GAME-BASED LEARNING: TEACHERS' ATTITUDE AND INTENTION TO USE QUIZIZZ IN THE LEARNING PROCESS

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ABSTRACT

The use of technology in educational settings has many influences, such as ease of information access, teachers work efficiency and increasing student motivation. Quizizz is one of the game-based learning assessment tools that have many benefits, not only make it easy to monitor students' understanding, but also enhance student engagement. Teachers, as the main element in the learning process, are required to increase their capacity to keep up with technological developments. The purpose of this study is to investigate the teachers' attitude and intention to use Quizizz as an online game-based learning platform in the learning process. This study used an action research method. Thirty-two high school teachers in Malang were selected as target groups for this study. The teachers were given training related to the use of Quizizz in the learning process. At the end of the project, they were asked to make their own test using Quizizz. The data were collected using close-ended questionnaires to determine the teachers' attitudes and intentions to use Quizizz. The data were analyzed using descriptive analysis. Most teachers answered that the training provided was beneficial. Findings of the study also show that teachers' attitude towards Quizizz was positive, and they intended to use Quizizz in the learning process in the future. Intention to use Quizizz is also related to the age of the teacher. The older the teacher, the lower the intention to use Quizizz.

1. INTRODUCTION

The role of the teacher is seen as the most critical factor determining the quality and effectiveness of education (Kovacs, 2017). The teacher is a source of knowledge as well as a facilitator in the learning process of students. The capacity of the teacher to perform connects and reflects automatically on student learning (Hattie & Yates, 2014). Today, teachers need to be quicker than ever to acquire new knowledge and skills to deliver effective teaching (Darling-Hammond, 2015). Therefore, teacher learning is no longer an option, but some moral duty that comes with the profession (Kwo, 2010). Teachers need to understand how to work with technology and information and how to use it to motivate students. Teachers are also required to renew their teaching methods by utilizing technological developments.

One method of teaching that can be taken in order to increase students' engagement is game-based learning (Correia & Santos, 2017; Licorish, Owen, Daniel, & George, 2018; Plump & LaRosa, 2017). Game-based learning is a teaching strategy involving digital media applications

that involve established learning outcomes and a trend in e-learning (Prensky, 2001). The rationale supporting the use of game-based learning is that today's students ' thinking patterns have shifted as they are native speakers and consumers of digital multi-media applications. In addition, young people experience innovative forms of computer and game play, and the ongoing experience of these new forms of entertainment has an impact on their attitudes, cognitive skills, and learning preference. In short, game-based learning is about enhancing the impacts of digital games in order to engage students in learning (Wu, 2015).

There are many game-based learning tools or websites available that teachers can create or administer quizzes during the class. Kahoot, Socrative, Verso, Polldaddy, Classmaker, Quizizz, etc are some examples of such tools. Kahoot is the most well-known game-based learning platform used in Indonesia. It has been used in many institutions such as in school and industrial setting. The teacher provides a code of the game and students can join the game by using the code. When playing Kahoot, the teacher has to connect to the internet and launch Kahoot in a web browser on the laptop. Kahoot is designed to display multiple-choice questions on a large screen, and students click the same colour and symbol as the answer using their devices. The students get individual feedbacks in terms of correctness, the ranking, the number of points, and the correct answer if the answer is wrong. Kahoot provides competitive and playful quiz using a combination of graphical user interface as well as music and sounds. At the end of the session, the nickname of the winner will be displayed on the large screen.

Quizizz is similar to Kahoot, but Quizizz takes a different approach. No large screen is needed because all of the question and answer are provided on the students' device. The question and answer are ordered randomly, so it is difficult for students to cheat. Quizizz is player-paced; students do not have to wait for all of the students in the class to answer a question before they continue to the next one. It is different from Kahoot, which the pace is determined by the teacher. Quizizz shows real-time rank and progress for each player as well as the total number of questions that have been answered correctly and incorrectly. Other option, Quizizz can be assigned as homework. The previous study found that using Quizizz in the classroom supports learning and increases student engagement, enjoyment, concentration, and motivation (Chaiyo & Nokham, 2017).

Kahoot and Quizizz are an example of game-based learning assessment tools. Using this kind of platform has many benefits. Game-based learning through digital tools combines game dynamics with the potential of monitoring student learning (Correia & Santos, 2017). Previous study found that Game-based learning platform such as Kahoot and Quizizz can increase students' motivation and improved learning experience (Licorish et al., 2018). Another study found that these kinds of platform can easily be used to increase student engagement, add vitality, and meta-cognitive supports high school students with a limited instructor or student training required. Furthermore, most studies found that students' perception and attitude toward game-based learning platform such as Kahoot and Quizizz are positive (Bicen & Kocakoyun, 2018; Chaiyo & Nokham, 2017; Licorish et al., 2018).

Most previous studies only focus on the students' perception on the online game-based learning platform. Only a few studies have examined the use of game-based learning from the teacher's perspective. Study from Mozelius, Hernandez, Sällström, & Hellerstedt (2017) found that teacher attitude toward game-based learning is positive. Although the teacher's view of game-based learning is positive, the implementation of game-based learning is still limited, and it needs a serious study of how to create it more accessible and useful for teachers (Razak, Connolly, & Hainey, 2012). In fact, teachers are now more preoccupied with administrative tasks, so self-development using technology is still rarely done. The teaching method used by teachers is also conventional by only relying on textbooks and paper and pencil tests. In fact, the use of an online game-based learning platform is straightforward, and even its use can help teachers provide evaluations to students more easily, efficiently, and fun.

Based on the situation above, the purpose of this study is to investigate the teachers' attitude and intention to use Quizizz as an online game-based learning platform in the learning process. This study uses an action research approach, beginning with the introduction and training in using

Quizizz to high school teachers. The selection of high school teachers is based on the assumption that high school students are familiar with internet usage. By knowing the attitudes and intentions of teachers to use Quizizz, future interventions can be carried out in order to make the learning process more effective and efficient.

2. METHOD

2.1. Participants

The participants of the study were 32 senior high school teachers in Malang as target groups for intervention. There were 13 male teachers (40,6%) and 19 female teachers (59,6%). The participants' age ranged from 22 to 59 years old with an average of 41,18 years and standard deviation of 12,11. All participants participated voluntarily in the one-day training of game-based learning. This training aims to give a tutorial about how to operate Quizizz as an online game-based learning platform. The participants also filling out the questionnaire before and after the training.

2.2. Instruments

There are two instruments used in this study, that is an attitude toward Quizizz scale and intention to use Quizizz scale. Both of the instruments are developed by us as a research team. The attitude toward Quizizz scale contains 8 items and the intention to use Quizizz scale contains 4 items. Each item in both scales is rated on a 5-point Likert scale, ranging from strongly disagree to strongly agree. The Alpha reliability coefficient of attitude toward Quizizz scale is 0,92 with corrected item-total correlation ranging from 0,614 to 0,821. The Alpha reliability coefficient of intention to use Quizizz scale is 0,849 with corrected item-total correlation ranging from 0,627 to 0,829.

2.3 Procedures

This study used an action research method. There are four stages of the study, that is planning, action, observation, and reflection. The process of our research is shown in figure 1. In the planning stage, we identified the problem related to the use of game-based learning platform in the school using qualitative question. In the action stage, we conducted an action needed to cope with the problem. The action we conducted was giving training using the experiential learning approach for teacher to use Quizizz as an online game-based learning platform. In the observation and reflection stage, we collected the data related to the attitude and intention of the teachers to use Quizizz and gave feedback related to the data.
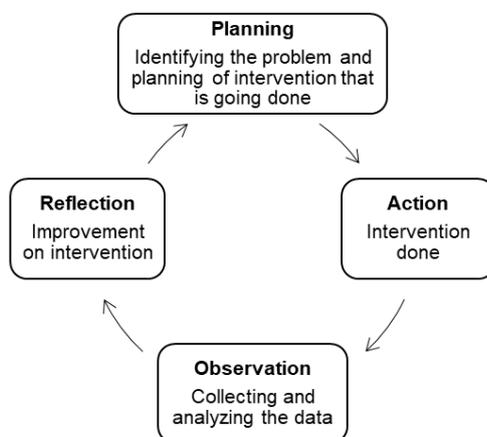

Figure 1. Research process

Data analysis was conducted with descriptive and inferential statistics. Descriptive statistics were conducted in order giving a description related to the attitude and intention of the teacher. Independent sample t-test was conducted to compare the attitude and intention of the male and female teacher. Pearson correlation was conducted to investigate whether there is a correlation between age and attitude and intention of the teachers.

3. RESULT

3.1. The Planning of Action

The planning of action was made based on the interview with the headmaster of the school and all of the teachers. Based on the interview with the headmaster, it was identified that most of the teacher had never use game-based learning platform in their learning process. A simple question was given to all of the teachers, "Have you ever heard of Quizizz as an online game-based learning platform?". All of the teachers responded to the question with the answer of "No". Based on this fact, it was identified that the teachers in the school have a neutral attitude toward the Quizizz, and they have no intention to use Quizizz.

3.2. The Execution of Action

Based on the need analysis with headmaster and teachers in the school, it was indicated that to increase awareness, attitude, and intention of the teacher to use Quizizz in their learning process, training of game-based learning using Quizizz was deemed necessary to be done. The training was conducted on 17 July 2019. At the end of the project, they were asked to make their own test using Quizizz.

3.3 Observation and Reflection of the Action

After giving one-day training of game-based learning, teachers' attitude and the intention was measured. The descriptive statistics of teachers' attitude and intention to use Quizizz was shown in table 1. Table 1 shows that after given training, the attitude of the teachers toward Quizizz was high. Average respond of each item was above 4 of 5. It indicated that after knowing Quizizz and its benefits, the teacher had a positive attitude toward Quizizz. The intention of the teacher to use Quizizz also high.

Table 1. Attitude and Intention to use Quizizz of the teachers after training given

Items	Mean	SD
Overall Attitude	35.41	4.08
Quizizz is fun	4.59	0.56
Quizizz makes students more diligent in learning	4.31	0.64
Quizizz makes the learning atmosphere relaxed	4.41	0.71
I enjoy playing Quizizz	4.50	0.67
Quizizz is easy to use	4.34	0.65
Quizizz provides many benefits	4.47	0.57
Quizizz is suitable for use in schools	4.38	0.66
Quizizz is suitable for students	4.41	0.61
Overall Intention	17.34	2.27
I was able to make a quiz with Quizizz	4.28	0.77
I will use Quizizz in the classroom	4.13	0.71
I will study Quizizz more deeply	4.44	0.62
I would recommend Quizizz to a colleague	4.50	0.62

Further analysis was conducted to investigate whether there is a difference of attitude and intention to use Quizizz between male and female teacher. Independent sample t-test result indicated that there was no difference of attitude toward Quizizz between male and female teacher (t = -0,46; p>0,05), as well as no difference of intention to use Quizizz between male and female teacher (t = -0,073; p>0,05). Pearson correlation was conducted to investigate whether there is a correlation between age and attitude and intention of the teachers. The result of the analysis was shown in table 2.

Table 2. Correlation between attitude, intention, and age

	Attitude	Intention	Age
Attitude	1		
Intention	.752**	1	
Age	-.105	-.388*	1

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Table 2 shows that there is a significant positive correlation between attitude toward Quizizz and intention to use Quizizz (r=0,752; p<0,01). It indicated that the more positive the teacher's attitude towards Quizizz, the higher the teacher's intention to use Quizizz. Teachers' intention to use Quizizz was also correlated negatively with age of the teachers (r = -0,388; p<0,05). It indicated that the older the teacher, the lower the intention to use Quizizz whereas attitude toward Quizizz was not correlated with the age of the teacher.

4. DISCUSSION

The purpose of this study was to investigate the teachers' attitude and intention to use Quizizz as an online game-based learning platform in the learning process. From our study, it was indicated that before the teachers are given the training, they have a neutral attitude toward Quizizz, and they have no intention to use Quizizz. It was because they were unfamiliar with Quizizz before, and they did not have any idea about Quizizz. After training was given, teachers' attitude toward Quizizz was positive, and their intention to use Quizizz in the learning process was high. It indicated that the training using experiential learning for the teacher was effective to make them aware with an online game-based learning platform such as Quizizz.

The result of this study is similar to the result of previous studies from the perspective of students. Some researcher found that students' attitude toward game-based learning platform is mostly positive (Bicen & Kocakoyun, 2018; Chaiyo & Nokham, 2017; Correia & Santos, 2017; Licorish et al., 2018; Plump & LaRosa, 2017). From the perspective of the teacher, Mozelius, Hernandez, Sällström, & Hellerstedt (2017) found that teacher attitude toward game-based learning is positive. However, there are so many obstacles to implementing online game-based learning in the classroom, such as the internet facility, the ability of the teacher to operate the computer, and the devices used for the learning.

Analysis of Pearson correlation also found that teachers' intention to use Quizizz was correlated negatively with age of the teachers. It indicated that the older the teacher, the lower the intention to use Quizizz. This finding is to make sense because game-based learning using Quizizz require the ability of the teachers to be familiar with computer and internet. However, almost all of the senior teacher is unfamiliar with those such things. From the perspective of developmental psychology, it was proven by many researchers that older people are more likely to resist change (Chari, Chimbindi, Chikozho, & Mapira, 2013) and have a lower intention to use technology (Sánchez-Mena, Martí-Parreño, Aldás-Manzano, & de València, 2017).

This study found that real experience using Quizizz in training can change the attitudes and intentions of teachers to use Quizizz. However, this study is only limited to the effects after the training was given. This study did not measure the impact on teachers when they had already started using Quizizz in the classroom. This becomes a limitation in this study because the actual

implementation of using Quizizz in the classroom may not be as smooth as expected, so this may change the attitudes and intentions of teachers to use Quizizz. Therefore, future research can focus on teachers' views of Quizizz and the obstacles encountered after they utilize it in the learning process in the classroom. Thus, alternative solutions can be found so that implementation in the future can be more effective and efficient.

The limitation of this research is also related to the game-based learning platform used in this research. We only used Quizizz for our research. In fact, there are many platforms with different characteristics that can be used for game-based learning. In future research, it is better to investigate the effect of another game-based learning platform and compare them to find out which platform is the most effective and efficient according to the learning objectives.

5. CONCLUSION

Real experience using Quizizz in training can change the attitudes and intentions of teachers to use Quizizz. Before the training, all of the teacher had no idea about Quizizz, but after the training was given, teachers' attitude toward Quizizz was positive, and their intention to use Quizizz in the learning process was high. Teachers' intention to use Quizizz was correlated negatively with age of the teachers. It indicated that the older the teacher, the lower the intention to use Quizizz. This study did not measure the impact on teachers when they had already started using Quizizz in the classroom. Therefore, future research can focus on teachers' views of Quizizz and the obstacles encountered after they utilize it in the learning process in the classroom.

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