Utilization of Quizizz as an Online Learning Media for Early Childhood

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A B S T R A C T

This research aims to see the benefits of Quizizz as an online learning media for young children. The approach used is quantitative with a quasi-experimental design. The research sample consists of 142 early childhood children aged 5-6 years at the Al-Amin Batuangkar Kindergarten. The research lasted for three months, from January to March 2024. Data collection techniques include observation, structured interviews with teachers, and questionnaires to measure students' perceptions of using Quizizz. The collected data is analyzed using descriptive and inferential statistics to test the research hypothesis. The research results show that the use of Quizizz significantly increases interest in learning and understanding number material in Arabic in young children. Children who used Quizizz show higher increases in learning outcomes compared to the control group who used conventional learning methods. Based on these findings, it is recommended that educators and educational institutions consider integrating Quizizz or similar platforms in the learning curriculum for early childhood, considering its positive impact on children's motivation and learning outcomes. This research makes an important contribution to the field of early childhood education, especially in the use of educational technology to improve the quality of learning.

Keywords:
Quizizz, Learning Media, Early childhood

Introduction

The use of technology in learning is a reform effort to make the learning process more efficient and flexible. The use of technology in education can be utilized in educational media. Information and communication technology has had a significant impact on various aspects of life, including education at all levels (Zhang & Lu, 2021). Currently, technology is considered a quick solution to educational problems, and the increasing use of social media encourages creativity and innovation in various matters related to education (Haleem et al., 2022). The increasing use of social media encourages creativity and innovation in various matters related to education (Kim, 2020). Digital technology in educational institutions functions as a means of supporting learning, both for accessing information and for mapping learning activities (Lin et al., 2017). Digital technology in educational institutions has also become a major need in the world of education (Rassel et al., 2020).

Learning is a communication process between students, teachers, and subjects (Holmes & Prieto-Rodriguez, 2018). This communication requires a message delivery media which contains learning content described by the teacher in verbal and nonverbal symbols (Lauricella et al., 2020). However, traditional learning media such as books and laptops are often less attractive to students so that learning objectives cannot be achieved (Puspitarini & Hanif, 2019). Good learning media must be able to attract students' attention and clarify the content of the message.

Previous literature reviews show that learning media has an important role in the teaching and learning process. Learning media for early childhood must be able to convey material in an interesting and enjoyable way (Vidal-Hall et al., 2020). One learning media that is increasingly popular is the Quizizz application (Nur Ismiatun et al., 2021). This application uses a teaching method in the form of questions that must be answered by students, which can increase learning motivation and concentration.

Apart from that, online learning media similarly allows access to various interactive and varied educational resources, thereby supporting the cognitive, social and emotional development of early childhood holistically. The use of technology in online learning media provides flexibility in time and place, allowing children to learn at their own pace and making learning more adaptive to individual needs.

Previous research by (Mardiyah, 2023) stated that Quizizz is effective in learning Arabic and has a positive view from teaching staff and students. (Anak Yunus & Hua, 2021) shows that Quizizz can shape students' critical thinking in online learning. (Dewi & Santosa, 2022) found that Quizizz improved the understanding and language skills of dyslexic students. The difference between this research and previous research is the use of new features in Quizizz which are more interesting and innovative, so it is hoped that it can increase learning effectiveness.

This research aims to see the benefits of Quizizz as an online learning media for young children, especially regarding number recognition material in Arabic. The challenges faced include the ability of teaching staff to organize interesting lessons through Quizizz as well as technical problems such as smooth internet networks. With proper use, it is hoped that students can more easily understand the material through fun learning.

Method

The method used is quantitative with an experimental design. This research is conducted for three months, from January to March 2024 (Fellows & Liu, 2021). The research subjects consist of 142 early childhood children aged 5-6 years at the Al-Amin Batusangkar Kindergarten. Subject selection is carried out randomly to ensure good representation of the population (Mohajan, 2020). Data collection techniques include observation, structured interviews with teachers, and questionnaires. Observations are made during learning sessions to record children's behavior and level of engagement. Structured interviews with teachers are used to gain perspectives on the effectiveness and challenges of using Quizizz in the classroom. Questionnaires are administered to children with the help of teachers to measure their perception of the use of Quizizz. This questionnaire is designed to be age appropriate for the child using pictures and a simple rating scale (Bloomfield & Fisher, 2019). The data analysis technique used in this research is descriptive. Descriptive analysis techniques are used to describe and analyze data obtained from questionnaires that have been distributed to respondents (Hennink et al., 2020).

The time and place of the research is carried out at the Al-Amin Batuangkar Kindergarten. The object of this research is the use of quizizz as a learning media for early childhood. The method used in this research is a quantitative method (Litosseliti, 2018).). Research locations are usually conducted at schools or academic institutions. The data collection methods used in this research are questionnaires (by distributing questionnaires to students, the aim is to find out the ratio of media qualifications to students) and observation (looking for initial knowledge, determining who is observing knowing the ratio of media qualifications) to students to achieve research purposes, questions to ask, preparing observations, identifying additional data needed, and recording observations) (Brace, 2018). Examples include research in Islamic kindergartens, Islamic elementary schools, Tsanawiyah madrasas, Aliyah madrasas and universities.

Data collected from field observations of respondents feel data analysis techniques in quantitative research, For example, calculating data processing procedures for hypothesis testing and tabulation according to type of respondent. In quantitative research, there are usually statistical tests, namely inferential statistics (good to use if the data collection technique is random and the population sample data is clear) and descriptive (to analyze data by describing and illustrating the collected data without changing the source) which are two parts of inferential statistics, parametric statistics (strong if all assumptions are met) and nonparametric (data commonly used in statistics are nominal and ordinal) (Yusup et al., 2018).

Result and Discussion

The Quizizz application is useful as an online learning media for young children, especially regarding numbers 1-10 in Arabic. The form of measurement in research on the use of Quizizz as an online learning media applies a Likert scale which is a measuring tool for measuring a person's attitudes, opinions, or perceptions of a statement. This scale consists of several answer choices arranged sequentially, starting from the most disagree to the most agree. In this research, the Likert scale used has 3 answer choices, namely: strongly agree, agree, disagree. Respondents are asked to

choose one answer that best suited their opinion of each statement in the questionnaire.

Experimental steps for using Quizizz as a learning media on the topic of numbers in Arabic at the Al-Amin Batusangkar Kindergarten. Firstly, initial planning is carried out by identifying specific learning objectives for understanding numbers in Arabic and selecting learning materials that are appropriate to the age and abilities of young children. Secondly, Quizizz is developed to cover various aspects of number recognition and simple calculations adapted to the level of understanding of young children and adding interesting visual elements. Teachers are then trained in using the Quizizz platform, including how to set up quizzes and utilize interactive features such as leaderboards and instant feedback.

Two groups of students are randomly selected in which the experimental group uses Quizizz as additional media while the control group applies conventional learning methods. Each learning session is carried out by providing time for interaction with Quizizz. Ensuring all students have the necessary device access and a stable internet connection. Observations are created of student interactions with Quizizz, with recording of levels of engagement, responses to questions, and enjoyment of using the platform.

Data is collected through questionnaires to measure students' perceptions of Quizizz as well as interviews with teachers to evaluate its effectiveness in increasing students' understanding and interest in learning. Test or assessment results before and after using Quizizz are analyzed to see changes in understanding of the material. Data analysis uses a Likert scale in the questionnaire to analyze students' responses to Quizizz and their evaluation of the learning experience. The following are the results of data distribution regarding the use of Quizizz in learning:
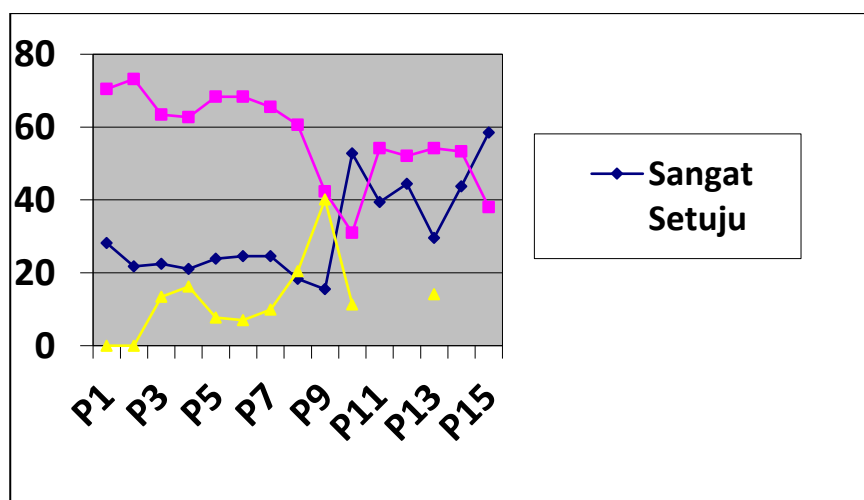
Graph 1. Results of analysis of the use of the Quizizz application in learning

The graph above shows the results obtained from research on the use of the Quizizz application as an online learning media for early childhood, showing interesting patterns in student responses. Of the 142 students who are research subjects, there are 15 questions used to test their understanding and perception of Quizizz. The first highest result is obtained on the question which shows that the Quizizz application is very enjoyable as an online learning media, with a percentage of 73.2% in the agree (S) category. Furthermore, the second highest result is on the question which stated that Quizizz created the learning process more efficiently, with a percentage of 70.4% in the agree (S) category. Meanwhile, the third highest result is on questions which showed that Quizizz could be used to evaluate students independently with a percentage of 68.3% in the agree (S) category.

In interpreting the data, it can be seen that the agreed category is the category with the highest percentage in the results of this research. The highest percentage for the strongly agreed category is 58.5% indicating that the majority of students has a very positive view of using Quizizz. Meanwhile, for the agreed category, the highest percentage is 72% which also shows a high level of acceptance of this application. Meanwhile, the disagree category has the highest percentage of 40.1%, indicating that only a small percentage of students have a disapproving view of Quizizz as a learning media.

These results illustrate that overall, the Quizizz application receives a significant positive response from students at Al-Amin Batuangkar Kindergarten with the majority of them agreeing or strongly agreeing that Quizizz is an effective and enjoyable learning media. This shows that Quizizz has great potential to be applied in early childhood education to improve the quality of learning and their learning motivation.

Figure 1. Quizizz application

Figure 1. There is the Quizizz application which is used as an online learning media for early childhood children at the Al-Amin Batuangkar kindergarten. The form of the application is in the form of questions that are closely related to learning about number recognition material in Arabic. This form of learning media can be easily downloaded into students' Android applications and can be easily accessed anytime and anywhere. The questions contained in the Quizizz application are aimed at students, especially students at the Al-Amin Batuangkar kindergarten. This application is very helpful for students during the learning process, especially in the discussion regarding number recognition material in Arabic because this application contains vocabulary and is accompanied by images or sounds to support the media so that learning becomes more interesting and enjoyable for students. Educators are also helped so that online learning can be accessed by students and can measure student competency and inspire innovation and enthusiasm for learning.

The specialty of this quizizz application is that it contains learning material that is presented in an interesting, clear, non-monotonous way, and in accordance with the learning material. it Also includes clear instructions for use and a fun learning system. Using the quizizz application is very useful nowadays, especially in the digital era in

which the learning process can be carried out using this application because this application contains interesting and clear media. This quizizz application has a huge positive impact on the learning process, namely making it easier for students to understand learning, especially regarding number recognition material in Arabic, easily accessing the material and following developments. It is hoped that students can use this quiz application appropriately so that students can understand the material presented by the teaching staff.

The research results obtained by researchers use the Quizizz application as a learning media regarding the material for recognizing numbers in Arabic at the Al-Amin Batuangkar kindergarten. The purpose of using the quizizz application is to make it easier for students to understand the material for recognizing numbers in Arabic and to test students' abilities. Using the Quizizz application is suitable for educators who want learning media regarding number recognition material in Arabic for kindergarten. Using the Quizizz application is very good for students because it is easy to access on the Android application and can be taken anywhere. Learning media becomes fun with this application because it is designed to be as attractive as possible utilizing images or sounds as well as clear and precise language. This quizizz application can increase students' enthusiasm, especially in learning about number recognition material in Arabic, because the media is fun and equipped with pictures or sounds.

The quizizz application has spread widely into the world of education and is used as a learning media. This quizizz application is used as a means of the learning process as well as measuring each student's ability to understand learning from teaching staff. Al-Amin Batuangkar Kindergarten which uses the Quizizz application has a good internet network to support Android accessing learning media from this application. Kindergartens that do not yet use learning media use this application, usually in remote areas in which internet networks are difficult to access learning media. The researcher hopes that future researchers can help kindergartens that do not yet use learning media using the Quizizz application so that they can then use this learning media easily in accordance with technological developments in the world of education.

Figure 2. Use of the Quizizz Application

The picture above shows the process of carrying out field research at the Al-Amin Batuangkar kindergarten on Saturday, March, 18 2023. There is socialization firstly and followed by a question and answer process regarding the questions that the researchers have created on the quizizz application. The purpose of socialization is carried out because at Al-Amin Batuangkar kindergarten they didn't know what quizizz is. The research objects are 27 students and 3 accompanying teachers. During the question and answer process, students actively answer the questions asked in the application with high enthusiasm. Researchers ask 30 questions in Arabic, Indonesian, and English. Having pictures next to questions makes it very easy for students to answer these questions because young children learn concretely about in which the object being asked is. The obstacle during the question and answer process is that there are several questions that students could not answer regarding the material for recognizing numbers in Arabic.

This quizizz application is suitable for measuring students' understanding of number recognition material in Arabic at the Al-Amin Batuangkar kindergarten. This application is equipped with statistical data that can describe the extent of students' abilities in understanding the material presented by educators. This application is also equipped with interesting features so that learning is not monotonous and interesting. The quizizz application can be used to create interactive quizzes that are easily

accessible on all devices such as smartphones, computers or other devices connected to the internet to complete quizzes that have been created by educators. This quizizz application can invite students to compete in a healthy manner while motivating students' learning so as to improve learning outcomes which can be seen from the final score of this game.

This quizizz application is more effective to use because this application uses many interesting learning features so that learning is not monotonous and the material is easily accepted by students and can stimulate students' brain development. Educators are also increasingly releasing innovations to create interesting Arabic learning media so that students do not feel bored in understanding the lesson. The quizizz application is often also referred to as a learning media in the form of an educational game which aims to be a means of conveying material and as a media for measuring abilities. The advantage of the quizizz application itself is that the material can be accessed anytime, anywhere and by anyone, making it easier for students to understand the learning so that the learning objectives are achieved.

The research results show that there is high enthusiasm from students towards using the Quizizz application as an online learning media for number recognition material in Arabic at Al-Amin Batuangkar Kindergarten can be confirmed by several other theories and views in the context of early childhood education.

Firstly, the theory of cognitive development by Jean Piaget emphasizes that early childhood children learn through direct interaction with their environment. The use of the Quizizz application which is equipped with concrete pictures and questions supports this theory by providing concrete objects (pictures and numbers) which help children understand mathematical concepts such as recognizing numbers in Arabic. This is in accordance with the observation that students easily answer questions accompanied by images in the application because concrete learning provides clearer and easier to understand stimuli for young children (Aisy et al., 2024; Andesta et al., 2024).

Secondly, constructivist learning theory by Lev Vygotsky (Sartika et al., 2017; Trisia et al., 2024) highlights the importance of social interaction in learning. Using Quizizz to create interactive quizzes which can be accessed on various devices allows

students to learn independently while competing with their friends. The leaderboard and instant feedback features of Quizizz can stimulate students to compete healthily, increase learning motivation, and expand their knowledge of numbers in Arabic.

Apart from that, the research results also note that the Quizizz application is not only effective in increasing student motivation and learning outcomes but also makes learning more interesting and less monotonous. This is in line with educational psychology theory which emphasizes the importance of enjoyable learning to maintain children's interest in learning (Istiqomah et al., 2024; Novianti et al., 2022; Ratna Dewi et al., 2021).

Overall, the use of the Quizizz application in this research provides theoretical support from the perspective of children's cognitive and social development as well as the principles of educational psychology which emphasize interaction, activeness, and student involvement in the learning process. The positive results of this research show that the Quizizz application can not only be used as a tool to measure students' understanding of the material but also as an effective means to improve learning outcomes and motivate them in learning Arabic in kindergarten.

Conclusion

Based on the research above, researchers can conclude that the Quizizz application is useful as an online learning media for early childhood, especially regarding numbers 1-10 in Arabic in which the Quizizz application has a significantly positive effect on interest in learning and understanding number material in Arabic in early childhood. Children who are involved in using Quizizz experienced a much higher increase in learning outcomes than the control group who used conventional learning methods. This shows that Quizizz not only increases children's learning motivation but also helps them understand the material better. By using this experimental approach, the benefits of using Quizizz as an online learning media can be seen from a significant increase in learning outcomes which shows its effectiveness in improving the quality of learning at an early age level.

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