



Quizzz! As A Tool For Innovative Educational Gamification In Higher Education

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ABSTRACT

Quizizz is a very useful gamification tool for use in innovative education in higher education. By using quizizz, can help and interest students in learning. In addition, by using Quizizz, can increase creativity, and can help evaluate learning easily. This research was conducted with the aim of seeing how effective the use of Quizizz is in higher education. Because in fact, the Quizizz application is a game-based application, which can involve the participation of all students in playing in class. The method used by researchers in examining Quizizz as a Tool for Gamification of Innovative Education in Higher Education is to use quantitative methods. The data obtained by the researcher was obtained from the results of the distribution of questionnaires. The distribution of the questionnaire carried out by the researcher was done online by using the Google Form software. The results of the data acquisition will also be tested again using the SPSS application. From the research results, it can be known that Quizizz is very useful to be used in innovative education in higher education. Innovative education can be interpreted as a skillful, critical, and creative education. Therefore, Quizizz is very appropriate to be used as an innovative educational gamification tool in higher education, because Quizizz can present different learning materials than previous learning materials. From this research, researchers can conclude that with Quizizz, it can enable teachers to identify material that has not been mastered by students, and can measure the level of skills that have been improved by students. In addition, the use of Quizizz as gamification in universities can also train students independently to learn, such as making questions, as well as other interesting games that will be used to learn.

Keywords: Higher Education, Innovative Education, Quizizz

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INTRODUCTION

Education from ancient times to the present day, has experienced many very big changes (Dyderski et al., 2018). There are changes in the field of education, which can be based on the thoughts and meaning of humans themselves about education (Morley & Clarke, 2020). Broadly speaking, in the field of education there are also many changes caused by the development of increasingly sophisticated technology. With the development of technology, the theories used in the field of education are becoming more complex and diverse, as well as the tools and media used in learning are more and more to be used (Blanco-Melo et al., 2020). With education, the nation's future generations will develop more and more knowledge, and can create a generation that will further advance the nation to become better. (Vu et al., 2019).

Education is divided into two parts, namely formal education and non-formal education (Burley et al., 2021). Formal education can be defined as education that is provided through educational pathways in schools that have clear and structured levels (Queiruga-Dios et al., 2020). This formal education can start from primary education and continue to secondary education to higher education. Meanwhile, non-formal education can be interpreted as a path of education obtained outside formal education (Kalenda & Kočvarová, 2022). Some examples of non-formal education include organizational activities and within the community. Formal education basically places more emphasis on students' own awareness and sense of responsibility in learning, while non-formal education places more emphasis on developing the potential of students. (Khader et al., 2020).

College is also included in formal education. Higher education is a top level educational institution after primary education and secondary education (Agyeiwaah et al., 2021). In higher education, the learning system is very different from previous education. In higher education, there are various faculties, and each of these faculties has various different departments (Zábrowská et al., 2018). In the learning and teaching process in higher education, lecturers make extensive use of various kinds of learning media which become a support for learning. (Kozłowska-Barrios, 2023). As for one of the tools used is Quizizz. Although there are still many learning media that are often used by lecturers in teaching, this Quizizz is more effective to use.

Gamification can be interpreted as a combination of game elements into non-game activities, in this case what is meant is learning as an example (Chu et al., 2021). The unique features that games have are very important for gamification. The intended gamification features include players or participation, tasks, points, levels and rankings

(Malta et al., 2018). These features can be used in learning to encourage students' enthusiasm for learning and the spirit of competition to get points, assignments and levels to reach a certain ranking. (Amoroso et al., 2022). Gamification does not always correlate with learning skills and knowledge, but it is able to change the behavior, motivation, fighting power, and commitment of students.

Quizizz is a game-based learning platform tool. This Quizizz application can be described as a web, which contains various kinds of interactive quiz games that are used in the learning process in class. (Pu et al., 2022). Quizizz has many advantages that can be used as a tool to assess learning. For example, evaluating student learning performance, the results of which can be used to assess learning follow-up. Using Quizizz will also allow students to study outside of class to increase their understanding of the learning material (Pietromonaco & Overall, 2021). The function of Quizizz is to provide students with a learning process while playing, which will enable them to feel more challenged in learning. (Mészáros et al., 2018).

In higher education, the use of Quizizz as a learning medium is very appropriate to use, because basically students are very differentiated in learning. (Ringuette Goulet et al., 2018). With the presence of Quizizz, students can minimize differentiation in learning because it is very practical to use. Quizizz offers various types of questions that anyone can do, but also allows users to create their own questions (Adamiak, 2022). The questions presented in Quizizz can be multiple choice, essays or polls, and users can also add images and videos to them. Apart from that, users can create questions with answers in the form of images. Each question can be done in a different time span according to the difficulty level of the question (Buhalis & Sinarta, 2019).

Several research studies show that Quizizz, as an innovative educational gamification tool in higher education, is very effective for use in learning if used correctly. (Syal et al., 2020). Thus the use of Quizizz if used correctly, there are several possibilities that will be achieved by students when studying. Some of these possibilities include increasing student participation in learning in the classroom and online, improving student learning outcomes, making them more thorough and calm when working on questions or quizzes, and teaching them how to manage their time well. (Klein et al., 2018).

From the description of the research results above, researchers think that Quizizz as a tool for innovative educational gamification in higher education is very effective for use in higher education. This aims to produce an increase in students' knowledge and skills in learning (Price & Hooven, 2018). This research also aims to compare the learning outcomes of students who use Quizizz, with those before using Quizizz. In this research, researchers used quantitative methods in research. This type of research is used to clearly and precisely examine the object of the researcher's study. Data collection carried out by researchers was very structured through a questionnaire

instrument to collect research data. Then the final results of the questionnaire will be tested again by the researcher using the SPSS application, so that the research data is clearer and more valid.

RESEARCH METHODOLOGY

Research design

In examining the research on Quizizz as a Tool for Gamification of Innovative Education in Higher Education, by using quantitative methods. The use of quantitative methods aims to collect research data and test the hypotheses that have been formulated. Then the researcher made a questionnaire made in the Google Form application which was distributed online to the respondents through the WhatsApp application. The questionnaire contains 20 questions asked by the researcher. To fill out the questionnaire, the researcher has prepared four options, namely strongly agree, agree, less agree, and disagree. So the respondents can respond to the questions asked by the researcher by choosing the four options.

Research procedure

In conducting this research, there are several stages carried out by the researcher, namely in the form of the subject that the researcher will aim to research. The subjects of this research are aimed at students at Mahmud Yunus Batusangkar State Islamic University majoring in Islamic Religious Education, class of 2022 and class of 2023. The questionnaire distributed by researchers will be answered and filled in by students majoring in PAI in the class of 2022 and class of 2023 regarding Quizizz as a tool for innovative educational gamification in higher education. In making the questions, the researcher was very careful, so that there were no mistakes when the respondents filled out the questionnaire.

Research subject

Researchers carried out several stages of steps in researching research on Quizizz as a tool for innovative educational gamification in higher education. Researchers first created a questionnaire and distributed it to students at Mahmud Yunus Batusangkar State Islamic University, majoring in Islamic Religious Education in the class of 2022 and class of 2023 before collecting data. Researchers can choose samples randomly by distributing this questionnaire online. Each of these questionnaires consists of 10 different questions which will be answered by Islamic Religious Education Students class of 2022 and 2023. The aim of the questions asked by researchers is to analyze Quizizz as a tool for innovative educational gamification in higher education, and how it impacts student learning activities

Research Ethics

In writing an article titled Quizizz as a Tool for Gamification of Innovative Education in Higher Education, it is very important for researchers to make strong ethical considerations when writing this article. Where researchers maintain a balance in conducting research in order to remain consistent and careful. In addition, researchers also provide actual information about their research to defend their commitment. The researchers do this in order to obtain the maximum research results, as well as remain consistent in developing a better research pattern with the research they do.

Data Collection and Analysis

This time, the researcher used quantitative methods to collect research data. The researcher also used a T-test as previously mentioned by the researcher. The aim of collecting this data is to find relationships and become a benchmark between the research object material regarding Quizizz as a tool for innovative educational gamification in higher education, by collecting the results of 15 respondents' answers. Researchers also carried out further testing using SPSS software to ensure that respondents' responses were very accurate and reliable. Thus, researchers must be very careful when collecting processed data.

Table 1. *Quizizz Category as a Tool for Innovative Educational Gamification in Higher Education*

no	Earning category	Interval Score
1	Strongly agree	>90%
2	Agree	65-80%
3	Don't agree	25%-50%
4	Totally disagree	0-30%%
Total		100%

Figure 1. Data Collection and Analysis Flow

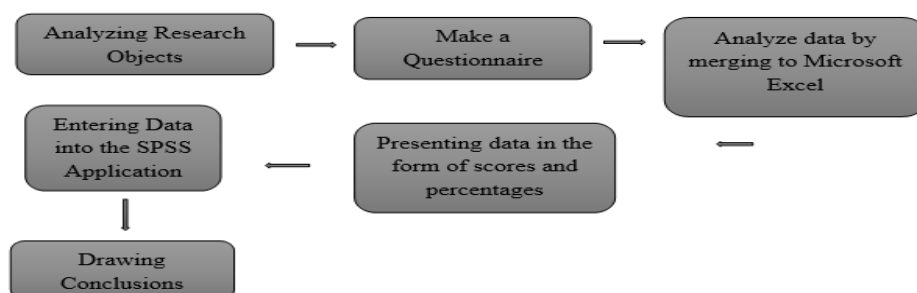


Figure 1 above shows how researchers collect and analyze research data. The results of data acquisition came from respondents' answers to the researcher's questions. Furthermore, in the quantitative research method, the researcher will also test again using the T-test which will be used to enter research data into the SPSS application. The number of questions asked by the researcher was 20 questions, where each question was divided into ten questions with different questions. Only after the questionnaire has been distributed can researchers formulate and draw conclusions from the research object.

RESULT AND DISCUSSION

Quizizz as a tool for innovative educational gamification in higher education

Strategies in the learning process have increasingly changed over time. This is due to the increasingly advanced development of science and technology which is also involved in the world of education. Learning strategies are useful for creating a comfortable and conducive learning atmosphere, as well as for preventing student boredom in learning. The use of Quizizz in innovative education in higher education is a strategy that can be used in learning. Using Quizizz as a game-based learning evaluation system is useful for providing innovative and enjoyable online learning experiences for students.

**Table 2. Summary of Percentage Results from Respondents' Answers to PAI
Department Students Class of 2022**

No	Pertanyaan	Strongly agree	agree	Don't agree	Totally Setuju
1.	I agree that Quizizz is a game-shaped application that is useful for assisting the innovative education process in higher education	50%	45%	3%	2%
2.	Quizizz can also be used outside of classroom learning	50%	50%	0%	0%
3.	Using Quizizz will be beneficial if used correctly	40%	60%	0%	0%
4.	In using Quizizz, direct guidance with the lecturer is required during learning	20%	47%	25%	8%

5.	By using Quizizz in studying, students feel challenged in learning	18%	42%	20%	20%
6.	The learning process using Quizizz can increase students' understanding of learning	39%	51%	6%	4%
7.	Quizizz can also be used for purposes other than universities	66%	32%	2%	0%
8.	Quizizz can further improve good collaboration between students and lecturers	42%	46%	9%	3%
9.	Using Quizizz actually doesn't require special skills in using it	13%	27%	55%	5%
10.	Quizizz can also cause problems if used irresponsibly	60%	33%	7%	0%

In the statement in table 2 above, there are 10 questions asked by researchers to students majoring in Islamic Religious Education at UIN Mahmud Yunus Batusangkar in the class of 2022. These questions relate to the research object regarding Quizizz as a tool for innovative educational gamification in higher education. It can be seen from the first question asked by the researcher that, I agree that Quizizz is a game-shaped application that is useful for assisting the innovative education process in higher education. On the first question, we succeeded in getting the highest percentage result of 50% for the strongly agree option.

Furthermore, in the second question, the use of Quizizz can also be used outside of classroom learning, to get balanced percentage results in the statements with the strongly agree option and the agree option. The third question discusses how Quizizz will be useful if used correctly, succeeding in getting the highest percentage results for the agree option of 40%. The fourth question that discusses is that when using Quizizz, direct guidance with the lecturer is required during learning, getting a percentage result of 47% choosing the agree option. Next, the fifth question, namely by using Quizizz in studying, makes students feel challenged in learning, getting a percentage result of 42% who agree.

In the sixth question about the learning process using Quizizz can increase students' understanding of learning, as many as 51% chose the agree option. Next, the seventh question, namely the use of Quizizz, can also be used for other than universities, obtaining a percentage result of 66% of strongly agree options. The eighth

question asked by researchers, namely Quizizz, can further improve good collaboration between students and lecturers, getting a percentage result of 46% for the agree option. The ninth question regarding using Quizizz actually does not require special skills in using it, it succeeded in getting a percentage result of 55% of the options that did not agree. For the last question about Quizizz it can also cause problems if used irresponsibly, getting as much as 60% of the strongly agree options.

Table 3. Summary of Percentage Results from Respondents' Answers to 2023 PAI Department Students

No	Question's	Strongly agree	agree	Don't agree	Totally Setuju
1.	I agree that using Quizizz is very fun when used in studying	52%	29%	19%	0%
2.	The Quizizz application provides many interesting interactive games for learning	70%	30%	0%	0%
3.	Using Quizizz is very easy to use	34%	43%	13%	10%
4.	In using Quizizz, direct guidance with the lecturer is required during learning	40%	52%	7%	1%
5.	By using Quizizz as a learning medium, students can arouse a sense of enthusiasm for learning	23%	51%	25%	1%
6.	The Quizizz application also allows users to create questions independently	75%	25%	0%	0%
7.	I agree that quizizz is an example of progress in science and technology	80%	20%	0%	0%
8.	Quizizz can help lecturers evaluate student performance in learning	33%	61%	2%	4%
9.	Quizizz can also be played outside class hours	55%	43%	2%	0%
10.	Using Quizizz is also not free from obstacles and challenges	20%	75%	5%	0%

It can be seen from the statement in the table above, the first question discusses I agree that using Quizizz is very enjoyable when used for studying, getting the highest percentage results in the strongly agree option, 52%. The second question discusses the Quizizz application which provides many interesting interactive games for learning, managed to get the most choices in the ops strongly agree option at 70%. Furthermore, in the third question section, namely Using Quizizz, it is very easy to use, getting 43% of the most votes for the agree option. The fourth question is that when using Quizizz, direct guidance with the lecturer is required during learning, getting a result of 52% for the agree option. Next, the fifth question is that by using Quizizz as a learning medium, it can arouse a sense of enthusiasm for learning in students, getting a result of 51% for the agree option.

The sixth question, the Quizizz application also allows users to create questions independently, got a result of 75% strongly agreeing. The seventh question is I agree that quizizz is an example of progress in science and technology, getting results of 80% strongly agree. Furthermore, the eighth question on Quizizz can help lecturers evaluate student performance in learning, getting results of 61% agreeing. The ninth question regarding the use of Quizizz can also be played outside class hours, getting a result of 55% strongly agreeing. The last question regarding the use of Quizizz was also not free from obstacles and challenges, getting a result of 75% with the agree option.

Diagram 1

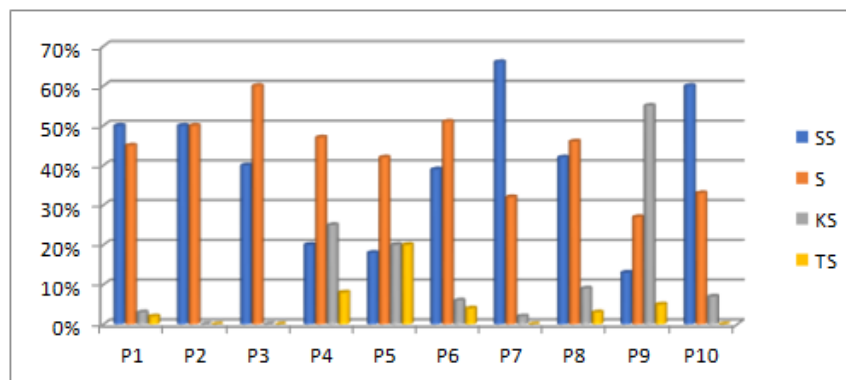


Diagram 2

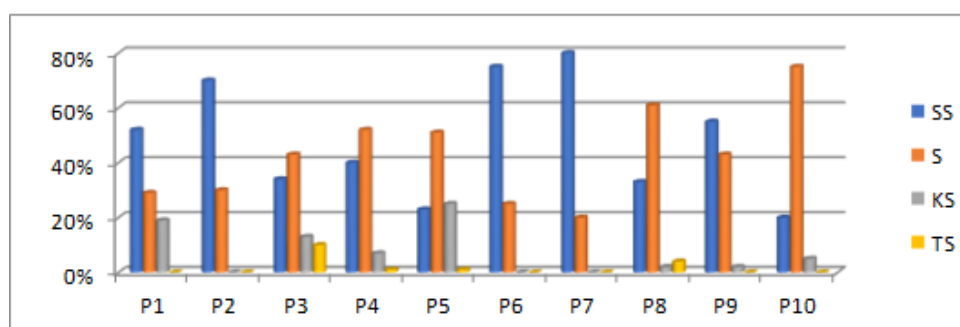


Table 3. T-test regarding Quizizz as a tool for innovative educational gamification in higher education for PAI students class of 2022

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	PRE TEST	44.0000	20	19.79101	4.42541
	POST TEST	43.1000	20	13.80275	3.08639

Paired Samples Correlations				
		N	Correlation	Sig.
Pair 1	PRE TEST & POST TEST	20	-.586	.007

Paired Samples Test				
		Paired Differences		
		Mean	Std. Deviation	Std. Error Mean
Pair 1	PRE TEST - POST TEST	0.9000	13.80275	3.08639
		95% Confidence Interval of the Difference		
		Lower Bound		
		Upper Bound		

Pair 1	PRE TEST - POST TEST	.90000	30.04015	6.71718	-
					13.1
					5922

Based on the results of table 3 above, it is a T-test using the SPSS application. From the research results, the researcher can conclude that the T-test in the first output section explains the mean as the average. In the Pre Test the average number produced was 44,0000, while in the Post Test the result was 43,1000. Based on these results, it can be formulated that there are differences in the results of the respondents' answers. Next, in the Paired Samples Correlations section, you get a correlation of -586, and the sign is 007. Next, in the Paired Samples Test section, you get a result of 30.04015 in the Std section. Deviation, while in the Std. Error Mean obtained a result of 6.71718. Based on these results, Quizizz as a tool for innovative educational gamification in higher education has its own characteristics, so that students like to learn using Quizizz.

Table 4. T-test regarding Quizizz as a tool for innovative educational gamification in higher education for PAI students class of 2023

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	PRE TEST	10.0000	20	13.50633	3.02011
	POST TEST	2.9000	20	4.96196	1.10953

Paired Samples Correlations				
			Correlation	Sig.
Pair 1	PRE TEST & POST TEST	20	.410	.073

Furthermore, in table 4, there are also the results of research using the T-test. It can be seen in the first output section that the Pre Test results were 10,0000, and the Post Test results were 2,9000. In the Paired Samples Correlations section, we obtained a Correlation of 410, with a Sign result of 073. Meanwhile, in the Paired Samples Test section, we obtained a result of 12.33267 in the Std section. Diviation, and Std. The mean error is 2.75767. Based on the results of this research, it can be seen between each

question asked by researchers regarding Quizizz as a tool for innovative educational gamification in higher education.

Quizizz as a tool for innovative educational gamification in higher education

Quizizz as a Tool for Innovative Educational Gamification in Higher Education, is one example of a technological advancement and development at this time (Al Husaeni & Nandiyanto, 2021). In today's innovative education in higher education, the use of Quizizz is very necessary, both for students and also lecturers themselves. Because in this day and age, students tend to study using their Androids when studying (Hsu et al., 2018). The reason why using Quizizz is very necessary in higher education is because the material presented is very clear without being long-winded, the instructions for using the tool are clear, the learning flow is clear, and can attract student interest in learning. (Konarov et al., 2018).

The benefits of using Quizizz as an Innovative Education Gamification Tool in Higher Education, in addition to its attractive appearance, Students can also create their own accounts to further hone their skills and understanding in learning (Mackavey & Cron, 2019). The steps that students need to take when they want to create their own account are that first, students need to log in to the site <https://quizizz.com/>, then click ready using the student's Google account or their own email address. After students have succeeded in doing Sigup, students can click as shown in the image below:



Figure 2. Quizizz application

Figure 2 above is a display if you have successfully completed the Quizizz application. So students need to click on the three parts of the image, by selecting part a student. For the next step, students need to choose their country, enter the post code, enter the school name manually by clicking on the can't find your organization section, then click add organization, and finally click continue. If students have reached this stage, they will be declared successful in creating a recording account on Quizizz. For more details, you can also look at the image below:

Figure 3. Questions In Quizizz

Furthermore, in the Quizizz application, students can also create their own questions in Quizizz. Creating your own questions on Quizizz can also improve students' skills in using technology. In Quizizz, students can easily find learning content that has been prepared by designers (X. Liu, 2020). Most of the quiz questions are already in English, so it is necessary to add more questions in Indonesian to make it easier for them to learn (Volgograd State University & Zolotovskiy, 2021). Quizizz also provides a place that contains various media for quizzes that have been created by previous quiz makers. Users can choose quizzes that are available for students to use when studying, as additional learning material, or for independent practice according to learning needs in class. (Nadeem et al., 2020). Apart from the available quizzes, lecturers can also create quizzes that are relevant to the lesson material.

When using Quizizz, there are two main features, namely the Lesson feature and the Quiz feature. This learning feature is different from other lessons, where in the Quizizz feature the learning material is equipped with text, images, sound and video. (N. Liu et al., 2020). Each learning slide displayed in Quizizz is then combined with feedback in the form of multiple choice, polls, short answers, open questions, and images. (Piotrowska et al., 2018). Based on this statement, with the display of images used in the learning process, students can imagine abstract objects related to the learning material (Chow et al., 2021).

By looking at the quiz results placed on the sidelines of the learning material presentation slides, educators or lecturers can more easily find out which students have

understood the material in this lesson feature. (Ballard et al., 2019). If students have understood what was conveyed, the lecturer can continue presenting the material to the next slide. By answering quizzes together, students can study together with full accuracy, after that, they can see the ranking of the results of what they have done (Li et al., 2020). Using Quizizz also does not require a large enough internet connection to use it, so students will be happy to use this Quizizz in learning..

CONCLUSION

Based on the research conducted by the researcher on Quizizz as a Tool for Gamification of Innovative Education in Higher Education, the researcher can conclude that Quizizz is proven to be successful and suitable for use in learning, because it can arouse students' interest in learning. In addition, with the existence of Quizizz, it creates greater opportunities for students to be more active in learning without obstacles and limited time in learning. The display provided by Quizizz is also very interesting, and in using Quizizz it can be played both individually and in groups, and has many features that can be used in the learning process.

Quizizz is also an interactive educational application that can be used for training and providing content at the university level. The facilities available in Quizizz are aimed at the development of knowledge because they are easy to use, effective, and motivate students to be more active in learning. This Quizizz is also very useful to be used by lecturers in learning, to be able to know the level of success and understanding of students in learning. With the presence of Quizizz, it can also increase good cooperation and create good communication between students and lecturers during learning. Although the use of Quizizz can be used in addition to classroom learning hours, users must of course also be careful about using it, so as not to use it in the wrong way.

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