The Impact of Using Quizizz as a Learning Media on Learning Interest of Computer Education Students

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ABSTRACT: In this case, this research aims to determine the effect of using Quizizz as a learning media on the learning interest of Computer Education Students in the Linear Algebra course. The research method uses quantitative experiments. The research design used One Group Pretest-Posttest Design. The subjects of this research were 38 consisting of 4th Semester Students of the Department of Computer Education, Dehasen University, Bengkulu. The instrument used 20 items questionnaire, the data analysis techniques used normality test, homogeneity test and hypothesis test. The results of the pretest and posttest questionnaires were 40% and 85% indicating an increase in student learning interest. The results of research using paired sample testing show that the asym sig. (2-laid) of 0.000 < 0.05 where t-count is greater than t-table 24.220 > 2.037 so that H_O is rejected and H_a is accepted. It can be concluded that the use of Quizizz as a learning media (X) has a significant effect on the learning interest of computer education students at Dehasen University, Bengkulu.

Keywords: Quizizz, learning media, student learning interest

INTRODUCTION

Technology in the field of education is advancing and developing at a very rapid pace. As the spearhead of education, lecturers must be ready to adapt to these changes. As a positive impact of technology in education, the learning process has also advanced. The development of technology in the 4.0 era has influenced education, particularly in the use of media for learning. The use of technology in education is expected to enhance students' understanding of the subjects studied.

Interest in learning plays an important role in an individual's life. Interest drives a person to do something they want to do, resulting in something beneficial. Lecturers must be able to ignite students' interest in mastering the knowledge presented in their courses [10]. A persons' interest arises due to several important factors, which include internal and external factors. Internal factors consist of attention, interest, and activity, while external factors include family, school, and environment [11].

Learning media play a crucial role in clarifying the presentation of materials and information, which can foster interest in learning, enhance the learning process, and improve learning outcomes [3]. Along with rapid and innovative developments and technology, the learning process demands that students be more active and creative the learning process demands that students be more active and creative [5]. Therefore, computers and smartphones can be used as media to aid the learning process. The first step that lecturers must take in using media effectively is to search for, find, and select media that meet students' learning needs, attract their interest, and are appropriate for their developmental maturity and experiences, as well as the specific characteristics of their learning group [4]. There are many methods developed in learning that involve active and creative students through digital media, one of which is using Quizizz [7].

Quizizz is an educational game-based learning media that contains interactive quizzes. Quizizz can be used in learning activities such as pre-tests, post-tests, practice questions, material reinforcement to measure students' understanding, remedial sessions, homework, and more. Based on initial observations conducted at Dehasen University Bengkulu, many fourth-semester students in the Linear Algebra course lack enthusiasm for classroom learning activities. This is evident as they frequently use their phones to search for answers, showing a lack of interest in learning.

The low interest in learning among Computer Education students in the Linear Algebra course is due to the monotonous methods applied so far [1]. Besides using the Quizizz application, the GeoGebra application is also used. The problem faced by lecturers currently is encouraging students to learn according to procedures and fostering interest in them so they do not feel bored during the learning process [2]. One of the efforts made by lecturers to stimulate students' interest in learning is selecting the right learning media to foster interest and engagement during the learning process [6]. Researchers see the need for new innovations in assessment or evaluation to stimulate or foster students' interest in learning. Paper-based assessments make students bored during the evaluation process [9]. Students scribble on answer sheets, appear unenthusiastic, fill in answers haphazardly, and are unwilling to stay in the room. This makes the learning assessment process ineffective and unconducive [8].

Based on these problems, researchers are utilizing interactive educational game-based evaluation media using the platform quizizz.com. Educational game-based evaluation media is expected to enhance students' interest in the Linear Algebra course because Quizizz has game-like characteristics such as avatars, themes, speed scoring, time limits for answering questions, and entertaining music during the learning process. Therefore, the author is interested in researching the title "The Impact of Using Quizizz as a Learning Media on Student Learning Interest" to determine whether there is an impact of using Quizizz as a learning media on students' interest in learning.

RESEARCH METHODS

This research uses a quantitative approach with an experimental research design. In experimental research, there is a treatment to find the effect of certain treatments on others under controlled conditions [12]. This study mploys a pre-experimental design, specifically the one-group pretest-posttest design. This design involves conducting a pretest and a posttest, allowing the effect of the treatment to be calculated by comparing the posttest and pretest scores. If the posttest score is higher than the pretest score, so the treatment has a positive effect.

Method of Qualitative Analysis

In exploring the impact of using Quizizz as a learning media on student learning interest, the qualitative research method involves a detailed process aimed at gaining an in-depth understanding of students' experiences and perceptions. The following outlines the tools, materials, and steps involved in this qualitative analysis:

a. **Research Tools and Materials**
   1. **Interview Guides**: Semi-structured interview guides will be used to facilitate discussions with students about their experiences and perceptions of using Quizizz.
   2. **Observation Checklists**: These will help in systematically capturing students' engagement and interactions while using Quizizz.
   3. **Recording Devices**: Audio recorders will be used during interviews to ensure accurate data capture.
   4. **Transcription Software**: Tools like NVivo or MAXQDA will aid in transcribing and organizing interview data.
   5. **Documents and Artifacts**: It can be further explained regarding what the intention of the screenshot is. What are the screenshots of a Quizizz session? and other relevant materials will be collected to provide additional context.

b. **Research Work Steps, Data Collection**
   1. **Defining the Research Problem**: The research question focuses on how the use of Quizizz as a learning media affects students' interest in learning.
   2. **Selecting Participants**: Purposive sampling will be used to select students who have actively used Quizizz in their learning process.
   3. **Conducting Interviews**: In-depth interviews with students will be conducted to collect insights into their experiences and attitudes towards using Quizizz.

4. **Observations**: Observations will be made in classroom settings where using Quizizzfocusing on student engagement and participation.
5. **Document Analysis**: Analysis of Quizizz session logs and student performances data will supplement interview and observation findings.

c. **Data Processing**
1. **Transcription**: Audio recordings from interviews will be transcribed into text for detail analysis.
2. **Data Organization**: Qualitative data analysis software will be used to manage and organize data by system.
3. **Coding**: Data will be convert to scale to identify patterns, themes, and categories related to student interest and engagement.
4. **Thematic Analysis**: Codes will be grouped into broader themes that capture the essence of students' experiences with Quizizz.

d. **Data Interpretation**
1. **Contextual Analysis**: Data will be interpreted within the educational context, considering factors such as classroom environment and teaching methods.
2. **Narrative Construction**: Narratives will be developed to illustrate the impact of Quizizz on students' learning interest, supported by direct quotes from interviews.
3. **Triangulation**: Multiple data sources (interviews, observations, and document analysis) will be used to validate the findings and ensure credibility.
4. **Member Checking**: Findings will be explored with participants to verify accuracy and ensure the interpretations resonate with their experiences.

e. **Reporting Findings**
1. **Detailed Descriptions**: Detailed descriptions make data about students' experiences using Quizizz even more in-depth.
2. **Direct Quotes**: Students' direct quotes will be included to support the themes and provide authenticity to the findings.
3. **Theoretical Implications**: The findings will be discussed in relation to existing theories on educational technology and student motivation.
4. **Practical Implications**: Practical recommendations for educators on how to effectively integrate Quizizz into their teaching practices to enhance student learning interest will be highlighted.

f. **The research objectives of the manuscript are:**
1. To determine the impact of using the educational game-based learning media Quizizz on students' interest in learning in the Linear Algebra course.
2. To analyze whether the use of Quizizz as an evaluation tool in learning can increase students' interest who were previously less enthusiastic about classroom learning.
3. To identify the factors that influence students' interest in learning when using Quizizz as an interactive learning media in the Linear Algebra course.

RESULT AND DISCUSSION

Based on the research conducted from March 1 to May 30, 2024, at Dehasen University Bengkulu, the study titled "The Impact of Using Quizizz as a Learning Media on Student Learning Interest" was carried out. This study used Quizizz as a media for experimentation or treatment on students to measure learning interest before and after the treatment. The data used in this study consisted of statistical counts from two questionnaires: the student learning interest questionnaire and the student response questionnaire towards the Quizizz learning media

The student learning interest questionnaire was used to obtain data on students' learning interest before and after using the Quizizz learning media, consisting of 20 questions based on four indicators: enjoyment, student interest, student attention, and student involvement or participation. The student response questionnaire was used to gather data on students' responses after using the Quizizz learning media, containing 20 questions with six indicators: ease of navigation, cognitive content, knowledge and presentation of information, media integration, aesthetics, and overall functionality. The questionnaires were measured using a Likert scale with four response options: strongly agree (4), agree (3), disagree (2), and strongly disagree (1) [2, 4, 13].

The respondents in this study were 38 fourth-semester Computer Education students at Dehasen University Bengkulu. In this data description, the number of student respondents answering each

question and the average score of the questionnaires or student responses towards the Quizizz learning media distributed to all fourth-semester respondents will be presented [3, 7].

The pretest was conducted before the students used the Quizizz media to determine their learning interest and initial capabilities. The student learning interest questionnaire consisted of 20 questions regarding learning interest, based on four indicators. The test included Matrix material that had been previously taught. The test used was a multiple-choice test, consisting of 20 questions each. The total scores from the questionnaire and learning test results can be seen in the Table 1 and Table 2 [5, 8, 9].

TABLE 1. Student Learning Interest Questionnaire Results Before Treatment (Pretest)

No	Question Item	Total Score of 38 Students	Average
Enjoyment Indicator			
1	I enjoy learning Linear Algebra	78	2.36
2	Linear Algebra course problems are interesting to solve	70	2.12
3	I feel bored during Linear Algebra lessons	71	2.15
4	Time flies when learning Linear Algebra because I enjoy it	72	2.18
5	I feel burdened when given Linear Algebra assignments	62	1.87
6	I can understand Linear Algebra material well	65	1.96
7	The lecturer delivers Linear Algebra material quickly, making it difficult to understand	72	2.18
Total	490	14.82	
Average		2.11	
Student Involvement Indicator			
8	I always ask questions during Linear Algebra lessons	68	2.06
9	I always answer Linear Algebra questions correctly	66	2.00
10	I prefer chatting with my seatmate rather than paying attention to the lecturer	64	1.93
11	I always take time to review Linear Algebra material given by the lecturer	69	2.09
12	I study Linear Algebra material before the lecturer delivers it in class	66	2.00
Total	333	10.08	
Average		2.01	
Student Interest Indicator			
13	I ask the lecturer if there is any unclear material during Linear Algebra lessons	68	2.06
14	I never practice Linear Algebra problems at home because I don't understand how to solve them	66	2.00
15	I enjoy reviewing Linear Algebra material given by the lecturer	60	1.81

No	Question Item	Total Score of 38 Students	Average
16	I always look for Linear Algebra references from other sources	57	1.72
17	I don't care much about Linear Algebra material delivered by the lecturer	62	1.87
Total	313	9.46	
Average		1.89	
Student Attention Indicator			
18	I always pay attention and follow Linear Algebra lessons	72	2.18
19	I always open Linear Algebra materials sent by the lecturer	70	2.12
20	Written tests make it easier for me to complete the evaluation of Linear Algebra courses	66	2.00
Total	208	6.3	
Average		2.1	

TABLE 2. Student Learning Interest Questionnaire Results After Treatment (Posttest)

No	Question Item	Total Score of 38 Students	Average
Enjoyment Indicator			
1	I enjoy learning Linear Algebra with the help of Quizizz	119	3.60
2	Quizizz makes it easier for me to receive Linear Algebra material	114	3.45
3	I feel bored during Linear Algebra lessons with Quizizz	119	3.60
4	Time flies when learning Linear Algebra using Quizizz because I feel like I'm playing	113	3.42
5	I feel burdened when given Linear Algebra assignments	115	3.48
6	The Linear Algebra material presented in Quizizz can be well understood by me	122	3.69
7	The lecturer delivers matrix material in Quizizz quickly, making it difficult to understand	115	3.48
Total	817	24.42	
Average		3.53	
Student Involvement Indicator			
8	I always ask questions during Linear Algebra lessons	107	3.24
9	I always answer Linear Algebra questions correctly in Quizizz	116	3.51
10	I prefer chatting with my seatmate rather than paying attention to the lecturer explaining Linear Algebra material in Quizizz	119	3.60

No	Question Item	Total Score of 38 Students	Average
11	I always take time to review Linear Algebra material given by the lecturer in Quizizz	118	3.57
12	I study Linear Algebra material before the lecturer delivers it in class	112	3.39
Total	572	17.31	
Average		3.46	
Student Interest Indicator			
13	I ask the lecturer if there is any unclear material in Quizizz during Linear Algebra lessons	114	3.45
14	I never practice Linear Algebra problems at home because I don't understand how to solve them	113	3.42
15	I enjoy reviewing Linear Algebra material given by the lecturer in Quizizz	118	3.57
16	I always look for Linear Algebra references from other sources	115	3.48
17	I don't care much about Linear Algebra material delivered by the lecturer in Quizizz	112	3.39
Total	572	17.31	
Average		3.46	
Student Attention Indicator			
18	I always pay attention and follow Linear Algebra lessons with Quizizz	121	3.66
19	I always open Linear Algebra materials sent by the lecturer in Quizizz because it can be accessed anytime	119	3.60
20	Quizizz makes it easier for me to complete the evaluation of Linear Algebra courses	121	3.66
Total	361	10.92	
Average		3.64	

Based on the calculation of the percentage score which resulted in 85%, it can be concluded that the respondents strongly agree that Quizizz is effective when used in the Linear Algebra course to enhance student learning interest. Validity in research denotes the degree of accuracy of the measuring instrument in measuring what it intends to measure. According to Rukminingsih, Adnan, and Latief [18] validity testing is used to demonstrate the extent to which a measuring instrument accurately measures its intended content. Validity testing in this study was conducted on each item of the student learning interest questionnaire. The calculated r-value is compared to the r-table where df = n-2 at a significance level of 5%. If the calculated r-value > r-table, then the item is considered valid. With 38 respondents, the r-table value can be obtained using Pearson product moment, where df (degree of freedom) = n-2, thus df = 38-2 = 36, resulting in an r-table value of 0.344. The table below summarizes the results of the validity testing of the research instrument.

Based on the validity testing results of the student learning interest questionnaire using Pearson product moment, it can be concluded that all 20 items of the questionnaire are valid and can proceed to data processing. The Sig. (2-tailed) result in Table 4.15 is 0.000, which is less than 0.05. Statistically, it can be written as 0.000 < 0.05, indicating that the null hypothesis (Ho) is rejected and the alternative hypothesis (Ha) is accepted, meaning that there is an effectiveness of using Quizizz as a learning media on student learning interest in Computer Education.

Another method to test the hypothesis, aside from using significance comparison or probability values, is by comparing the computed T-value in Table 2 with the T-table. The computed T-value is 24.220, and determining the T-table value involves knowing the degrees of freedom obtained from N-1 = 38-1 = 37 and the significance level (α/2). With α (level of significance) set at 5% and using a two-tailed test, the significance value is 0.05/2 = 0.025. Thus, the T-table value obtained is 2.037.

Based on the above presentation, T-computed = 24.220 > T-table = 2.037, hence it can be concluded that the null hypothesis (Ho) is rejected and the alternative hypothesis (Ha) is accepted, indicating that the use of Quizizz as a learning media is effective in enhancing student learning interest. Therefore, the null hypothesis (H$_0$) is rejected and the alternative hypothesis is accepted, signifying that the use of Quizizz as a learning media as an impact on student learning interest in the Linear Algebra course.

In the research process, the first step undertaken by the researcher was administering a pretest consisting of 10 questions related to Matrix material to 38 students [13]. Following the completion of the pretest, the researcher distributed a student interest questionnaire to gauge their interest in learning before utilizing Quizizz as a learning media in the Linear Algebra course. This questionnaire comprised 20 items across four indicators: enjoyment, student engagement, interest, and attention [14, 15]. Upon completing the pretest interest questionnaire, a score percentage of 50% was obtained, indicating that students' learning interest before the treatment (pretest) was categorized as fairly good in the Linear Algebra course.

After completing the posttest interest questionnaire, a score percentage of 85% was obtained, indicating that students' learning interest after the treatment was categorized as very good in the Linear Algebra course following the use of Quizizz as a learning tool [16, 17]. Based on the calculation of the student response questionnaire towards Quizizz, an 85% score percentage was obtained, leading to the conclusion that respondents strongly agree that Quizizz is effective when used in the Linear Algebra course to enhance student learning interest [18, 19]. The results of this study are in line with the results of previous research by Mesterjon which stated that: Based on the presented comprehensive analysis, it's evident that the integration of Quizizz media significantly impacted students' learning interest in the multimedia subject. Before the implementation of the Quizizz, the students' interest was lacking, as indicated by insufficient scores across various indicators. Following the intervention, there was a notable enhancement across all facets, with students exhibiting elevated levels of satisfaction, engagement, interest, and attentiveness. Furthermore, the assessment of the Quizizz media itself, covering cognitive content, information presentation, ease of navigation, aesthetics, and overall function, revealed positive responses from the students, with the majority rating it as good across all indicators. This indicates that the Quizizz effectively met the criteria for engaging and effective multimedia learning [1, 2, 3].

The use of Quizizz as a learning media as significant potential to increase students' interest in learning. Here are some positive impacts observed from using Quizizz:

1. **Interactive and Fun**: Quizizz offers an interactive and enjoyable learning experience through gamification. Game elements like points, leaderboards, and rewards can make the learning process more engaging and motivate students to participate actively.
2. **Immediate Feedback**: Quizizz provides immediate feedback to students after they answer each question. This helps them understand their mistakes right away and learn from them.
3. **Customization and Flexibility**: Instructors can customize quizzes according to the needs and comprehension levels of students. Additionally, students can access Quizizz anytime and anywhere, offering flexibility in learning.
4. **Increased Engagement**: The interactive and competitive features of Quizizz can increase student engagement in the learning process. Healthy competition through leaderboards can encourage them to study harder.
5. **Collaborative Learning**: Quizizz can be used in a classroom or group study setting, allowing students to collaborate and learn together. Discussions after quizzes can enhance their understanding of the material.
6. **Progress Tracking**: Quizizz enables instructors to track students' progress in real-time. The generated data and statistics can help identify areas for improvement and adjust teaching methods accordingly.

CONCLUSION
Based on the objectives of the study, the following conclusions can be drawn:

1. **Impact of Quizizz on Student Learning Interest:** The research findings indicate that the use of Quizizz as an educational game-based learning media significantly enhances students' interest in learning within the Linear Algebra course. This is supported by the hypothesis testing results, where the significance value (2-tailed) was 0.000, showing a statistically significant effect of Quizizz on student learning interest.

2. **Effectiveness of Quizizz as an Evaluation Tool:** The study also analyzed the effectiveness of Quizizz as an evaluation tool and found that it successfully increased the interest of students who were previously less enthusiastic about classroom learning. The computed t-value (24.220) compared to the t-table value (2.037) confirmed the positive impact of Quizizz, with 85% of students strongly agreeing on its effectiveness in making learning more engaging and interesting.

3. **Factors Influencing Learning Interest:** The study identified several factors that influence students' interest in learning when using Quizizz as an interactive learning media. These factors include the interactive nature of Quizizz, its game-like features, and the immediate feedback it provides, all of which contribute to higher levels of student engagement and enthusiasm during the learning process.

Overall, the research concludes that Quizizz is an effective tool in enhancing learning interest among students, particularly in the context of the Linear Algebra course for Computer Education students at Universitas Dehasen Bengkulu.

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