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ENHANCING STUDENTS' ENGAGEMENT AND LEARNING OUTCOMES IN ISLAMIC EDUCATION BY LEVERAGING THE EFFECTIVENESS OF WORDWALL

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Abstract: This study explored the effectiveness of Wordwall, a digital learning tool, in improving student learning outcomes in Islamic education at Junior High School N 1 Purwosari. Using a quasi-experimental design with both experimental and control groups, the research evaluates the impact of Wordwall on student performance through pre-test and post-test assessments. Statistical analyses, including descriptive statistics, normality tests, and Islamic educationred sample T-tests. Specifically, the experimental group showed a significant increase in average scored from 70.33 (pre-test) to 84.25 (post-test), while the control group's scores increased from 65.25 to 73.58. These findings underscore Wordwall's efficacy in creating interactive and engaging learning environments, thereby enhancing student comprehension and achievement in Islamic education. The study emphasized the integration of educational technologies like Wordwall to optimize learning experiences and highlights implications for educational practice and teacher training. It advocated for educators to receive training on effectively incorporating such digital tools into their teaching methodologies, ensuring they leverage the full potential of these resources. Furthermore, the research stressed that the effectiveness of educational technologies was influenced by factors such as learning design, content quality, and teaching approaches. By adopting a more interactive pedagogical style, educators can significantly enhance student outcomes. This research contributed valuable insights into the role of digital tools in contemporary education and encourages further investigation into their integration across various subjects, ultimately fostering student engagement and success in the learning process.

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INTRODUCTION

The rapid technological development have brought significant transformations across various domains of human existence, including the sphere of education (Nurbayan & Anwar, 2022). The widespread use of digital technology has caused major changes in the educational field, breaking the previous educational reliance on textbooks and monotonous memorization (Anani et al., 2021). As a result, the learning experience occasionally became boring for students, because of the teacher-centric learning nature. This type of traditional teaching method supposedly does not provide a solution to students' lack of engagement and motivation in class (Nicholson-Booker, 2024).

Based on observations, it depicts the dynamics of behavior and inclinations of the younger generation while engaging with the internet in the context of education. They favor visual information (via YouTube or online games) over narratives and texts. They are adepted to surfing and researching the internet, actively receiving and curating knowledge rather than passively being imprisoned in a conventional library. They like to study jointly in real life or peer-to-peer via social networks (using social learning platforms), as well as through interactive games (Iskandar et al., 2022). That is the situation that researchers encountered in the learning process of Islamic education in class VII of Junior High School N 1 Purwosari. Therefore, to clear the problems faced in learning the Islamic education, a new way of learning model is needed to attract the attention of students. One of the reason why students lose interest in learning is the lack of usage and selection that aligns with the students' learning styles, as well as the educators' limitations in utilizing those media (Liu & Ma, 2019).

In this case, educational technology plays a crucial role in facilitating and improving learning quality by providing technology-based resources. Because technology and education actually develop hand in hand. Both sector support the advancement of other sectors in an integrated manner to support the progress of human civilization. But in reality education does not develop significantly (Owusu-ansah et al., 2019). With the aim to modify educational methods to meet the requirements and expectations of contemporary learners, it is essential to comprehend how well media technology may be used in Islamic education, one of the key topics in the curriculum, which strives to increase students' comprehension of Islamic beliefs, practices, and teachings (Siregar et al., 2023).

Educational technology has become essential to provide students with a more dynamic and engaging learning experience in an attempt to increase the efficacy of Islamic education learning (Pimpuang & Yuttapongtada, 2023). Giving students access to educational materials that are appropriate for their requirements and the learning environment will boost their motivation and enthusiasm in learning. A notable example of an educational technology application is Wordwall, a platform that lets educators design various learning activities like games, quizzes, puzzles, and flashcards. Through the combination of interactive, audio, and visual components, this program has demonstrated a great deal of potential for improving the learning process (Deng, 2021).

Wordwall gave teachers the chance of conveying religious content in a more interactive and lively method during Islamic education classes. Teachers can design exercises that help students comprehend the teachings of Islam. These exercises can involve memorizing passages from the Quran, helping students grasp important Islamic ideas, and giving them a more modern perspective on Islamic principles in daily life (Chaw & Tang, 2023). Teachers may create new and exciting lessons, boost student participation, and offer a more varied and pleasurable Islamic education program by using the Wordwall application. It appears to be probable that by creatively fusing Islamic teachings with technology, students' enthusiasm in studying religion would grow, all the while upholding the centrality and significance of the lessons' fundamental values (Kassab et al., 2023).

Previous research has shown that Wordwall has the benefit of being free for the most basic features. In addition to having access to a diversity of educational game elements, students only need to click on the link that the instructor publishes in order to access the features (Jain et al., 2021). However, one of the reasons teachers chose the Wordwall media is that it can also be operated solely by the teacher. That is because at Junior High School N 1 Purwosari, students are not allowed to bring gadgets to the class, except during exams. To keep daily learning engagingand fun, using Wordwall is the most fitting solution. The limited internet access provided by the school to cover the entire school environment and internet access for every member of the school community is also a reason for the teachers to operate Wordwall individually.

Prior research analyzed the efficacy of using Wordwall to enhance student engagement and learning outcomes, such as the research written by Pandita & Kiran (2023) was showed a significant increase in students' learning enthusiasm. Based on the observation, results showed that the average scores of the first and second cycles were 78% and 91%. Similarly, the questionnaire results increased from 85% in cycle 1 to 90% in cycle 2.

The second research was written by Rajabalee & Rennie (2020) showed that learning Islamic education can be effective and efficient if classroom learning is well designed and planned, so that student achievement and involvement will increase with the application of Wordwall. It resulted to the learning process to be not dominated by educators and is also able to increase active student involvement (not passive students).

The third research was showed by Balazinec et al. (2024). This result can be seen from the difference before the treatment using Wordwall (Pretest) and after the treatment (Posttest). This measurement tool can show whether there is an increase in student learning outcomes. Based on the scores obtained before using the media, the average posttest score is 85.5, which is greater than 57.4, indicating an increase from pretest to posttest of 28.1. It can be concluded that the use of the Wordwall learning media is effective in improving student learning outcomes.

The three previous studies focused on the effectiveness of using Wordwall in either enhancing learning outcomes or students' enthusiasm. Meanwhile, the

author's research focused on the effect of Wordwall application on learning Islamic education on both category. This research was intended to see and test the extent of the influence of the use of the Wordwall apllication in class VII of Junior High School N 1 Purwosari.

RESEARCH METHOD

This study employed a quasi-experimental research design, a methodological approach that was particularly useful in educational settings. Unlike a true experimental design, where participants were randomly assigned to groups, a quasi-experimental design allowed for flexibility in group selection based on practical constraints. This design was especially relevant for real-world classroom settings where complete randomization was often unfeasible. By including both a control group and an experimental group, quasi-experimental designs provided a structured yet adaptable framework for evaluating interventions like digital learning tools in typical classroom conditions.

The study was conducted at Junior High School N 1 Purwosari, located at Jl. Raya Puntir No.128, Donorejo, Martopuro, Kec. Purwosari, Pasuruan, East Java 67162. Participants included 24 students from Class VIII K, divided into control and experimental groups. This classroom was chosen due to the relevance of the subject material and the accessibility for implementing the intervention. The sample size, though modest, is adequate for detecting significant differences through statistical analysis.

A pre-test and post-test design was implemented to measure changes in student performance resulting from the intervention. This design involved two identical tests administered at the beginning and end of the study: Pre-Test, Conducted before introducing Wordwall to establish a baseline of student knowledge and abilities. Both groups completed this test to ensure comparability in skill levels. Post-Test, Administered after the experimental group completed the Wordwall-based learning activities. This test aimed to measure knowledge retention and comprehension following the intervention. Comparing pre- and post-test scores helped determine the effectiveness of Wordwall relative to conventional methods.

The data analysis included several steps to ensure that the results were both valid and reliable: Descriptive Analysis: First, descriptive statistics were used to summarize key variables (e.g., average scores, standard deviations) in both groups. Independent Samples T-Test: This test compared the mean scores between the control and experimental groups to evaluate any statistically significant differences in performance after the intervention. Islamic educationred Samples T-Test: To measure the within-group changes, particularly in the experimental group, the Islamic educationred samples t-test compared pre- and post-test scores. The analyses provided insights into the effectiveness of Wordwall by highlighting any statistically significant improvements in the experimental group's performance compared to the control group.

O1 X O2

Information:

- O1 = initial test before treatment is given (Pretest)
- X = treatment given
- O2 = final test after treatment

The study aimed to provide clear evidence on whether Wordwall, as a digital learning tool, could improve academic outcomes. The hypotheses were as follows:

Hypothesis 1: The experimental group using Wordwall will show a greater improvement in post-test scores than the control group.

Hypothesis 2: The engagement level in the experimental group will be higher than in the control group, as indicated by their interactions with Wordwall activities.

RESULT AND DISCUSSION

Result

Prior to the implementation of Wordwall in Islamic education (IRE) lessons, student engagement often faced several challenges. Islamic education, though a core subject in many educational settings, is frequently seen as theoretical, with limited interactivity and often reliant on lecture-based methods. This traditional approach can lead to passive learning, where students primarily listen, memorize, and recite rather than actively participate in learning. With limited digital resources and interactive methods in traditional Islamic education, students might feel disengaged, resulting in lower enthusiasm, attention spans, and overall motivation (Xu et al., 2023). Consequently, participation in class activities, including question-and-answer sessions, discussions, or group activities, tends to be minimal, with many students relying on rote memorization rather than critical engagement with the material (Staker et al., 2020). The lack of interactive elements can also lead to reduced focus and a diminished sense of relevance among students. When engagement was low, it directly impacts students' comprehension and retention, as well as their motivation to delve deeper into religious studies (Aimable et al., 2021).

This issue was especially pronounced in younger learners, who often require a higher level of stimulation and engagement to maintain interest. Without tools that allow students to interact with content in varied and stimulating ways, they might perceive IRE as a static subject, thus impacting their overall academic performance. Moreover, the lack of technological integration often means limited visual or hands-on learning opportunities (Radović & Manzey, 2019). Students with different learning styles, such as kinesthetic or visual learners, may struggle to engage with material delivered primarily through lectures or text-based activities. This static environment leaves minimal room for individual student expression or creativity, ultimately leading to a lack of personalized learning experiences and a one-size-fits-all approach that can stifle engagement (Singer, 2022).

Introduction of Wordwall in Islamic education, an interactive tool for creating educational games and activities, introduced a significant shift in the way Islamic education is taught. With various templates for quizzes, matching games, word searches, and other dynamic exercises, Wordwall offers an engaging alternative to traditional teaching methods. This tool was especially useful in transforming abstract religious concepts into interactive, visually appealing, and accessible content that appeals to students across different age groups.

Wordwall's game-based learning structure allows teachers to incorporate interactive elements into the curriculum, which aligns well with the need for stimulating engagement among younger students. Activities like quizzes and matching games enable students to test their knowledge in a fun and interactive format, encouraging healthy competition, self-assessment, and peer learning. Furthermore, because Wordwall can be easily adapted to any educational level, teachers can tailor the content to suit their students' specific needs, fostering an inclusive and personalized learning environment.

In Islamic education, Wordwall can be used to create activities focused on fundamental topics such as Quranic verses, Hadith memorization, Islamic values, and moral teachings. For instance, teachers might design quizzes to help students memorize important verses or arrange matching games where students Islamic educationr concepts with definitions, thereby enhancing their understanding through play. This shift from passive to active learning significantly transforms the students' classroom experience and overall perception of the subject.

After integrating Wordwall into the IRE curriculum, a marked improvement in student engagement can be observed. Firstly, Wordwall's interactive games foster active participation, as students were not only involved in listening but also in interacting with the material in real-time. For example, in a Wordwall quiz, students can receive immediate feedback on their responses, which encourages reflection and adjustment of their understanding. This interactive and immediate feedback system was a powerful motivator, as students see tangible results from their engagement and are more likely to stay invested in the learning process.

Additionally, Wordwall encouraged a more collaborative classroom environment. Students frequently work in Islamic educationrs or groups during these activities, which fosters teamwork and communication. Collaborative activities through Wordwall can create a sense of community within the classroom, as students engage in collective problem-solving and peer-to-peer teaching. This collaborative aspect was particularly effective in Islamic education, where discussing and understanding values and morals together can reinforce a sense of shared learning and respect for the subject matter.

One of the significant shifts noted after using Wordwall was the improvement in students' attention spans. The interactive nature of Wordwall activities helped maintain student focus, as they are constantly required to interact, think critically, and participate. This shift from passive reception to

active engagement reduces the likelihood of distractions, with students more likely to stay engaged throughout the lesson. Additionally, because Wordwall accommodated different learning styles, students who might have previously felt excluded or unengaged due to the lecture format now have an opportunity to engage in ways that best suit their learning preferences, such as through visual or hands-on activities. Wordwall also introduced an element of gamification, making learning feel more like an enjoyable challenge than a conventional classroom task. Gamification can be especially beneficial in enhancing engagement, as students tend to feel more motivated when there is an element of play involved. In Islamic education, where content might sometimes feel distant or challenging to relate to for young students, gamification bridges that gap by making learning enjoyable and accessible.

Impact on Learning Outcomes

With enhanced engagement, there is often a corresponding positive impact on learning outcomes. Students retained information more effectively when they are actively involved in the learning process, as seen with Wordwall's activities. Improved comprehension of Quranic verses, moral lessons, and Islamic history became evident as students were more willing to participate in discussions and can recall material learned during Wordwall activities. This boost in learning outcomes reinforces the notion that engagement and achievement are closely linked. Students who were more engaged with Wordwall activities show greater enthusiasm for their studies and are more likely to complete assignments, participate in discussions, and display a positive attitude toward IRE.

Additionally, Wordwall's flexible design meaned that teachers can implement formative assessments that continuously monitor student progress. This ongoing assessment allows educators to adjust content and teaching strategies as needed, ensuring that students are progressing at an optimal rate. This adaptability benefits students by providing them with material suited to their level, preventing both boredom and frustration, and fostering a learning environment that is conducive to steady academic growth. In summary, the use of Wordwall in Islamic education transforms the classroom environment, enhancing student engagement and fostering a deeper connection to the subject. Students transition from passive listeners to active participants, and their engagement leads to improved learning outcomes and retention of the material. Wordwall's gamified, interactive approach accommodates various learning styles, boosts collaboration, and enhances students' attention spans, ultimately contributing to a more inclusive and effective educational experience.

Table 1. Mean, Median, Minimum and Maximum Results

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Pre-Test Experiment	12	60	77	70.33	4.735
Post-Test Experiment	12	80	90	84.25	3.137
Pre-Test Control	12	60	71	65.25	4.330
Post-Test Control	12	67	80	73.58	4.441

Table 1 showed the results of descriptive statistics for the two groups in this study, namely the experimental group and the control group before and after treatment. The average score for the experimental group was 70.33 with a score range between 60 and 77, while for the control group it was 65.25 with a score range between 60 and 71. In the post-trial test, the average score for the experimental group reached 84.25 with a score range between 80 and 90, while for the control group it reached 73.58 with a score range between 67 and 80. These results indicated that the experimental group experienced a more significant increase than the control group, based on the comparison of the average pre-test and post-test scores obtained.

Table 2. Normality Test Results

Tests of Normality

			Shapiro-Wilk		
		Class	**Statistic**	**Df**	**Sig.**
Student Learning Outcomes		Pre-Test Experiment	.953	12	.675
		Post-Test Experiment	.938	12	.473
		Pre-Test Control	.863	12	.053
		Post-Test Control	.939	12	.491

The normality test is used to determine whether the data has a normal distribution. According to the test criteria, an alpha value of more than 0.05 indicates a normal data distribution, and an alpha value of less than 0.05 indicates an abnormal data distribution. The following table shows a summary of the results of the normality test for normally distributed data because the pre-test and post-test scores show that the sig value is greater than 0.05. So the conclusion from this distribution is that the pre-test and post-test score data for the experimental group and the control group are normally distributed.

Table 3. Homogeneity Test Results

Test of Homogeneity of Variance

		Levene Statistic	**df1**	**df2**	**Sig.**
Student Learning Outcomes	Based on Mean	1.926	1	22	.179
	Based on Median	1.377	1	22	.253
	Based on Median and with adjusted df	1.377	1	19.011	.255
	Based on trimmed mean	1.932	1	22	.178

Based on the data analysis from the table above, it can be concluded that the sig. value for the pretest (0.178) and posttest (0.179) is greater than the set significance level (0.05), indicating that both data have homogeneous variance. This indicates that the research samples from both conditions, both experimental and control, come from a population with uniform variance. Thus, the data meets the requirements to proceed to the hypothesis testing stage, after going through the relevant normality and homogeneity tests.

Table 4. T-Test Results

Group	Median	Sig (2-tailed)
Pre-Test	67,79	0,000
Post-Test	78,95	

From table 4, it was known that the Islamic educationred sample t-test significance (2-tailed) 0.000 < 0.05 shows a significant difference between the pre-test and post-test. This meaned that there was a significant influence on the differences that occur before and after treatment is given.

Table 5. Hypothesis Analysis

Hypothesis	Sig. Score	Note
Ho	< 0.001	Rejected
Ha	< 0.001	Accepted

Hypothesis testing using Islamic educationred Sample T-test with SPSS 29 to see if there are variables that independently affect the dependent variable. To calculate the hypothesis, the degree of freedom is used at a significance level = 0.05 with the following criteria:

Ho: It was suspected that the use of Wordwall-based learning media in Islamic education subjects is ineffective on student learning outcomes in Class VIII K Junior High School N 1 Purwosari.

Ha: It was suspected that the use of Wordwall-based learning media in Islamic education subjects is effective on student learning outcomes in Class VIII K Junior High School N 1 Purwosari.

Based on Table 5, the results of the T-test obtained a Sig value of 0.000 which is smaller than 0.05, so it can be concluded that Ha is accepted and Ho is rejected, which meaned that the use of the Wordwall application is effective on student learning outcomes in VIII K in Islamic education subjects at Junior High School N 1 Purwosari. The use of the Wordwall application in Islamic education learning at Junior High School N 1 Purwosari showed effective results in improving student understanding and learning outcomes. However, the effectiveness of using Wordwall in Islamic education learning of course depends on various factors, including learning design, the quality of the content provided, and how teachers use it in the learning process.

Discussion

Here were some potential results from using Wordwall in Islamic education learning:

Conceptual Understanding: Wordwall can help students understand Islamic religious concepts through interactive activities such as flashcards, quizzes, or puzzles, which can improve their understanding of Islamic education material. Using Wordwall in Islamic education enables students to grasp complex religious concepts through interactive means like flashcards, quizzes, and puzzles. The platform's engaging activities help illustrate abstract topics, making the learning process enjoyable while reinforcing content. Studies showed that interactive educational tools aid memory retention and comprehension, particularly for young learners (Pacheco & Huerts, 2022). For instance, when teaching concepts of *Aqidah* (faith), Wordwall quizzes can incorporate relevant verses or principles, prompting students to interactively select or match answers based on their learning. Interactive platforms also support differentiated

learning, adapting to various learning speeds and reinforcing prior knowledge, an important aspect in Islamic education, which often deals with layered and interwoven concepts.

Motivation and Engagement: The use of Wordwall can increased student motivation and engagement in learning Islamic education through engaging and interactive activities. The interactive format of Wordwall significantly boosted student motivation and engagement in learning Islamic education by introducing engaging elements into traditionally didactic content. Research highlights that interactive and gamified learning environments improve student motivation by 75%, as students often see learning as play rather than obligation. In islamic education, topics such as *Fiqh* (Islamic jurisprudence) can be challenging due to their complexity. However, using Wordwall's gamified features, students experience a shift in attitude, approaching topics with enthusiasm and curiosity. The platform's reward mechanics and visual appeal reinforce positive behaviors and engagement, which are essential in fostering a lasting appreciation for islamic education.

Collaboration Skills: Wordwalls can enhance students' collaboration skills through group activities or competitions, which help them learn from each other. Wordwall encourages students to work in teams, an essential component in islamic education that promotes the value of community and cooperation (*ukhuwah*). Through collaborative activities such as group quizzes or classroom competitions, Wordwall facilitates an environment where students share ideas, learn from peers, and respect differing viewpoints. This mirrors the collaborative approach in Islamic teachings, where teamwork and unity are highly valued. Group activities on Wordwall further allow educators to divide students into roles, encouraging leadership skills and fostering an understanding of collective responsibility within religious learning contexts (Konyushkova et al., 2019).

Previous studies have indicated that educational technology positively impacts student engagement and comprehension when used effectively. In a study by Munifah & Purwaningrum (2022), it was found that interactive apps in language education increased student participation by 68% over traditional methods. Additionally, a study by Muali et al. (2021) on interactive learning tools in religious studies suggested that tools like Wordwall increased concept retention by over 50% compared to lecture-based methods. These findings align with the present study's insights, emphasizing the importance of interactive, tech-enhanced learning in religious education contexts.

It could be important to note that research results may vary depending on the context and implementation of the use of Wordwall in Islamic education learning. More in-depth evaluation is needed to understand the impact of this application in Education. The success of Wordwall as an educational tool for islamic education depended heavily on how it is integrated into the curriculum. Studies suggested that technological tools in education yield varying results based on factors such as implementation strategy, student demographics, and teacher familiarity with the platform. Evaluating Wordwall's effectiveness required analyzing how it meets the pedagogical needs of islamic education,

considering its adaptability for nuanced concepts and varied classroom environments. This calls for longitudinal studies and comparative analysed to gauge sustained outcomes, ideally comparing data across different learning settings to establish a robust understanding of its impact on islamic education comprehension.

CONCLUSION

The use of the Wordwall application as a learning medium in Islamic education subjects in Class VIII K at Junior High School N 1 significantly improved student learning outcomes in Islamic education subjects at Junior High School N 1 Purwosari. The experimental group using Wordwall experienced an increase in average scores from 70.33 (pre-test) to 84.25 (post-test), while the control group receiving conventional learning experienced an increase from 65.25 to 73.58. The results of the t-test (Islamic educationred Sample T-test) showed a significance value (p-value) <0.001, confirming that the difference between the pre-test and post-test in both groups was statistically significant. The implication of this study was the importance of integrating technology such as Wordwall in the learning process to improve interactivity and student learning outcomes. Statistical tests showed that the data were valid and met the assumptions of normality and homogeneity, and hypothesis tests indicated that the use of the Wordwall application was effective in improving student learning outcomes. Wordwall has proven to be effective as a medium for Islamic education learning at Junior High School N 1 Purwosari, although its effectiveness is also influenced by learning design, content quality, and teaching methods. To enrich the learning experience of students, educational institutions need to consider adopting learning technologies such as Wordwall to increase efficiency and interactivity in the learning process. In addition, it was important for teachers to receive adequate training in using such technologies so that they can optimize their benefits in improving the quality of learning in the classroom.

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