

Analysis of Student Perceptions on the Use of Interactive Mathematics Learning Media

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Abstract. This study analyzes students' perceptions of using Quizizz as an interactive mathematics learning media in the classroom. Quizizz media was chosen because Quizizz is the most popular among teachers and students. Using a quantitative descriptive method, the study involved 60 grade X high school students who had used Quizizz. Data were collected through a Likert-scale-based closed questionnaire, measuring ease of use, learning benefits, and student engagement. The analysis showed that students had positive perceptions of Quizizz, with 80% stating that the platform was easy to use, 75% feeling that Quizizz helped them understand the material, and 70% feeling more motivated. Linear regression tests showed a significant relationship between ease of use, learning benefits, and student engagement in learning motivation. Most students felt more active and motivated while using Quizizz, most likely due to the competitive elements such as the leaderboard and point system. These elements not only boost students' intrinsic motivation but also generate extrinsic motivation through healthy competition among students. The more positive students' perceptions of Quizizz, especially in ease of use and learning benefits, the higher their motivation to participate in the learning process. This study concluded that Quizizz is an effective mathematics learning media, improves learning outcomes, and motivates students to be more actively involved in learning.

Keywords: Quizizz, student perception, ease of use, learning motivation, digital learning, interactive mathematics learning media.

I. INTRODUCTION

The growth of information and communication technology has had a profound effect on education, particularly in the use of digital learning resources. A reassessment of educational techniques has been prompted by the COVID-19 pandemic, which has expedited the use of digital technology and exposed gaps in schools' digital competence [1]. Access to knowledge is made easier by technology, which also creates a multitude of chances for more dynamic, interesting, and pleasurable learning experiences for students [2]. These days, a variety of digital platforms are utilized to aid in the learning process. Quizizz is one such platform that has grown in popularity among educators and students due to its capacity to incorporate gamification components into the process of teaching and learning. Student learning outcomes are also impacted by Quizizz in mathematics. Quizizz's presence, which has grown in popularity among educators and students because to its capacity to include gamification elements into the process of teaching and learning. Student learning outcomes are also impacted by Quizizz in mathematics [3]. The existence of Quizizz offers a fresh approach to delivering educational content in a more engaging and dynamic manner. Additionally, Quizizz enhances one's ability to solve mathematical puzzles [4].

Students can utilize Quizizz, an enjoyable platform, to help them concentrate more in class and retain the stuff they have studied [5]. This platform's gamification features, such leaderboards and points, encourage students to engage with mathematics more actively [6]. Students are more motivated to learn mathematics because of the materials they receive, the competitions they participate in, and the fun activities they enjoy.

Using Quizizz helps teachers in the learning evaluation process in addition to boosting motivation. In real time, teachers may keep an eye on the results of student quizzes, give direct feedback, and modify the curriculum to meet the requirements of their students [7]. Quizizz offers instant feedback, which enables students to rectify errors instantly and enhances their comprehension of the subject matter [8]. Quizizz is a useful substitute for teachers in the increasingly common distance learning of the digital age to keep students engaged and interactive [9]. Students' learning results in mathematics and their level of learning independence are influenced by Quizizz media [10]. In addition, by designing quizzes and other engaging learning activities, higher education institutions can utilize quizzes as a gamification technique to help students study autonomously. As a result, this platform serves as both a learning tool and an assessment tool to support learning objectives.

However, although Quizizz has been widely used in various levels of education, in-depth research on students' perceptions of using this platform as an interactive mathematics learning medium is still minimal. Students' perceptions of learning technology play an essential role in determining the success of implementing the technology. Positive perceptions can increase students' motivation, participation, and engagement in learning, while negative perceptions can hinder achieving optimal learning goals. Therefore, it is essential to examine further how students perceive using Quizizz and how this platform affects their learning process.

The purpose of this study is to examine how students feel about utilizing Quizizz as an interactive learning tool for mathematics in the classroom. Furthermore, this study will investigate variables that impact students' opinions, including Quizizz's user-friendliness, educational advantages, and degree of student involvement in the mathematics learning process. Through thorough research, the study's findings should provide a significant contribution to the field of mathematics education. Specifically, they should enhance the quality of learning in the digital age by utilizing gamification-based technologies like Quizizz.

II. METHODS

This study examines how students feel about using Quizizz as an interactive math learning tool using a quantitative descriptive methodology. The study's participants comprised high school students in grade X who utilized Quizizz for educational purposes. Purposive sampling was utilized to choose the research sample, and 60 students from two courses were chosen at random. A closed questionnaire with a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree) was used to gather the data. This survey gauges a number of factors, such as Quizizz user engagement, learning advantages, and convenience of use. To make sure the instruments were adequate and consistent, validity and reliability tests were performed on the instrument prior to the distribution of the questionnaire. Once students have finished utilizing Quizizz for their study, information was gathered by having them fill out an online survey using Google Forms. Following data collection, the relationship between students' opinions of Quizizz and their motivation to learn was examined using inferential statistics and descriptive statistics to characterize students' impressions of the platform. SPSS software version 25 was used to help with data processing.

The association between perceptions and students' enthusiasm to learn mathematics was further examined using basic linear regression. The duration of this study is three months. The gadget was tested and prepared throughout the first month. Data gathering via questionnaire distribution was the main focus of the second month. Data analysis and research report preparation took up the third month. It is anticipated that this study will offer a greater knowledge of how students perceive using Quizizz and how it affects their motivation and engagement with learning mathematics.

III. RESULTS AND DISCUSSION

Following the collection of data from the questionnaire completed by sixty grade X students, descriptive statistics and basic linear regression tests were employed to examine the study's findings. According to a descriptive statistical analysis, Quizizz was generally viewed favorably by students as an interactive tool for learning mathematics. In terms of usability, the majority of students (80%) concurred that Quizizz offered a comfortable and easy-to-use learning environment. The average score of 4.37 out of 5 on this dimension serves as evidence of this.

About 75% of students believed that using Quizizz improved their understanding of the information that was provided by the teacher in terms of learning benefits. With an average score of 4.13 out of 5, Quizizz was found to be a useful tool for improving students' comprehension of the subject matter. Additionally, with an average student engagement score of 4.03, 70% of students reported feeling more inspired and involved in their studies after using Quizizz.

Table 1. Linear Regression Test

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12,060	1	12,060	237,932	.000b
	Residual	2,940	58	.051		
	Total	15,000	59			

Additionally, a straightforward linear regression test was run to look at the connection between students' enthusiasm to study and their opinions of Quizizz. The test findings indicated a significant link ($p < 0.05$) between motivation to learn mathematics and simplicity of use. This implies that students are more motivated to learn mathematics if Quizizz is simpler to use. Additionally, there is a strong correlation between students' learning motivation and the advantages of learning and student involvement, suggesting that these elements are crucial in raising students' motivation.

The study's findings suggest that adopting Quizizz as an interactive learning tool for mathematics has a beneficial impact on students' perspectives, particularly with regard to the tool's simplicity of use, learning benefits, and student engagement. The high perceived score for ease of use on Quizizz suggests that students find the platform easy to use and comprehend because to its straightforward UI. This is consistent with other research that shows greater student participation in digital learning requires technology to be simple to use [11]. According to the findings, Quizizz can aid pupils in understanding the subject matter more thoroughly [12], Quizizz's use of gamification and direct feedback appears to help students retain the information while also fostering a more pleasurable learning environment. These results corroborate earlier research demonstrating how gamification can enhance student engagement and memory of mathematical concepts [13].

Significant outcomes were also shown by student engagement. Quizizz's competitive features, including the leaderboard and point system, probably contributed to the increased activity and motivation that most students experienced while using it. By encouraging healthy competition among students, these components increase students' intrinsic motivation and produce extrinsic motivation. These findings are consistent with the incentive theory, which holds that competitive activities in math classes can boost students' participation and engagement [14]. This study demonstrates how employing quizzes as a teaching tool for mathematics improves students' positive learning attitudes and has a major impact on their willingness to learn. Therefore, quizzes can be useful, particularly when they facilitate participative, dynamic, and interesting learning.

IV. CONCLUSIONS

Overall, students have a positive opinion of Quizizz as an interactive mathematics learning tool, according to the study's findings about students' perceptions of the platform. The majority of students find Quizizz to be user-friendly, which aids in their comprehension of the subject matter and motivates them to learn mathematics. The high average scores in the three areas—student engagement, learning advantages, and simplicity of use—indicate this. Furthermore, the results of the regression test indicated a strong correlation between the learning motivation of students and their opinions of Quizizz. Students are more motivated to stick with the learning process when they have a more good impression of Quizizz, particularly when it comes to its simplicity of use and educational advantages. As a result, quizzes are a useful tool for teaching mathematics, particularly when used to create an engaging and dynamic learning environment. An alternative that can enhance learning results, student engagement, and learning motivation is the usage of Quizizz in the classroom and during distant learning.

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