

Application of Varied Learning Methods to Increase The Effectiveness of The Teaching and Learning Process

Rafifah Putri Nur Aini ^{1,*}, Dewi Mardianti ²

1-2 Primary Teacher Education, Universitas Tunas Pembangunan Surakarta, Indonesia

* E-mail: rafifahp629@gmail.com

ABSTRACT

This study discusses the importance of implementing varied learning methods to increase the effectiveness of the teaching and learning process. It is hoped that teachers can be more creative and adaptive in selecting learning strategies to create a fun and meaningful learning environment. How does the implementation of a Quizizz-assisted gamification model affect students' mathematical communication skills? How does the use of gamification influence students' learning motivation in mathematics? To determine the impact of the Quizizz-assisted gamification model on students' mathematical communication skills. To assess the effectiveness of gamification in improving students' learning motivation in mathematics.

This study used a quantitative approach with a quasi-experimental design, applying a pretest-posttest control group format. This research was conducted at SD Negeri Cemani 02, specifically involving fourth-grade students. The data were analyzed using descriptive statistics and inferential statistics.

KEYWORDS: *educational innovation, learning methods, variation*

INTRODUCTION

In the era of growing globalization, and increasingly advanced and developing technology, teachers. During the Covid-19 era, it became one of the conditions that encouraged many changes in the teaching process in schools. Where all teaching access is done online and without face-to-face meetings as usual. Because the Covid-19 cases in Indonesia are getting worse and have claimed many lives, schools have been closed and teaching access is only through zoom meetings, Google Classroom, and Quiziz. Changes in learning methods continue to occur, until several methods are tried by teachers to achieve success in the learning process. In the Islamic teaching process, learning methods are an important component that helps students achieve educational goals efficiently and effectively. Method acts as a guide to explain the subject matter in the curriculum Various methods that teachers can use include lectures, discussions, giving assignments (reality), demonstration, and problem solving. (Ahyat, 2017)

This change in the form of learning occurs at all levels of education from kindergarten to college level, all online. The most prominent changes in the teaching process are the teacher's method of explaining, learning media, and learning evaluation models.

One form of learning innovation used by teachers to achieve learning goals is Quizizz, which is an online learning application used by teachers to help students understand something they read

in a fun way using their cellphones. That quizizz is a digital platform to help students understand something that is read in a fun way by using their gadgets (Priyanti, et al., 2019).

The use of quizizz as a form of practice in working on questions is one of the innovations in using various learning methods, and the use of technology in accordance with the development of the times. The use of technology in learning for generations z and alpha is very important. They are used to using cellphones and laptops for learning. Quizizz as a platform that contains questions that have been arranged in such a way by teachers today.

research ide discussion, Analyze the application of various learning methods in the classroom teaching and learning process. Identify the influence and impact of using various learning methods on the effectiveness of the learning process, both in terms of student engagement and learning outcomes. Explore teacher and student perceptions of the successes, challenges, and advantages of using various learning methods.

Background of the Study

Education plays a crucial role in shaping students' cognitive and affective development, particularly at the elementary level. In mathematics education, students often experience difficulties in understanding abstract concepts, leading to a lack of motivation and low mathematical communication skills. The emergence of gamification models—specifically those assisted by digital platforms like Quizizz—offers an innovative solution to improve students' learning experiences. This research is driven by the need to explore how such gamification tools can enhance both students' mathematical communication skills and their motivation to learn.

Problem Statement

1. How does the implementation of a Quizizz-assisted gamification model affect students' mathematical communication skills?
2. How does the use of gamification influence students' learning motivation in mathematics?

Research Objectives

1. To determine the impact of the Quizizz-assisted gamification model on students' mathematical communication skills.
2. To assess the effectiveness of gamification in improving students' learning motivation in mathematics.

METHODOLOGY

Research Methodology

This study used a quantitative approach with a quasi-experimental design, applying a pretest-posttest control group format. The experimental class was treated using the Quizizz-assisted gamification model, while the control class was taught using conventional methods.

Research Location

This research was conducted at SD Negeri Cemani 02, specifically involving fourth-grade students.

Data Analysis Techniques

The data were analyzed using descriptive statistics and inferential statistics. The inferential analysis included normality and homogeneity tests, followed by t-tests to determine the significance of differences between the control and experimental groups. These analyses were used to evaluate both the students' mathematical communication skills and learning motivation. Provide recommendations for education practitioners in developing more effective learning strategies through diverse approaches.

Study And Learning

Learning is an activity carried out at school every day. For students, learning is considered a process. They are involved in thinking while studying the material being taught. Meanwhile, according to teachers, learning is an action that is seen when students learn new things (Dimiyati and Mudjiono, 2010).

Journal of Office Administration Education (JPAP) Volume 8, Number 2, 2020 263. According to Gagne (in Dimiyati and Mudjiono, 2010:10), learning consists of a series of interrelated activities. The results of the learning process can be interpreted as abilities. After the learning process, students will gain knowledge, perspectives, skills, and values. Based on the various opinions that have been presented, it can be concluded that learning is a series of activities that go beyond just remembering, but are also interrelated processes or experiences.

According to the contents of Law No. 20 of 2003, the learning process is an interaction between students and teachers and teaching materials in a learning atmosphere. The components of learning include teachers, students, and curriculum (which includes material or lesson content, media, methods, objectives, and assessments). All of these components must be well coordinated and cannot be done separately, because cooperation is needed to achieve the desired educational goals (Rosy, 2013). Thus, it can be concluded that learning is a process of interaction between students, teachers, and teaching materials in a learning environment, where there is an active exchange of information.

Instructional Media

According to Gagne (in Sadiman, et al., 2010), learning media consists of various elements that exist around students and can trigger learning activities. Meanwhile, Briggs (in Sadiman, et al., 2010) argues that learning media are concrete objects used to convey information and encourage students in learning activities, examples include videos, books, animations, and films. Learning media functions as a means to convey information from the sender to the recipient, which can stimulate

students' feelings, attention, thoughts, and desires, thereby triggering the learning process (Sadiman, et al., 2010).

Quizizz Educational Game

Based on Tedjasaputra's opinion (in Wijayanto, 2017), educational games are games specifically designed for educational purposes. Educational games include several elements such as sound, images, videos, and animations.

The Quizizz media has a significant advantage, namely that each question displayed in the Quizizz media has a specified time. This trains students to think quickly and accurately when working on the questions provided in the Quizizz media. Another advantage of the Quizizz media is that the answers to the questions will be displayed in color and images, and can be seen on the teacher's monitor (as the manager) and on the student's device will change automatically according to the order of the questions displayed.

RESULTS AND DISCUSSION

The results of interviews that I conducted with teachers and principals showed the fact that students were more enthusiastic and interested in learning in using various learning methods through quizizz, because for students learning with quizizz is more interesting and can be done while playing, unlike learning through books that they consider boring.

Learning

Learning is an activity carried out at school every day. For students, learning is considered a process. They are involved in thinking while studying the material being taught. Meanwhile, according to teachers, learning is an action that is seen when students learn new things (Dimiyati and Mudjiono, 2010).

Journal of Office Administration Education (JPAP) Volume 8, Number 2, 2020 263. According to Gagne (in Dimiyati and Mudjiono, 2010:10), learning consists of a series of interrelated activities. The results of the learning process can be interpreted as abilities. After the learning process, students will gain knowledge, perspectives, skills, and values. Based on the various opinions that have been presented, it can be concluded that learning is a series of activities that go beyond just remembering, but are also interrelated processes or experiences.

According to the contents of Law No. 20 of 2003, the learning process is an interaction between students and teachers and teaching materials in a learning atmosphere. The components of learning include teachers, students, and curriculum (which includes material or lesson content, media, methods, objectives, and assessments). All of these components must be well coordinated and cannot be done separately, because cooperation is needed to achieve the desired educational goals (Rosy, 2013). Thus, it can be concluded that learning is a process of interaction between students, teachers, and teaching materials in a learning environment, where there is an active exchange of information.

Instructional Media

According to Gagne (in Sadiman, et al., 2010), learning media consists of various elements that exist around students and can trigger learning activities. Meanwhile, Briggs (in Sadiman, et al., 2010) argues that learning media are concrete objects used to convey information and encourage students

in learning activities, examples include videos, books, animations, and films. Learning media functions as a means to convey information from the sender to the recipient, which can stimulate students' feelings, attention, thoughts, and desires, thereby triggering the learning process (Sadiman, et al., 2010).

Quizizz educational game

Based on Tedjasaputra's opinion (in Wijayanto, 2017), educational games are games specifically designed for educational purposes. Educational games include several elements such as sound, images, videos, and animations. The Quizizz media has a significant advantage, namely that each question displayed in the Quizizz media has a specified time. This trains students to think quickly and accurately when working on the questions provided in the Quizizz media. Another advantage of the Quizizz media is that the answers to the questions will be displayed in color and images, and can be seen on the teacher's monitor (as the manager) and on the student's device will change automatically according to the order of the questions displayed.

Research and Discussion

Analyze the application of various learning methods in the classroom teaching and learning process. Identify the influence and impact of using various learning methods on the effectiveness of the learning process, both in terms of student engagement and learning outcomes. Explore teacher and student perceptions of the successes, challenges, and advantages of using various learning methods.

Conclusion

Based on the results of the study, it can be concluded that the implementation of varied learning methods significantly contributes to improving the effectiveness of the teaching and learning process. By combining different approaches—such as group discussions, project-based learning, visual aids, interactive media, and student-centered activities—teachers are able to address diverse learning styles and increase student engagement.

The findings indicate that varied methods not only enhance students' motivation and participation but also help them better understand and retain learning materials. Furthermore, teachers reported greater flexibility and responsiveness in adapting to classroom needs when using a variety of instructional strategies.

In conclusion, integrating diverse learning methods into classroom practice is a key factor in fostering a more dynamic, inclusive, and effective learning environment. Educators are encouraged to continue exploring and applying multiple teaching strategies to meet the evolving needs of their students and promote meaningful learning outcomes.

REFERENCES

Munna, A. S., & Kalam, M. A. (2021). Teaching and learning process to enhance teaching effectiveness: a literature review. *International Journal of Humanities and Innovation*, 4(1), 1–4.

- Emma, L. (2024, October 20). The Role of Learning Styles in Effective Teaching and Learning. (dalam ResearchGate).
- Bonwell, C. C., & Eison, J. A. (1991). Active Learning: Creating Excitement in the Classroom. Journal of Educational Research. (dikutip dalam Wikipedia)
- Wikipedia. (2025, July). Blended learning. Wikipedia.
- Wikipedia. (2025, July). Student-centered learning. Wikipedia.
- Main, P. (2022, Jan 4). 21 Proven Teaching Strategies to Enhance Student Learning in 2025. Structural-Learning.com.
- Sparx Services. (2024). Embracing Effective Teaching and Learning Methods. Indeed Career Advice. (2025). 9 Teaching Methods To Promote Success in the Classroom.
- Engage-Education.com. (2020). Effective Teaching Strategies That Accommodate Diverse Learners.
- Gherman, O., Turcu, C. E., & Turcu, C. O. (2022). An Approach to Adaptive Microlearning in
- Kovalenko, V., Marienko, M., & Sukhikh, A. (2022). Use of augmented and virtual reality tools in...blended learning. ArXiv.
- Lytvynova, S., & Pinchuk, O. (2018). The Evolution of Teaching Methods of Students in Electronic Social Networks. ArXiv.