysis on the extent of Kahoot! Contribution for greater engagement and enhancing learning experience was effectively presented. The third-year students have gained some exposure from the study based on how students responded to the results of using Kahoot! In the marketing programme subject.

The study explored students' views about Kahoot!'s influence on classroom dynamics, motivation and the learning process. Overall findings reveal that the deployment of Kahoot! Enriches the preference and quality of student learning in the classroom, with the highest influence reported on (I am motivated by the prospect of winning in the Kahoot! session, I pay more attention during lectures because I hope to win in the Kahoot! sessions). These relates to the finding of classroom dynamics, engagement, motivation and improved learning experience. The study to a certain extend is able to provide input that the use of games in the classroom can largely minimise distracting classroom behaviours and activities, and improve the quality of teaching and learning beyond what is provided in conventional classrooms.

However, this study needs to be further examined in terms of research involving a sizable student population and practical application, such as for topics including strategy and models with real-world business examples.

Students' main issue with adopting Kahoot as a tool for formative assessment was that it couldn't simplify difficult concepts and themes like strategy and practical application. This is most likely because year three subjects focus more on application using models. This can make the students feel less motivated and raise their cognitive burden. Further, students' biggest concern was that it couldn't adequately explain difficult ideas. High levels of intrinsic load from challenging courses and high levels of external load from inefficient teaching methods will put a strain on students' cognitive abilities.

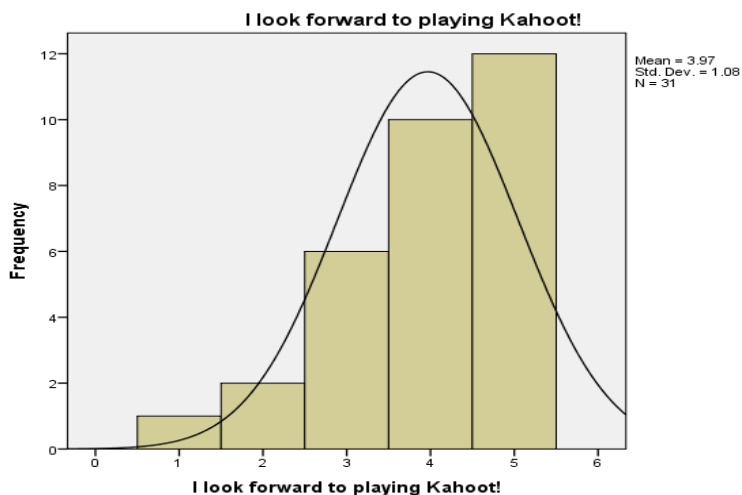
Despite the fact that some students have objected that the Kahoot! Are inappropriate for higher level degree programmes, figures and tables 11 to 14 portray the topic in a positive light. Since students were able to effectively interact with Kahoot, this issue did not show any significant difficulties. Kahoot is a cutting-edge formative assessment application that may be used to make learning interesting and fun and so inspire students to study. Kahoot is a suggested alternative formative assessment tool for marketing degree programmes to support students' learning. This is in line with the preferences of the present generation, which favours online learning and adaptation.

## Tables and Figures

**Table 1: I look forward to playing Kahoot**

		Frequency	Percent
Valid	Strongly disagree	1	3.2
	Disagree	2	6.5
	Neither	6	19.4
	Agree	10	32.3
	Strongly agree	12	38.7
	Total	31	100.0

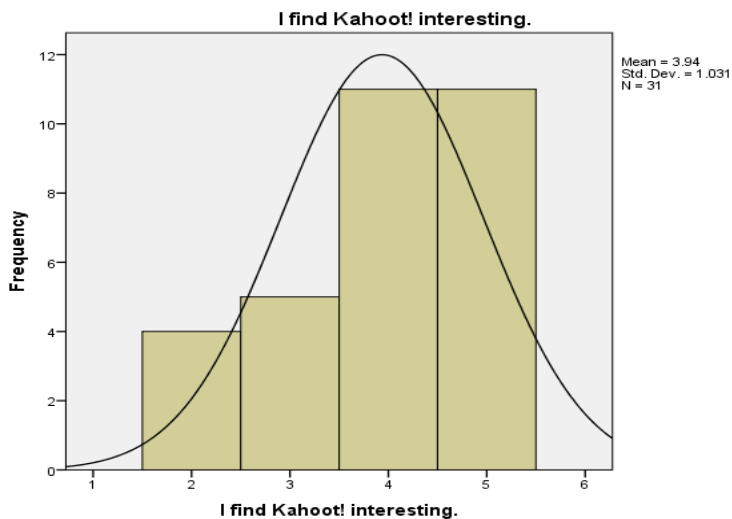
**Figure 1**



**Table 2: I find Kahoot! Interesting**

		Frequency	Percent
Valid	Disagree	4	12.9
	Neither	5	16.1
	Agree	11	35.5
	Strongly agree	11	35.5
	Total	31	100.0

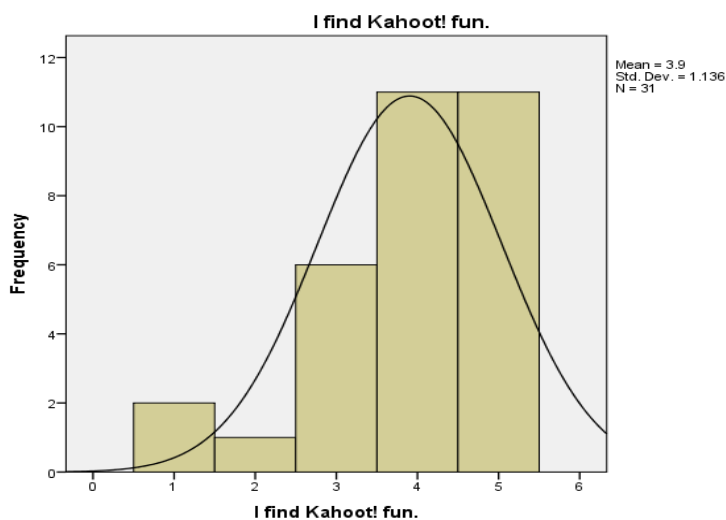
**Figure 2**



**Table 3: I find Kahoot! Fun**

		Frequency	Percent
Valid	Strongly disagree	2	6.5
	Disagree	1	3.2
	Neither	6	19.4
	Agree	11	35.5
	Strongly agree	11	35.5
	Total	31	100.0

**Figure 3**

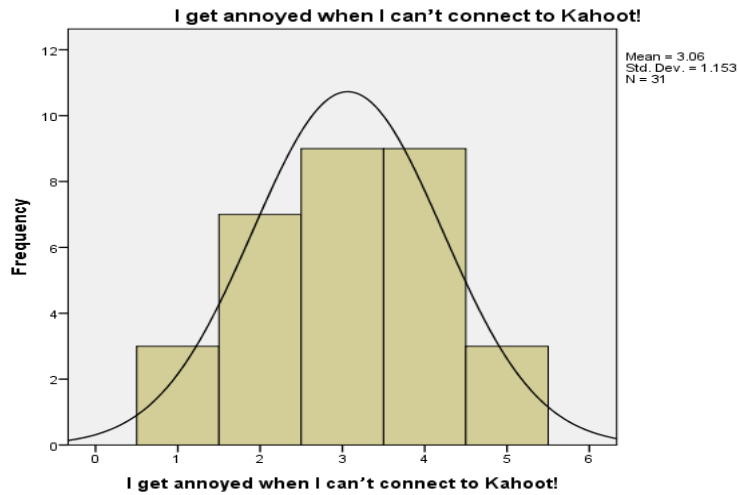


**Table 4: I get annoyed when I can't connect to Kahoot!**

		Frequency	Percent
Valid	Strongly disagree	3	9.7
	Disagree	7	22.6
	Neither	9	29.0
	Agree	9	29.0
	Strongly agree	3	9.7
	Total	31	100.0



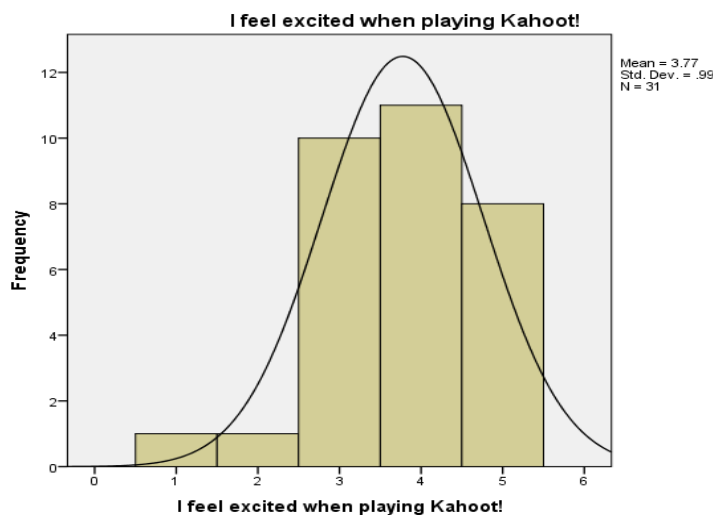
**Figure 4**



**Table 5: I feel excited when playing Kahoot!**

		Frequency	Percent
Valid	Strongly disagree	1	3.2
	Disagree	1	3.2
	Neither	10	32.3
	Agree	11	35.5
	Strongly agree	8	25.8
Total		31	100.0

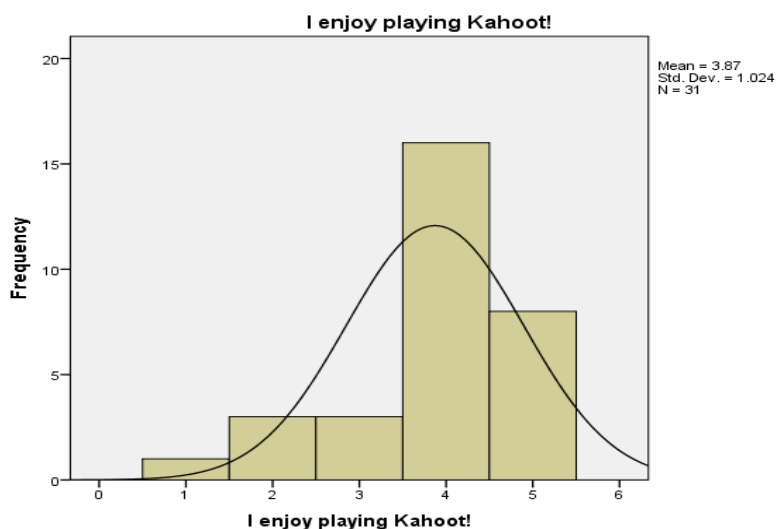
**Figure 5**



**Table 6: I enjoy playing Kahoot!**

		Frequency	Percent
Valid	Strongly disagree	1	3.2
	Disagree	3	9.7
	Neither	3	9.7
	Agree	16	51.6
	Strongly agree	8	25.8
	Total	31	100.0

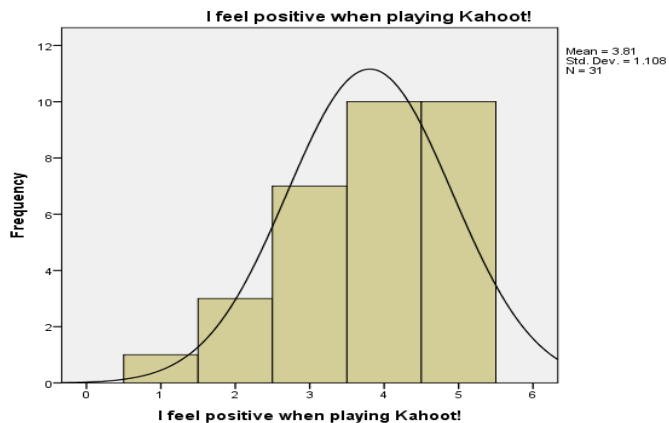
**Figure 6**



**Table 7: I feel positive when playing Kahoot!**

		Frequency	Percent
Valid	Strongly disagree	1	3.2
	Disagree	3	9.7
	Neither	7	22.6
	Agree	10	32.3
	Strongly agree	10	32.3
	Total	31	100.0

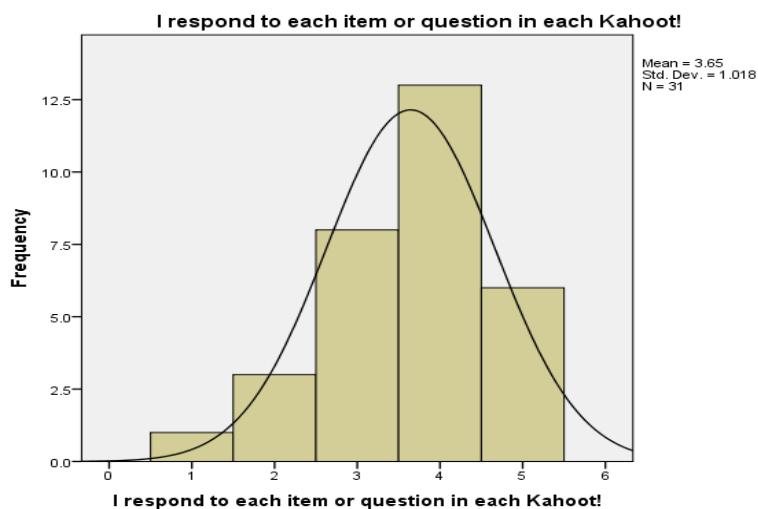
**Figure 7**



**Table 8: I respond to each item or question in each Kahoot!**

		Frequency	Percent
Valid	Strongly disagree	1	3.2
	Disagree	3	9.7
	Neither	8	25.8
	Agree	13	41.9
	Strongly agree	6	19.4
	Total	31	100.0

**Figure 8**

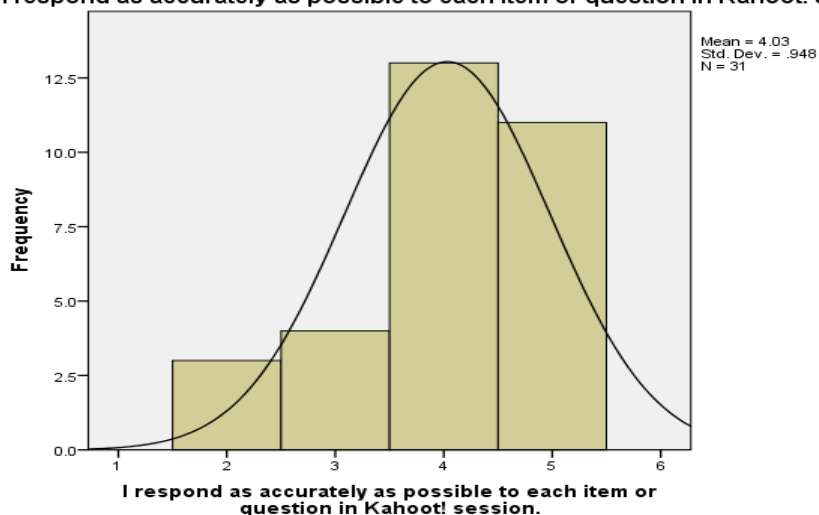


**Table 9: I respond as accurately as possible to each item or question in Kahoot! Session**

		Frequency	Percent
Valid	Disagree	3	9.7
	Neither	4	12.9
	Agree	13	41.9
	Strongly agree	11	35.5
	Total	31	100.0

**Figure 9**

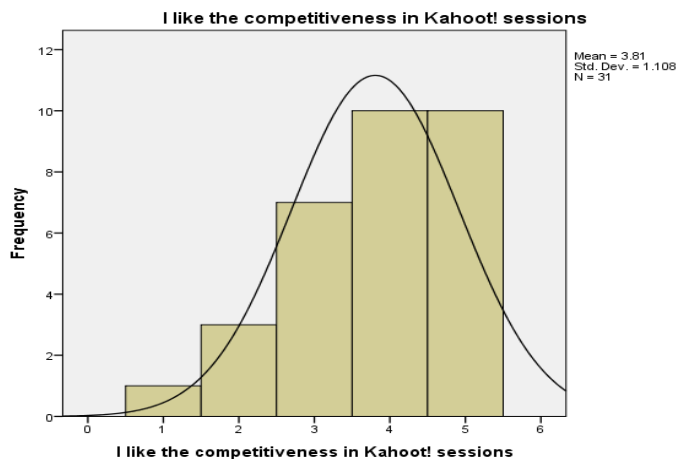
I respond as accurately as possible to each item or question in Kahoot! session.



**Table 10: I like the competitiveness in Kahoot! Sessions**

		Frequency	Percent
Valid	Strongly disagree	1	3.2
	Disagree	3	9.7
	Neither	7	22.6
	Agree	10	32.3
	Strongly agree	10	32.3
	Total	31	100.0

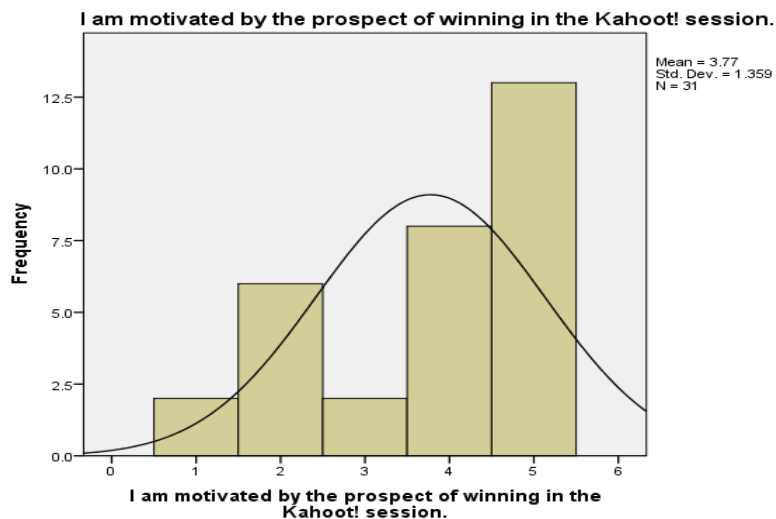
**Figure 10**



**Table 11: I am motivated by the prospect of winning in the Kahoot! Session**

		Frequency	Percent
Valid	Strongly disagree	2	6.5
	Disagree	6	19.4
	Neither	2	6.5
	Agree	8	25.8
	Strongly agree	13	41.9
	Total	31	100.0

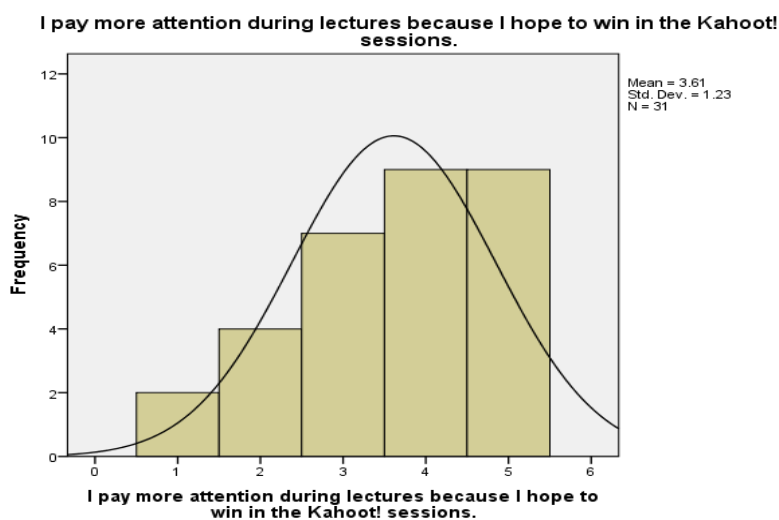
**Figure 11**



**Table 12: I pay more attention during lectures because I hope to win in the Kahoot! Sessions**

		Frequency	Percent
Valid	Strongly disagree	2	6.5
	Disagree	4	12.9
	Neither	7	22.6
	Agree	9	29.0
	Strongly agree	9	29.0
	Total	31	100.0

**Figure 12**



**Table 13: I am eager to learn via Kahoot!**

		Frequency	Percent
Valid	Strongly disagree	1	3.2
	Disagree	5	16.1
	Neither	7	22.6
	Agree	13	41.9
	Strongly agree	5	16.1
	Total	31	100.0

Figure 13

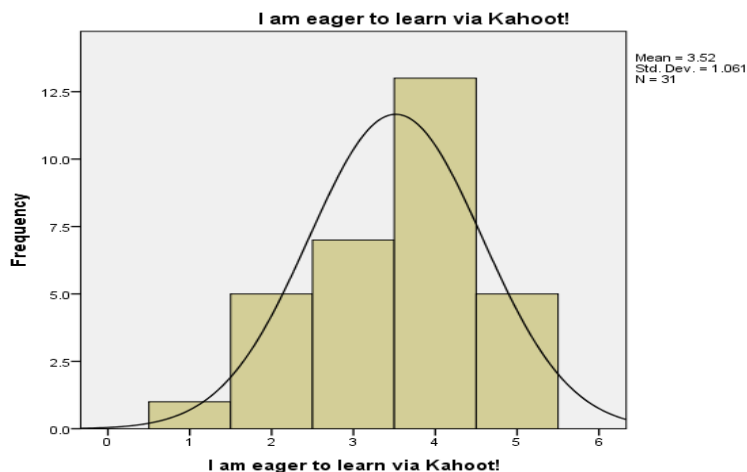
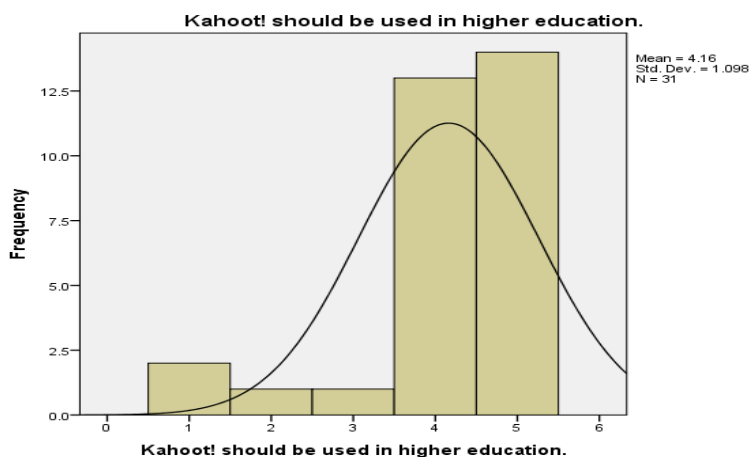


Table 14: Kahoot! Should be used in higher education

		Frequency	Percent
Valid	Strongly disagree	2	6.5
	Disagree	1	3.2
	Neither	1	3.2
	Agree	13	41.9
	Strongly agree	14	45.2
	Total	31	100.0

Figure 14



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### Conflict of interest

The authors report no conflict of interest.

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