

EFFECTIVENESS OF DIGITAL APPLICATION “QUIZIZZ” FOR STUDENTS’ LEARNING EVALUATION AT STMIK WIDYA CIPTA DHARMA SAMARINDA

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Abstract *This study focused on determining the effectiveness of Quizizz as digital application for evaluating students’ learning at STMIK Widya Cipta Dharma in the Informatics Engineering study program in the first semester of the 2024/2025. The research method used is descriptive quantitative. The sample in this study were 47 first semester students of Informatics Engineering study program. Data collection methods used descriptive observation and online questionnaire distribution in the form of GoogleForm. The results of this research show an increase in effectiveness when using the Quizizz digital application compared to the conventional system with the average score results of all students above 142% “strongly agree”. The challenges in using the Quizizz digital application are based on unstable internet connection and students’ readiness in preparing their fully-charged cellphones during the learning process until the learning evaluation session ended.*

Keywords: *Digital Application, Effectiveness, Quizizz, Learning Evaluation*

1. INTRODUCTION

In the growing digital era, the integration of information and communication technology in education is very important. One technology that is increasingly being used is online-based evaluation applications (Hartati et al., 2022; Nuryana, 2019; Salsabila et al., 2023). Quizizz is one of the digital evaluation platforms that offers various features to increase interactivity and

effectiveness in the learning evaluation process (Wihartanti et al., 2019). The use of this application has received widespread attention globally and various studies show significant benefits in increasing learner engagement, providing real-time feedback, and simplifying the evaluation process for educators (Annisa & Erwin, 202; Wijayanti et al., 2021). Along with the development of information technology,

innovation in educational evaluation methods is becoming increasingly important to improve the quality of learning.

One application that can be used as a substitute for learning assessment tools is the Quizizz application. The Quizizz application is a game-based educational application where there are multi-players that make learning more fun and interactive (Purba, 2019). By using this Quizizz makes students think quickly, precisely and in a fun condition because this Quizizz is like a game. This is in line with what is written by (Citra & Rosy, 2020) in his article on Quizizz media the questions presented have time limits, students are taught to think precisely and quickly in working on questions in Quizizz media.

The adoption of these technologies has not always gone smoothly, especially in educational settings that face various challenges and limitations. Some of these include limited access to technology tools, lack of adequate training for lecturers, as well as resistance to changing traditional teaching methods. In addition, budget constraints and inadequate infrastructure

are also significant barriers to the effective implementation of technology. Nevertheless, with the right support and a good implementation strategy, technology has great potential to improve the quality of education and enrich students' learning experience (Khotimah et al., 2019 Sawitri et al., 2019). There are many learning media that already exist, but not all learning media can be suitably used by every educator in certain situations and subjects. Media that is often used today is media based on digital technology because it is considered a popular media and follows the development trend of era 4.0. One of the technology-based media is media in the form of applications that utilize android technology.

Assessment can be used as a benchmark for educators to carry out further learning activities, whether learning will continue with new material or the need for repetition of material that has been learned, as stated by (Destiana et al., 2020) that student assessment activities are an important and integral component in teaching and learning activities on campus to obtain information about the achievement of the

results of the student learning process in accordance with predetermined goals.

The results of other research conducted by Aini (2019) show that Quizizz can be used as an alternative learning media that is creative, innovative, and fun so that student motivation is higher and learning outcomes will be better. The use of Quizizz as learning media can also increase students' learning concentration (Liantoni, Rosetya, Rizkiana, Farida, & Hermanto, 2018). The use of Quizizz learning media is very easy and simple.

In connection with several studies previously described and the problems that occur within the scope of STMIK WICIDA Samarinda, that the use of the Quizizz digital application for evaluating student learning in higher education will be effectively used. So that the authors are interested in conducting research with the title "The Effectiveness of Quizizz Digital Application Users for Student Learning Evaluation at STMIK Widya Cipta Dharma in the 2024/2025 school year".

2. PROPOSED METHOD

This research uses a quantitative descriptive method using observation and questionnaires as data collection techniques. This descriptive method is used because it allows researchers to obtain descriptions related to the phenomenon under study. Quantitative research is used to obtain data that can be measured by various computerized, statistical, and mathematical methods (Sugiyono, 2010). This questionnaire will be given to first semester Informatics Engineering study program students at STMIK Widya Cipta Dharma Samarinda who have received treatment, using Quizizz in evaluation process, from this study with a total of 10 statements in the questionnaire.

Location and Time of Research

To obtain the required data, this research was conducted on the campus of STMIK Widya Cipta Dharma Samarinda which is located on Jl. M. Yamin No. 25 Samarinda and the research time was carried out for the first time for observation activities on November 4, 2024 followed by research

until December 24, 2024, precisely in the odd semester of the 2024/2025 academic year.

Population and Sample

The population in this study was a class of STMIK Widya Cipta Dharma students studying Informatics Engineering in the first semester of the 2024/2025 school year with a total of 75 students. The sample is a representative or part of the population under study. In this study, researchers used random sampling techniques, namely the technique of taking sample members from the population randomly, so the sample taken in this study, in accordance with the guidelines on sample size, amounted to 47 students.

Data Collection Methods

In this study, data collection was carried out by distributing a questionnaire consisting of 10 closed statements which were answered by respondents online via GoogleForm. The data collected was then analyzed quantitatively and qualitatively to get a comprehensive picture.

Data Analysis Method

To analyze the data that has been obtained, it is necessary to first determine the percentage of each questionnaire that has been answered by the research subjects. There are four answer options where each respondent must choose one of them that best suits their opinion. The answer choices include: Strongly Agree (SA), Agree (A), Disagree (D), and Strongly Disagree (SD). Furthermore, the data will be processed using the percentage calculation formula as follows.

$$P = \frac{\sum R}{N} \times 100 \%$$

Description:

P = Percentage score

$\sum R$ = Total number of answers from respondents

N = Total sample (Sugiyono, 2008)

Next, the data is analyzed to obtain the result relating the frequency score of the effectiveness of Quizizz in evaluating learning process. The formula used is as follow:

$$T \times P_n$$

T: Total number of respondents who chose

Pn: Likert score number options

3. RESULT AND DISCUSSION

Researchers described the research data with two stages, namely the preparation stage and the implementation stage. The preparatory stage carried out by researchers was to make observations first at the STMIK Widya Cipta Dharma Samarinda campus on November 4, 2024 in the Islamic Religious Education course. This observation is carried out to find out the evaluation of student learning that has been studied in 2 credits per meeting.

Furthermore, at the implementation stage, researchers carry out an evaluation in the form of a Quizizz digital application in the form of multiple choices questions related to the material on that day by answering all questions individually. The evaluation questions adjust the Lesson Plan used in this study, and are guided by the learning curriculum that has been determined by the Informatics Engineering study program at the STMIK Widya Cipta Dharma Samarinda.

In this research, the researcher was assisted by two observers in conducting research, to assess student learning evaluations and student

attitudes during the research. This Pre-Observation was carried out on November 18, 2024. Researchers prepare one material in the form of Ms. Power point to support student learning media. After the lesson was over, the researcher gave an evaluation in the form of direct questions and answers to students.

There were two aspects that were observed by researchers as follows: The first aspect, student activeness in participating in Islamic learning by using question and answer evaluations to students or evaluation research without using the Quizizz digital application. From the observations that have been carried out that only a few students are active in evaluating learning, because most students are still busy playing cellphones and busy chatting with other friends, so they do not pay attention in learning evaluation activities or are passive in their learning. The second aspect is in terms of courage, students when asking questions in asking questions related to Islamic religion lessons that have not been understood, it can be seen that first semester

Informatics Engineering students at STMIK WICIDA Samarinda are quite brave because it can be seen that there are several students who are ready to practice the procedure for tayammum in front of their classmates in the evaluation session.

That is the conclusion of the observation before the use of the Quizizz digital evaluation, then the researcher has also summarized the post-observation on December 2, 2024, namely the observation of students after the use of the Quizizz digital application learning evaluation as follows: The first aspect, student activeness in participating in Islamic learning by using the Quizizz digital application learning evaluation. From the observations that have been made that all students are active in carrying out learning evaluations and the second aspect is in terms of courage, students are free and dare to ask questions about the lessons of the day and the atmosphere in the classroom becomes active and interactive.

From this observation, it can be concluded that for the activeness aspect and the courage aspect there is an

increase compared to before the use of the Quizizz digital technology evaluation.

The questionnaire data in the effectiveness of using Quizizz as a learning evaluation can be seen from the questionnaire results. The questionnaire consists of 10 statements.

The score for each statement item is as follows:

Table 1. Score of Each Statement Item

Responses	Score
Strongly Agree	4
Agree	3
Disagree	2
Strongly Disagree	1

Furthermore, the researchers added up the questionnaire results and summarized the results of the questionnaire data research from 47 respondents with the following summary:

Table 2. Summary of Questionnaire Data Responses

Statement	SA	A	D	SD
1	23	23	1	0
2	22	21	3	0
3	22	25	0	0
4	10	35	2	0
5	13	31	3	0

6	13	32	2	0
7	11	30	6	0
8	16	27	4	0
9	16	28	3	0
10	19	26	2	0

The data obtained will be sought for the percentage of students' responses from the questionnaire using this formula as follows:

$$P = \frac{\sum R}{N} \times 100 \%$$

Description:

P = Percentage score

$\sum R$ = Total number of answers from respondents

N = Total sample

The result of students' responses percentage can be seen in this following table.

Table 3. The result of students' responses percentage

Statement	SA	A	D	SD
1	49%	49%	2%	0
2	47%	45%	8%	0
3	47%	53%	0	0
4	21%	75%	4%	0
5	28%	66%	6%	0
6	28%	68%	4%	0

7	23%	64%	13%	0
8	34%	57%	9%	0
9	34%	60%	6%	0
10	41%	55%	4%	0

Then, all results are summed up to obtained the total of frequency score of each statement in the questionnaire with the formula:

$$T \times P_n$$

T: Total number of respondents who chose

Pn: Likert score number options

Table 4. The result of summarizing frequency score of each statement

Statement	SA	A	D	SD	Total
1	92	69	2	0	163
2	88	63	6	0	157
3	88	75	0	0	163
4	40	105	4	0	149
5	52	93	6	0	151
6	52	96	4	0	152
7	44	90	12	0	146
8	64	72	8	0	144
9	64	84	6	0	154
10	76	78	4	0	158

In order to get the results of the interpretation, first the highest score (X) and the lowest score (Y) for the

assessment item must be known with the formula as follow:

X: Highest score x the number of respondents

Y: The lowest score x the number of respondents

For the item “Strongly Agree” is $4 \times 47 = 188$ while for the item “Strongly Disagree” is $1 \times 47 = 47$. So, if the total score of the respondent's assessment is obtained from the number according to the table of questionnaire data summation results, then the assessment of the respondent's interpretation of the use of the Quizizz digital application in improving learning evaluation is the result of the value obtained using the formula:

$$\text{Index (\%)} = \frac{\text{Total Score}}{Y} \times 100$$

Before completing the above formula, the previous step, the researcher must know the interval (distance range) and percent interpretation with the formula:

$$\text{Interval} = \frac{\text{Highest score} - \text{Lowest score}}{\text{The number of interval}} \times 100\%$$

Based on the interval distance, the score interpretation criteria can be

obtained based on the interval to answer the overall student statement. It is used to obtain data relating the range of the effectiveness of Quizizz for students' learning evaluation score. It also can be interpreted as following:

Table 5. Score Interpretation Criteria

No	Score	Categories
1	142-188%	Strongly Agree
2	95-141%	Agree
3	48-94%	Disagree
4	47%	Strongly Disagree

As we can see from Table 4 and Table 5, we can sum up that the total frequency score of each statement in this questionnaire is above 142%, which means that we can interpret “Strongly Agree” as the criteria of the effectiveness of the use Quizizz in learning evaluation. In another hand, the use of Quizizz in this research gave effective results towards students' learning evaluation process.

Furthermore, the final solution is to summarize the results of the statements of all respondents. Based on the results of the questionnaire analysis related to the effectiveness of student learning evaluation, all students felt that

there was an increase in their learning evaluation when using the Quizizz digital application.

The description of 10 statements related to the questionnaire is described by the researchers. The data obtained can be seen in Table 3. The first aspect is that students enjoy using the Quizizz digital application for learning evaluation. From the questionnaire results, it can be seen that 49% of students stated “strongly agree”, 49% of students stated ‘agree’ and the rest stated “disagree” of this statement.

The second aspect is that students prefer the Quizizz digital application as learning evaluation compared to conventional evaluation. The results of the questionnaire stated that 47% of students chose “strongly agree” regarding this statement. It is followed by 45% of students chose “agree”, and 8% stated that they prefer conventional evaluation.

The third aspect is that the Quizizz digital application makes it easy to collect students’ learning evaluations. The results of the questionnaire stated that 53% of students chose “agree” with

this statement, followed by 47% of students chose “strongly agree”.

The fourth aspect is that students feel more focused on doing evaluation through Quizizz digital application. The result is 75% of students stated “agree” to this statement, followed by 21% of students strongly agree and the rest disagree with this statement.

The fifth aspect is that students easily understand the questions for learning evaluation in Quizizz media. This data reveals that 66% of students chose this category, followed by 28% of students strongly agree and the rest disagree with this statement.

The sixth aspect is that learning evaluation using the Quizizz digital application is more objective. 28% of students chose “strongly agree” category, while 68% of students chose “agree” that learning evaluations were proven to be effective and better using the Quizizz digital application.

The seventh aspect is that learning evaluation using the Quizizz digital application increases concentration in answering questions. The results prove that there are 64% of

students agree that their concentration increased in answering questions during learning evaluation, followed by 23% of students chose “strongly agree”.

The eighth aspect is that students feel motivated in working on their learning evaluation when using the Quizizz digital application. The questionnaire results state that there are 91% of students who are motivated to use the Quizizz digital application and there are 9% where students are still not motivated, this may occur due to various factors.

The ninth aspect is that the Quizizz digital application is effectively used for lectures. Those who chose “strongly agree” of this statement were 35% of students, while those who chose “agree” were 60% of students.

The last aspect, namely the biggest challenge for students in working on the learning evaluation through Quizizz digital application is related to internet connection problems. The data states that there are 41% of students who “strongly agree”, 56% of students who “agree”, and there are 3% who disagree with this statement. It can be concluded that the factor of using the Quizizz

digital application is vulnerable to external factors caused by the internet connection or because the student's cellphone battery runs out.

4. CONCLUSION

Based on the results of the research obtained, analysis, and discussion that has been carried out by researchers, it can be concluded that the results of observations of an increase in the aspects of student activeness and courage in answering learning evaluation questions and students taking the initiative to ask lecturers about material they have not understood.

The results of the questionnaire on the effectiveness of using the Quizizz digital application as a learning evaluation media proved to be effective with the acquisition of a total questionnaire score of all students above 142%. Thus, it can be concluded that all first semester Informatics Engineering study program students at STMIK Widya Cipta Dharma prefer the use of the Quizizz digital application compared to the conventional system. It is also inseparable from the shortcomings of the application, namely requiring a stable

internet connection and there must be cellphone with adequate battery during learning process.

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