

Perceptions of Diploma in Digital Technology (DDT) Students, Information Technology & Communication Department, Polytechnic Muadzam Shah, Pahang for Kahoot's Applications in Teaching and Learning

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ABSTRACT

Nowadays, technologies have increasingly used and applied in the educational context, not only because they facilitate communication and access to information, but also because of their motivational potential. To support that, game-based learning through digital tools such as Kahoot's application as one of the tool can be used which combines game dynamics with the potential of monitoring student learning. In this sense, one surveyed to the 65 students of Diploma in Digital Technology (DDT) for both track (Software and Network), Information Technology & Communication Department, Polytechnic Muadzam Shah (PMS), Pahang had been conducted using Google Forms technology in order to collect data and to analyse the student's perceptions on the use of the game-based learning platform name Kahoot. The finding shows that majority of the respondents strongly agreed with the used of Kahoot's application as one of the learning approach with the overall mean scored value (4.73). This shows that inclusion of a gamification method increased the interest of students in the class and increased student ambitions for success. This method was also would possibly enhance their learning experience as well as their engagement and collaboration in class. The research reveals that students are generally positive about its use, and prefer courses that use the technology over those that do not.

Key Words: game-based, Kahoot's application, motivation, perception, learning experience.

1. INTRODUCTION

At the 21st century, interactive learning approaches are important in attracting student's interest in understanding the subject taught by lecturers. It is supported by Bennett, Agostinho and Lockyer (2015) stating that effective learning is fun learning where the implications of learning fun are when students are more interested in learning. According to Kivunja (2014), students of this digital generation are more interested in learning fun using computer applications than conventional ways. This is supported by a study conducted by Deterding (2011) stating that among the ideal approaches used by teachers as a testing tool in this century is game-based learning.

Therefore, one of the method that can be use as interactive learning approaches is Kahoot's application. Based on Harlina, Zubaidah and Ainee Ahmad (2017) statement, the Kahoot's application is an interactive learning that emphasizes pedagogy involving the relationship between active thinking of students and the content of lessons that emphasize the attention, retention and purpose of the study students. Kahoot's application have game features like score, reward and interaction creating an active and more enjoyable learning. The Kahoot's application also uses a combination of interesting and easy-to-use multimedia elements. In the Kahoot's application, each correctly answered will be score and at the end of the game, the best scores will be display. This approach also provides instant feedback that students can independently use new knowledge to solve problems and they have more options related to assignments or topics.

Therefore, this study is conducted to examine the perception of Diploma in Digital Technology (DDT) students, Information Technology & Communication Department, Polytechnic Muadzam Shah (PMS) on the Kahoot's application as one of the student achievement testing tools.

1.1. Problem Statement

The preliminary studies to identifying the factors to the problems of students who are less or not focusing in the class for students of DDT, Information and Communication Technology Department, Polytechnic Muadzam Shah conducted by Rosilawati Mohamad, Rosuzaini Isa and Fatimah Zahra Wan Razali (2019) had been done. The findings shows that majority of the students agreed that lecturers play an important role (main factors) in attracting students to focus more in the classroom in order to improve the student's achievement in academic.

Based on the issue, it is found that students generally have less understanding of the topics taught will lead them to less focus and interest in the classroom. According to Fazlina and Aniza Suriati (2017), students are less interested when the courses taught are theories and less challenging. Therefore, all the lecturers need to create a teaching and learning environment that can attract student's interest by diversifying teaching and learning approaches in tandem with the latest technology developments to meet today's student learning styles.

Therefore, interactive teaching and learning approaches should be carried out to help to improve the student performance on the topics learned. With that, the Kahoot's application has been chosen by a number of lecturers in an effort to attract students to be fully focused during the learning and teaching process. This is because, according to Rafiza (2013), interactive learning approaches are very helpful in enhancing students' understanding and interest in the classroom. With these needs and interests, this research is seen as a way of looking at the perceptions and success of teaching approaches through interactive teaching based on Kahoot's application to students who take the DDT program for both track (Software and Network) at the Department of Information & Communication Technology, PMS.

1.2. Research Objective

The objectives of this study are:

- i. Identify the level of student achievement on the effectiveness of interactive learning using Kahoot's application on topics taught by lecturers.
- ii. View student's perceptions of interactive learning using Kahoot's application in improving student's understanding of topics taught by lecturers.

1.3. Research Questions

The questions to be discussed in this study are as follows:

- i. How much is the student's understanding level against the use of Kahoot's application.
- ii. How much is the student's acceptance level against the use of the Kahoot's application.
- iii. How much is the level of satisfaction of students against the use of the Kahoot's application.

1.4. Importance of Research

The purpose of this study is to examine the student's perceptions on the effectiveness of interactive teaching and learning approaches through Kahoot's application in assessing the level of student achievement of all the topics studied. Also to see the level of acceptance and satisfaction of students in helping to improve the student self-confidence and to increase student's understanding and interest in learning a course.

2. RESEARCH METHODOLOGY

2.1. Kahoot Implementation: Online Gaming Quiz

Below is a description of how lecturers can get it, use and handle the online gaming quiz using Kahoot's application in the classroom session.

How to play Kahoot in the classroom?

1. Questions are developed on the **Kahoot.it** portal.
2. Lecturer logs into his/her Kahoot account on the computer connected to the projector in a way that the entire classroom can see.
3. After that, lecturer presses the **play** button and waiting for the students to enter the pin number and their “nicknames” to participate in the game quiz using all devices (tablet, mobile phone and computer) that have access to the internet connection.
4. The interactive game quiz started when the lecturer clicked on **Launch** and **Start Now** button with requiring students to answer the questions already built.
5. The question are shown with four different shapes in four different colors on the students devices representing multiple choice questions with the time limit set by lecturer. The order of each questions and answers are randomly shuffle.
6. The feedback for question answered by students will be displayed by indicates the number of students who choose the correct and incorrect answer. Therefore, students could see whether they answered the question correctly or incorrectly, also see their scores and their position in the ranking.
7. First five players were shown on the scoreboard respectively when lecturer clicked on **Next** button. The faster the question is answered, the higher scored are obtained.
8. Lecturer must click on **Next** button to move on the next questions. The name of the winner students are seen on the board in a big font and this motivates the students more once they done answered all the questions.
9. At the end, all the feedback obtained from all the answers will show simultaneously on the board.
10. Lecturer can download this scoreboard to his/her own computer to save the result.

2.2. Research Instrument: Online Survey

In this study, online survey created using Google Forms technology has been done. Respondents consist of 65 students from program DDT for both track (Software and Network), Department of Information Technology and Communication, PMS. Respondents were selected from the various semesters (semester 1 until 5). The type of interval scale chosen in studying respondent is Likert-scale based. The Likert-scale based illustrates the level of agreement or disagreement of the respondents to the given questions (Carl McDaniel; Roger Gates, 2013: 315). The Likert-scale based also was chosen because it easy to understand by the respondents (Carl McDaniel; Roger Gates, 2013: 307). The number representation in the questionnaire is also more interesting and easier to fill out by the respondents (Prof. Dr. Sugiyono, 2009: 96).

The questionnaire was created to examine student’s perceptions about the use of Kahoot’s application across the course and how technology affects student’s understanding, student’s acceptance against Kahoot and satisfaction of Kahoot’s use. There are 23 items of questions being distributed to the students by shared the link of questionnaire through the WhatsApp application at the end of the course for their evaluations.

2.3. Data Collection and Measures

Data collected from the questionnaire was process quantitatively divided into three (3) categories; understanding of Kahoot’s application, acceptance of Kahoot’s application and satisfaction of Kahoot’s application use. The data collected clearly shows that most of the respondents choose to answer with scale 5 (Strongly Agree) for each items as presented in Table 1, Table 2 and Table 3 below.

1) Understanding of Kahoot's Application

Table 1 Data Collection for Understanding of Kahoot's Application

Item	Likert Scale				
	1	2	3	4	5
1 I used to use the Kahoot's application before this in the classroom.	3	0	5	13	44
2 I feel the used of Kahoot's application in the classroom helps improve my learning experience towards course.	2	0	5	22	36
3 Kahoot's application helps improve my knowledge and English language skills.	2	1	9	27	26
4 Kahoot's application is accessible easily by using smartphones only.	1	1	9	18	36
5 Slow internet connection reduces my eagerness to play the game using Kahoot's application.	0	7	16	20	22
6 The fact that the game using Kahoot's application does/do not use the real name makes me ready to join more.	4	5	17	19	20

2) Acceptance of Kahoot's Application

Table 2 Data Collection for Acceptance of Kahoot's Application

Item	Likert Scale				
	1	2	3	4	5
1 Kahoot's application is fun.	2	1	3	15	44
2 Kahoot's application makes the classroom more relaxed.	2	0	4	13	46
3 I could focus more during the games than normal lectures.	1	2	10	17	35
4 I become more understanding the topics taught by the lecturers after playing the games.	0	3	10	19	33
5 I remember the information/knowledge taught by lecturers better compared to traditional lessons.	1	3	16	24	21
6 I liked getting feedback after each question is answer.	0	3	5	25	32
7 Even though I do not understand the topics, I was comfortable participate.	1	2	3	26	33
8 I often compared my answers with classmate's answers.	3	2	7	25	28
9 I spent time explaining the answers to my team and my class if they did not understand.	1	4	22	27	11
10 I feel the use of Kahoot's application in the lesson more effectively.	3	0	7	22	33
11 I will use Kahoot's application for learning or other purposes (e.g. my after-class clubs) in the future.	1	1	16	15	32

3) Satisfaction of Kahoot's Application Use

Table 3 Data Collection for Satisfaction of Kahoot's Application

Item	Likert Scale				
	1	2	3	4	5
1 Kahoot's application encourages the spirit to exchange knowledge, information and experiences with classmates.	1	2	10	23	29
2 Kahoot's application focuses more on teamwork rather than individual work.	1	4	15	29	16
3 Kahoot's application encourages team spirit.	1	3	16	26	19
4 Kahoot's application enhances communication with classmates.	0	3	8	25	29
5 I often played as an observer, not a player.	17	14	19	7	8
6 I hope Kahoot's application is use by other lecturers.	2	0	7	17	39

3. DATA ANALYSIS AND RESULT

The collected data were analyzed also divided into three (3) categories in the form of mean score. The mean score of the item is uses the mean score interpretation submitted by Mohamad Najib Abdul Ghafar (2003) as in Table 4.

Table 4 Mean Score Interpreter

Mean Score Range	Mean Score Interpreter
1.00 – 1.50	Strongly Disagree
1.51 – 2.50	Disagree
2.51 – 3.50	Neutral
3.51 – 4.50	Agree
4.51 – 5.00	Strongly Agree

1) Understanding of Kahoot's Application

Data analysis findings as in Table 5 below shows the overall mean score for the category of understanding on Kahoot's application is at the agreed level (4.15). The highest mean value is scored by Item 1: "I used Kahoot's application before this in the classroom" (Mean = 4.46), followed by Item 2: "I feel the used of Kahoot's application in the classroom helps improve my learning experience towards course" (Mean = 4.38). While, the lowest mean value scored by Item 6: "The fact that the game uses Kahoot's application does/do not use the real name makes me ready to join more" (Mean = 3.71). This shows that most of the DDT students choose to agree on the study data to identify the student's understanding of the Kahoot's application on topics taught by lecturers.

Table 5 Mean Score for Understanding of Kahoot's Application

No	Item	Mean Score	Standard Deviation	Mean Score Interpreter
1	I ever used Kahoot's application before this in the classroom.	4.46	0.98	Agree
2	I feel the used of Kahoot's application in the classroom helps improve my learning experience towards course.	4.38	0.88	Agree
3	Kahoot's application helps improve my knowledge and English language skills.	4.14	0.93	Agree
4	Kahoot's application is accessible easily by using smartphones only.	4.34	0.89	Agree
5	Slow internet connection reduces my eagerness to play the game using Kahoot's application.	3.88	1.01	Agree
6	The fact that the game using Kahoot's application does/do not use the real name makes me ready to join more.	3.71	1.18	Agree
Average Mean Score		4.15		Agree

2) Acceptance of Kahoot's Application

Data analysis findings as in Table 6 shows the overall mean score for the category of acceptance on Kahoot's application is at the agreed level (4.22). The highest mean value is scored by Item 2: "Kahoot's application makes the classroom more relaxed" (Mean = 4.55), followed by Item 1: "Kahoot's application is fun" (Mean = 4.51). While, the lowest mean value scored by Item 9: "I spent time explaining the answers to my team and my class if they did not understand" (Mean = 3.66). This shows that most of the DDT students choose to agree on the study data to identify the students' acceptance of the Kahoot's application in improving student's understanding of topics taught by lecturers.

Table 6 Mean Score for Acceptance of Kahoot's Application

No	Item	Mean Score	Standard Deviation	Min Score Interpreter
1	Kahoot's application is fun.	4.51	0.91	Strongly Agree
2	Kahoot's application makes the classroom more relaxed.	4.55	0.87	Strongly Agree
3	I could focus more during the games than normal lectures.	4.28	0.95	Agree
4	I am more understanding of a topic taught by the lecturers after playing the games.	4.26	0.89	Agree
5	I remember the information/knowledge taught by lecturers better compared to traditional lessons.	3.94	0.96	Agree

No	Item	Mean Score	Standard Deviation	Min Score Interpreter
6	I liked getting feedback after each question is answer	4.32	0.81	Agree
7	Even though I do not understand the topics, I was comfortable participate.	4.35	0.84	Agree
8	I often compared my answers with classmates' answers.	4.12	1.04	Agree
9	I spent time explaining the answers to my team and my class if they did not understand.	3.66	0.88	Agree
10	I feel the use of Kahoot's application in the lesson more effectively.	4.26	0.99	Agree
11	I will use Kahoot's application for learning or other purposes (e.g. my after-class clubs) in the future.	4.17	0.96	Agree
Average Mean Score			4.22	Agree

3) Satisfaction of Kahoot's Application Use

Data analysis findings as in Table 7 shows the overall mean score for the category of satisfaction on Kahoot's application use is at the agreed level (3.86). The highest mean value is scored by Item 6: "I hope Kahoot's application is use by other lecturers" (Mean = 4.40), followed by Item 4: "Kahoot's application enhances communication with classmates" (Mean = 4.23). While, the lowest mean value scored by Item 5: "I often played as an observer, not a player" (Mean = 2.62). However, for Item 5: "I often played as an observer, not a player", most of the respondents is at the neutral level with the mean value scored (Mean = 2.62) which means respondents are most likely to actively involved in the online quiz gaming conducted by their lecturer. This shows that most of the DDT students choose to agree on the study data to identify the student's satisfaction of the Kahoot's application use that would enhance their learning experience as well as their engagement and collaboration in classroom.

Table 7 Mean Score for Satisfaction of Kahoot's Application Use

No	Item	Mean Score	Standard Deviation	Mean Score Interpreter
1	Kahoot's application encourages the spirit to exchange knowledge, information and experiences with classmates.	4.18	0.92	Agree
2	Kahoot's application focuses more on teamwork rather than individual work.	3.85	0.92	Agree
3	Kahoot's application encourages team spirit.	3.91	0.93	Agree
4	Kahoot's application enhances communication with classmates.	4.23	0.84	Agree
5	I often played as an observer, not a player.	2.62	1.29	Neutral
6	I hope Kahoot's application is use by other lecturers.	4.40	0.92	Agree
Average Mean Score			3.86	Agree

4. DISCUSSION AND CONCLUSION

The finding shows that majority of the students or respondents strongly agreed with the used of Kahoot's application as one of the learning approach. The overall mean scored value of these study is (4.73). And the highest rate is achieved on the acceptance of students against the Kahoot's application with mean scored value (4.22).

This shows that students feel using Kahoot's application as one of the interactive learning techniques can help to improve their understanding of the topics taught by the lecturers. This approach also can help to improve student's learning performance. This is because, students can interact actively with their classmates and lecturers during the learning process in a classroom. This approach also allows students to think critically about the topics discussed and help them to understand the technique of choosing the alternative answers for quiz.

Therefore, lecturers nowadays should always be ready to explore and apply the different interactive learning approaches in tandem with the latest technology developments to meet the needs of students in this digital generation. According to Atan (1993), the teaching style used in the teaching and learning process learning has a great impact on student's interest and understanding on subject

taught. When approaching information is more attractive, students can remember the information delivered easily and can be recorded into long-term memory (Noraini, 2003). Hopefully, by applying Kahoot's application as one of the interactive learning approach will produce an excellent, glorious and distinguished graduates in the future.

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