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Wordwall in the classroom: A qualitative study of student-teacher perspectives

Febiza Fonna*, Sukri Adani

STKIP Muhammadiyah Aceh Barat Daya, Indonesia

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Abstract: Wordwall is a digital platform that enables educators to create various interactive learning activities. This study explored the perceptions of students as instructors regarding the use of Wordwall in Kampus Mengajar program in Southwest Aceh. This study was conducted to identify the problems related to whether Wordwall was effective as an innovative learning media and to find out the challenges faced in its implementation at elementary schools in Southwest Aceh. Data collection was conducted using a qualitative method, specifically in-depth interviews with 10 student participants of Kampus Mengajar batch 8 in Southwest Aceh who used Wordwall. Thematic analysis was used to process interview data and help identify main themes and categories from interview transcripts. The results showed that Wordwall increased students' motivation, participation, and understanding, as well as created a fun interactive learning atmosphere. The challenges faced included internet connection issues, limitations of devices and access, and unfamiliarity with the digital platform. For future research, it was recommended to conduct a quantitative study with a larger sample size and to involve teachers and students directly in order to obtain a more comprehensive understanding of the effectiveness of Wordwall in improving learning outcomes and addressing technical challenges in various school contexts.

Keywords: Learning media, perception, technology, Wordwall

Abstrak: *Wordwall* adalah *platform* digital yang memungkinkan para pendidik untuk membuat berbagai aktivitas pembelajaran interaktif. Penelitian ini mengeksplorasi persepsi mahasiswa sebagai pengajar terhadap penggunaan *Wordwall* dalam program Kampus Mengajar di Aceh Barat Daya. Penelitian ini dilakukan untuk mengidentifikasi masalah terkait apakah *Wordwall* efektif sebagai media pembelajaran inovatif serta untuk mengetahui tantangan yang dihadapi dalam pelaksanaannya di sekolah dasar di Aceh Barat Daya. Pengumpulan data dilakukan dengan metode kualitatif, yaitu wawancara mendalam terhadap 10 mahasiswa peserta Kampus Mengajar angkatan 8 di Aceh Barat Daya yang menggunakan *Wordwall* sebagai media pembelajaran. Analisis tematik digunakan untuk mengolah data hasil wawancara dan membantu mengidentifikasi tema dan kategori utama dari transkrip wawancara. Hasil penelitian menunjukkan bahwa *Wordwall* meningkatkan motivasi, partisipasi, dan pemahaman mahasiswa, serta menciptakan suasana belajar yang menyenangkan dan interaktif. Kendala yang dihadapi antara lain masalah koneksi internet, keterbatasan perangkat dan akses, serta ketidakakraban dengan *platform* digital. Untuk penelitian selanjutnya, disarankan untuk melakukan studi kuantitatif dengan sampel yang lebih besar serta melibatkan guru dan siswa secara langsung guna memperoleh gambaran yang lebih komprehensif mengenai efektivitas *Wordwall* dalam meningkatkan hasil belajar dan mengatasi kendala teknis di berbagai konteks sekolah.

Kata kunci: Media pembelajaran, persepsi, teknologi, Wordwall

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*Corresponding author: febiza.fonna2003@gmail.com

INTRODUCTION

The role of technology in education as a medium of teaching has undergone a significant transformation, especially in the context of more interactive and engaging learning (Anwar et al., 2021). The use of technology-based learning media can increase learning effectiveness by providing various resources that support the student learning

process (Anwar et al., 2021; Dita et al., 2023; Setyantoko et al., 2023). Technology in education creates a more interactive learning atmosphere through digital media such as videos, interactive presentations, and learning applications (Santoso & Kurniawan, 2022). This allows students to be actively involved in learning and supports the improvement of students' understanding of the material provided.

Increasing student activity and understanding in the classroom is a challenge that educators often face (Listyanti, 2022). Many factors contribute to low student activity, including monotonous teaching methods and a lack of interaction between teachers and students. Teacher-centered learning methods can reduce students' motivation to actively participate in the classroom (Kurniawan et al., 2021; Nasir et al., 2023). This shows that more innovative and interactive teaching strategies are needed to increase student activity. Constructivist learning theory, put forward by Piaget (1968), and Vygotsky (1978), emphasizes the importance of active student involvement in the learning process, where technology can serve as a tool to support such engagement.

Platforms like Wordwall are a concrete example of the use of technology in education (Santoso & Kurniawan, 2022; Siregar et al., 2025). Wordwall is a digital platform that enables educators to create various interactive learning activities such as quizzes, matching games, puzzles, and educational games that engage students actively in the learning process (Santoso & Kurniawan, 2022). This application provides multiple templates that are easy to use and adaptable for different subjects and grade levels, making learning more enjoyable and motivating for students (Andari et al., 2024). According to Turohmah et al. (2020), Wordwall is designed to encourage active student participation, which aligns with the principles of active learning theory emphasizing that direct engagement strengthens understanding (Bonwell & Eison, 1991). Studies have also shown that Wordwall can improve critical thinking skills and increase learning efficiency, making it a valuable tool in elementary education (Firmansyah & Andriyani, 2023).

Kampus Mengajar program in Indonesia is an educational initiative that connects students with school teachers to improve the learning process, aiming to introduce and utilize technology more effectively in the classroom (Ndoang et al., 2024). In this context, students act as teacher partners who help integrate technology into learning. With this program, students have the opportunity to Sinteract directly with technology, such as interactive learning applications, which can increase their engagement.

Although many learning technologies such as Wordwall offer various advantages, there are still a number of problems that become challenges in their implementation in the classroom, especially in areas such as Southwest Aceh. Therefore, this study aims to examine in detail how Wordwall is used by Kampus Mengajar students in the context of learning to improve student engagement and achievement in elementary schools assigned in Southwest Aceh. In this program, students act as teacher partners who help introduce technology into the learning process, so that students can be actively and interactively involved. By using Wordwall, students can create interactive activities that stimulate students' interest and improve their understanding of the subject matter.

However, there has been no previous research in Aceh, notably in Southwest Aceh, which assessed the efficiency of Wordwall as a teaching medium for Kampus Mengajar students in enhancing student knowledge in their assigned schools. This study focuses on the lack of knowledge regarding the effectiveness of Wordwall as an innovative learning

tool for increasing student engagement and understanding in elementary schools in Southwest Aceh, a region that has not been widely studied before. Previous research has focused more on the use of technology in different contexts and has not explored the specific impact of Wordwall in the context of education in the area. The lack of research examining the impact of using Wordwall in Southwest Aceh's local context is another driving factor behind this study. It is expected to make a significant contribution to the development of education in the area by utilizing Wordwall as a technology learning aid because previous studies generally discuss educational technology or interactive applications in other regions (Raisha, 2024).

The purpose of this study was to explore the perspectives of participants of KM 8 in Southwest Aceh regarding the effectiveness of using Wordwall as a teaching media to increase student engagement and achievement in the elementary schools level where they were assigned and to understand the challenges they faced during Wordwall implementation. Specifically, this research was conducted to answer the following questions: 1) How do the participants of Kampus Mengajar Batch 8 in Southwest Aceh perceived the use of Wordwall as a teaching media in enhancing student engagement and achievement at their assigned elementary schools? 2). What are the challenges faced during its implementation?.

METHOD

This study used a qualitative approach with a semi-structured interview method to explore the experiences of Kampus Mengajar 2024 students in using Wordwall as a learning medium. The interview aimed to explore views on the impact of Wordwall on student activeness and understanding during the learning process. Participants consisted of 10 students from 6th and 8th semester of the Mathematics and English Education Departments. 2 participants from Mathematics Education Department and 8 participants from English Education Department. They were selected from more than 20 Kampus Mengajar participants using purposive sampling technique. This selection was carried out randomly from groups that met the criteria, namely students who had implemented Wordwall in partner schools.

Before the interview, the researcher conducted a literature study to compile themes and questions. Previous studies provided important insights regarding the benefits of digital game-based learning media. Alshammari et al. (2020), and Aguilos and Fuchs (2022) found that such media significantly increased students' participation and motivation to learn by making the learning process more engaging and enjoyable. Specifically, Amalia and Aulina, (2024) highlighted that the inclusion of a time feature in Wordwall created a sense of challenge and helped students maintain focus while solving problems, thereby enhancing their concentration and problem-solving skills during learning activities. These findings formed the basis for compiling relevant and in-depth interview questions. Questions were compiled based on these themes and tested through a pilot study with two participants. This pilot provided valuable feedback that resulted in revisions and the addition of several new questions, particularly those related to students' emotional experiences, the technical challenges of using Wordwall, and its impact on classroom dynamics. The data obtained from the interview results were analyzed using the thematic analysis approach developed by the analysis process was carried out through six stages (Braun & Clarke, 2006), namely:

(1) familiarization with the data, (2) initial coding, (3) theme search, (4) theme review, (5) defining and naming themes, and (6) compiling the final report. To support the analysis process systematically, the researcher used NVivo 12 software, which helped organize data and group patterns of meaning that emerged from participant narratives. The results of this analysis were then used to draw conclusions regarding the effectiveness and impact of using Wordwall on student activity and understanding in the learning process.

RESULTS AND DISCUSSION

Participants profiles

The participants in this study were 10 students from 2 academic departments: Mathematics Education and English Education. All of them participated in the 8th batch of Kampus Mengajar Program at the Elementary School assignment level. Two participants, Dyas and Yazi, represented the Mathematics Education Department. Most of the participants were in their 8th semester, which indicated that they were in the final stages of their academic program. Only two participants, Ifra and Nizam, were in their 6th semester. The diverse academic backgrounds and levels of experience provided a well-rounded perspective for this study.

Data analysis process

Interview process

The interviews were conducted over a period of one month, March 2025, with each participant attending one to two sessions. In total, 10 participants were interviewed to collect comprehensive qualitative data. Interviews were scheduled flexibly to accommodate participant availability and were conducted in a location convenient to them, namely their homes, to ensure comfort and openness during discussions.

Table 1. Interview process

Participant Names	Duration of Interview (in Minutes)	Amount of Words (in Indonesian)
Dyas	08:45	1571
Angel	08:33	1224
Yazi	07:31	1138
Ifra	06:07	1142
Ayla	04:22	772
Nizam	07:38	1554
Uwa	04:41	828
Bayla	05:23	984
Viza	04:16	765
Uney	04:06	713
Total	01:01:22	10691

Based on Table 1, the interview process was conducted directly at the participants' homes, with durations varying from approximately 4 minutes to more than 8 minutes per session. The total duration of all interviews reached 1 hour, 1 minute, and 22 seconds, with

a total of 10,691 words spoken in Indonesian. The average length of the interviews per participant was around 6 minutes, indicating a significant variation in timing. In addition, each participant underwent one to two interviews within the span of one month, allowing for sufficiently in-depth and diverse data collection. To protect the privacy and confidentiality of the participants' identities, the researcher changed their real names with codes or pseudonyms. This was done as an ethical step in the research to ensure that the data remained anonymous and did not reveal the participants' identities.

Data cleaning and preparation

Transcibing process of the data was performed verbatimly, which means it is transcribed as it was spoken in the interview to establish 'the trustworthiness' in the data (Poland, 1995). After transcribing all audio recordings, the transcripts were thoroughly reviewed to ensure that the data were cleaned and prepared for upload into NVivo qualitative data analysis software. This process involved checking the text format, font consistency, heading structure, and spelling accuracy to maintain uniformity across all documents. Ensuring clean and well-organized transcripts was essential to facilitate systematic coding and thematic analysis.

A critical step in the data cleaning process was the clarification and standardization of informal expressions and colloquial language present in the raw transcripts. For instance, the original utterance:

> "Wordwall used a timer, and then the students could answer questions on Wordwall quickly because of the timer, so it encouraged critical thinking," was revised to "Wordwall used a timer that encouraged students to answer questions quickly, thereby training critical thinking skills." (Dyas, personal communication, 00:06:04)

This modification enhanced readability and maintained the original intent, thereby improving the suitability of the data for formal qualitative analysis. Furthermore, filler words, redundant phrases, and grammatical errors were systematically removed or corrected without altering the meaning of participants' statements. Silverman (1997) highlights the importance of systematically refining data—such as removing filler words and correcting grammar—without changing the message intended by participants to ensure the credibility and validity of data in qualitative research. Headings were incorporated to delineate different sections of the interview transcripts, and timestamps were added where necessary to preserve contextual reference. This rigorous cleaning procedure ensured that the transcripts accurately represented the participants' perspectives and were ready for subsequent in-depth qualitative analysis.

To ensure the validity and accuracy of information transcribed from the interviews, the researcher performed a member-checking by requesting all interviewed participants to thoroughly read and check transcripts of their interviews (Creswell, 2024). This method is "the most critical technique for establishing credibility" in a qualitative data analysis (Lincoln & Guba, 1985). Thus, this is also to obtain any feedback on the transcribed data if there are any mistakes or inaccuracy in transcription as well as to gain any additional information from the participants that was missed during the previous interview (McKim, 2023).

Overview of themes

To better understand the impact of Wordwall on the learning experience, participant responses were systematically analyzed and organized into main themes and subthemes. This thematic categorization highlights the diverse impacts of Wordwall, including both benefits and challenges faced by students and educators. The following table summarizes these main themes and their associated subthemes, providing a comprehensive picture of how Wordwall impacted student engagement, learning effectiveness, student achievement, and challenges faced during implementation.

Table 2. Main themes and sub-themes

Main themes	Sub-themes	Codes	References	Total References
Theme 1 Student Engagement	Students' Participation	Confident in Assessment Curiosity Encourage Active Learning Improve Student Participation Reduce Student Boredom Willing to Explore	40	112
	Students' Motivation	Enjoy the Learning Process Motivated in Learning Motivate Passive Learners	39	
	Learning Quality	Better than Conventional Improve Learning Quality Balance Teaching Methods Monitor Student Emotions	24	
	Digital Literacy	Support Digital Literacy Familiarisation Process Introduce New Learning Tools	9	
Theme 2 Effectiveness	Interesting Features	Unique Features Gamification of Learning Lot of Features Ease of Use Supports Creativity Flexible & Customizable	63	99
	Fun Learning Method	Technology Integration Breaks Traditional Learning Unfamiliar Fun Learning Method	36	
Theme 3 Student Achievement	Students' Skill	Track Skill Progression Academic Achievement Encourage Self Challenge Critical Thinking	38	69

		Enhance Accuracy Under Pressure		
	Students' Memory	Improve Memory Boost Focus and Attention	18	
	Students' Response Speed	Improve Response Speed Build Confidence Through Timed Tasks	13	
Theme 4 Challenge	Technical Issues	Dependency on Personal Devices Lack of Institutional Support Limited Tech Infrastructure Resource Inequality Hardware Limitations	19	41
	Network Issues	Internet Obstacles School Location Accessibility Problems	17	
	Premium Features	Premium Features	5	

Table 2 provided a detailed summary of participant responses, which were categorized into main themes and sub-themes to clearly illustrate the impact of Wordwall on various aspects of the learning process. Overall, the thematic analysis based on participant feedback confirmed that Wordwall had a significant impact across all four themes, creating both opportunities and challenges in the learning environment. To correlate with the research questions, the themes emerged from the data were categorized into two, namely the use of WordWall consisting of theme 1, theme 2 and theme 3, and the challenge KM 8 participants encounter in implementing Wordwall at their designated schools (theme 4).

The use of Wordwall

In this section, the researcher explores the perception of the research participants regarding the use of Wordwall at their schools. This section discusses further three main themes emerged from the data to elaborate on the first research question of this study. Details of each themes are as following:

Theme 1: Student engagement

The focus of this section was to explore and discuss the first main theme derived from the analysis of interviews with 10 Kampus Mengajar participants, which was relevant to the influence of the Wordwall learning media on student engagement in the classroom. The analysis showed that all participants agreed when asked about their opinions on the effect of the Wordwall application on student engagement in class. A total of 112 statements from 16 codes and 4 sub-themes indicated their agreement with the theme, with varied explanations. Conversely, there were no statements showing disagreement with the theme.

When the researcher asked whether Wordwall could influence student participation, one student expressed agreement with the following statement:

> "Because the students were more active when using Wordwall, whereas if I used the lecture method, the students often felt bored. With Wordwall, maybe because they were still unfamiliar with it, they were more excited to learn using the Wordwall application." (Dyas, personal communication, 00:06:01)

Dyas, one of Kampus Mengajar batch 8 participant in Southwest Aceh from Mathematics Education Department participating in this study, believed that the use of the Wordwall application could increase student participation while improving the quality learning, unlike the lecture method which tended to make students bored. In other words, she also agreed that interactive learning media like Wordwall had been effective in enhancing students' motivation because the students enjoyed the implementation of Wordwall during the learning process. Similar findings were supported by other studies indicating that Wordwall use increased student participations, making learning feel more interesting and less boring (Aminaty & Jasiah, 2025).

Similar views were expressed by the other 9 participants (Angel, Yazi, Ifra, Ayla, Nizam, Uwa, Bayla, Viza, Uney), who shared the opinion that the Wordwall application could increase student participation while improving the quality learning with varied explanations.

> Int : "In your opinion, can Wordwall increase student engagement in the classroom?"
> Viza : "Yes, I think so. Almost all of them were active. Because students were interested in learning something new, they wanted to participate and eventually were willing to learn using the games on Wordwall." (Viza, personal communication, 00:04:32)

Here, Viza indicated that the use of games in the Wordwall application attracted students' interest because they were curious about something new tools, which made almost all students active and willing to participate in learning. This was aligned with Syamsidar (2023) found that implementing Wordwall in the ESL classroom improved students' engagement, as the interactive game quizzes boosted motivation and created a more enjoyable learning environment. Similarly, Arifin and Manda (2024) emphasized that integrating Wordwall effectively encouraged student activity, showing a significant increase in engagement compared to conventional media.

In other words, Dyas's statement that students became more active to participate because they were unfamiliar with Wordwall was consistent with Viza's statement that almost all students became active to participate because they were curious and interested in learning through games on Wordwall. Supporting these findings, Arifin and Manda (2024) found that Wordwall's interactive features, such as quizzes and games, significantly increased student engagement and motivation by creating varied and dynamic learning activities. This is further supported by research from Lestari and Rohmani (2024), which concluded that Wordwall is effective in improving student learning outcomes and

participation. However, initial encouragement and motivation from teachers remain important to help students fully engage with the platform.

Theme 2: Effectiveness

The focus of this section was to delve into and discuss the second main theme derived from the analysis of interviews with 10 Kampus Mengajar batch 8 participants in Southwest Aceh, which was relevant to the effectiveness of Wordwall as a teaching media in the classroom. The analysis showed that all participants agreed when asked about their opinions on whether Wordwall was worth using as a teaching media. A total of 99 statements from 10 codes and 2 sub-themes indicated their agreement with the theme, with varied explanations. Conversely, there were no statements showing disagreement with the theme. When the researcher asked whether Wordwall was worth using as a teaching media, one student expressed agreement with the following statement :

> "Wordwall is an interesting application to be used as a fun learning tools because it has game-like features. These Wordwall features are very useful for evaluating students' understanding after learning by presenting questions in the form of games or play, which children generally like." (Ayla, personal communication, 00:04:22)

Ayla's statement emphasized that Wordwall was an interactive application as a learning aid because it had game-based features that children really liked. These features were very useful for evaluating students' understanding after learning in a fun and interactive way, through games that motivated students to participate actively. This finding aligned with research showing that developing evaluation questions through Wordwall games features could significantly improve students' discipline and responsibility, with discipline levels increasing from 72% to 92% after implementing Wordwall as a learning media (Saputri et al., 2023). Additionally, other studies proved that using educational games on Wordwall effectively increased students' critical thinking skills up to 94.5%, indicating that Wordwall not only enhanced engagement but also the quality of students' understanding and thinking abilities (Fajriani et al., 2023).

Similar views were also expressed by other participants, including Dyas, who shared the same opinion as Ayla that Wordwall was an interesting application as a learning aid because it had game-based features that children really liked.

> Int : "In your opinion, is Wordwall effective to be used as a teaching media?"
> Dyas : "According to me, it is effective. Because Wordwall has many features and the features are interesting, so students who are usually quiet or passive in class become willing to participate in playing and learning." (Dyas, personal communication, 00:06:09)

Dyas stated that Wordwall was effective as a teaching media because it had many interesting features that could transform students who were usually quiet or passive in class into being more active in playing and learning. This statement was in line with Ayla's opinion, which emphasized that Wordwall's game-based features were very useful as a fun learning method.

Thus, Wordwall was not only effective in increasing student participation as expressed by Dyas but also functioned as a fun and motivating evaluation tool as explained by Ayla. Both statements complemented each other and were supported by Arifin and Manda (2024), who stated that Wordwall significantly increased student engagement and motivation by creating dynamic and varied learning activities through features such as quizzes and gamification, which helped students achieve better learning outcomes. Similarly, Kironoratri et al. (2025) reported that the interactive and game-based nature of Wordwall fostered a fun learning environment that increased student participation and attention, making it an effective and innovative educational media.

Theme 3: Student achievement

The focus of this section was to deepen and discuss the third theme derived from the analysis of interviews with 10 Kampus Mengajar batch 8 participants in Southwest Aceh, which was relevant to the effectiveness of Wordwall in improving student achievement in the classroom. The analysis showed that all participants agreed when asked about their opinions on whether Wordwall influenced the improvement of students' achievement and critical thinking skills. A total of 69 statements from 9 codes and 3 sub-themes indicated their agreement with the theme, with varied explanations. Conversely, no statements showed disagreement with the theme. When the researcher asked whether Wordwall affected the improvement of students' critical thinking skills, one student expressed agreement with the following statement:

> Angel : "In my opinion, yes. Because the game in Wordwall has a 30-second time limit, so students have to think critically, quickly, and accurately to answer the questions using the timer." (Angel, personal communication, 00:06:05)

Angel's statement highlighted that the game feature in Wordwall had a 30-second time limit, which required students challenged to think critically, quickly, and accurately in answering questions using the timer. This time limit encouraged students to process information quickly and make the right decisions under time pressure, thereby improving their critical thinking skills and understanding of the material. These results were consistent with previous research showing how the time-limited style of Wordwall games enhanced students' comprehension and successfully engaged their critical thinking skills (Yusni & Hurriyah, 2024). Similarly, Johnson and Lee (2023) noted that time-limited digital quizzes fostered a sense of urgency that sharpened students' focus and encouraged faster cognitive processing, which in turn supported deeper analytical thinking. Furthermore, Rahayu et al. (2024) emphasized that integrating time-limited challenges into game-based learning environments not only increased motivation but also fostered students' ability to think critically under pressure, leading to improved academic performance. The interactive and competitive nature of Wordwall combined with the timer motivated students to focus more and respond quickly, resulting in faster and more accurate cognitive processing. Thus, Wordwall not only increased student engagement but also developed their ability to think critically and understand concepts efficiently through time-bound, game-based assessments.

A similar view was also expressed by all participants (Angel, Yazi, Ifra, Ayla, Nizam, Uwa, Bayla, Viza, Uney) and one of the participant, Ayla, shared the same opinion like Angel but with the addition that Wordwall could also improve students' memory retention.

> Ayla : "In my opinion, because students were interested in learning and eventually played the game repeatedly, it could sharpen their understanding and memory." (Ayla, personal communication, 00:04:33)

Ayla's statement mentioned that students were interested in learning and eventually played Wordwall games repeatedly, which could sharpen their understanding and memory. Similar views were also expressed by other participants, including Uwa, who shared the same opinion as Ayla that Wordwall could also improve students' memory retention.

> Int : "In your opinion, is Wordwall effective to improve students' memory retention?"
>
> Uwa : "After the introduction of Wordwall, they were better able to remember the material that had been taught. For example, there were matching games and quick quizzes that required them to recall information quickly." (Uwa, personal communication, 00:03:14)

In other words, the engaging repetition of the games combined with the time pressure made students not only actively participate but also effectively train their memory and critical thinking skills to strengthen their understanding. Research supported this connection by showing that Wordwall, through its interactive game features and consistent repetition, was able to improve information retention and reinforce students' mastery of the material (Silvia & Wirabrata, 2021). Furthermore, the enjoyable and competitive learning atmosphere on Wordwall motivated students to keep practicing, thus enhancing their understanding and memory. Therefore, the statements of Uwa, Ayla, Angel complemented each other, indicating that Wordwall not only increased student engagement but was also effective in developing critical thinking skills quickly and improve students' memory retention.

The challenges in implementation of Wordwall

This section attempts to answer the second research question of this study about the challenge KM 8 participants encounter during the implementation of Wordwall based on their point of view. There is one main theme correspond to this second research question. Detail of the discussion as following:

Theme 4: Challenges

The focus of this section was to explore and discuss the fourth theme derived from the analysis of interviews with 10 Kampus Mengajar batch 8 participants in Southwest Aceh, which was relevant to the challenges faced during the application of Wordwall technology in classroom learning. The analysis showed that all participants agreed when the researcher asked whether they encountered challenges in applying Wordwall. A total of 41 statements from 9 codes and 3 sub-themes answered "yes," indicating their agreement with the theme, with varied explanations. Conversely, no statements indicated that they did not face any challenges. When the researcher asked about challenges faced during the application of

Wordwall technology in classroom learning, one student expressed agreement with the following statement:

> Viza: "The challenges were technical issues such as the school's projector being of poor quality and the school's Wi-Fi being slow, which forced us to access the Wordwall application using personal hotspots." (Viza, personal communication, 00:06:46)

Viza's statement about technical difficulties, namely the poor quality of the school's projector and slow Wi-Fi connection requiring the use of personal hotspots to access Wordwall, illustrated real challenges in applying Wordwall in the classroom. This condition aligned with previous findings by Arifin and Manda (2024), who underscored that limited technological facilities and internet access as the major challenges in implementing Wordwall, even though the media proved effective in increasing student motivation and engagement. Such technical challenges could disrupt the smoothness of learning and reduce the effectiveness of Wordwall use in schools with limited facilities.

A similar view was also expressed by another participant, Yazi, who shared the same opinion with the statement:

> Yazi: "Because Wordwall use the internet network, there are some errors in the network. So at school there is wifi, but because the network is slow, so we use a personal hotspot." (Yazi, personal communication, 00:05:44)

Yazi's statement about technical and network challenges such as slow Wi-Fi requiring the use of personal devices reflected real challenges in applying Wordwall in the classroom. These difficulties often disrupted the smooth process of technology-based learning and reduced the effectiveness of media like Wordwall. This was consistent with findings by Arifin and Manda (2024), which showed that limited technological facilities and internet access were among the main challenges in Wordwall implementation at schools, despite Wordwall's proven effectiveness in enhancing student motivation and engagement. Besides these technical and network challenges, another challenges was revealed by Uwa in the following statement:

> Uwa: "The features in Wordwall are limited to only 3-5 uses per email. There are also some game features that require payment (premium) to be able to play those games." (Uwa, personal communication, 00:06:11)

Uwa's statement explained that Wordwall's free version limited users to 3-5 features uses per email, and some game features could only be accessed with a paid (premium) package. This challenges could be partially overcome by accessing premium Wordwall game packages shared by others on the web. However, unlike free features owned by personal email accounts, premium packages from others could not be modified, which remained an additional challenge for teachers in developing varied and engaging learning media optimally.

In conclusion, these three statements highlighted that technical challenges such as inadequate school facilities, limited internet access, and feature restrictions in the free version of Wordwall were the main challenges in applying Wordwall as a learning media. Timur (2023) identified slow internet connections, limited access to premium features, and

the need for user adaptation as significant challenges in implementing Wordwall effectively in schools. Furthermore, as Atkinson and de Freitas (2015) pointed out, assessing higher-order thinking skills using these platforms may be difficult due to the limited assessment types available. To overcome these barriers, adequate technological infrastructure support and creative solutions from teachers were needed so that Wordwall could still be used effectively to enhance student engagement and learning outcomes.

Therefore, this study findings that Wordwall significantly increases student engagement and achievement. It also indicate that implementation challenges related to teacher readiness and technology infrastructure in schools are less discussed in the literature. Thus, this study contributes new insights by combining practical and theoretical perspectives in a specific local context and by providing strategic recommendations for developing educational technology in remote areas.

CONCLUSION

Based on the study, participants of Kampus Mengajar Batch 8 in Southwest Aceh perceived Wordwall as a highly effective digital teaching tool for enhancing student engagement and achievement in their assigned elementary schools. They observed that the interactive features of Wordwall, such as timed questions and various engaging activities, successfully increased students' participation, motivation, and curiosity. Furthermore, the use of Wordwall was found to stimulate students' digital literacy, memory, and critical thinking skills, all of which contributed to improved academic performance. These findings indicate that Wordwall has significant potential to create a fun and interactive learning environment that supports better learning outcomes.

Despite its many benefits, the implementation of Wordwall was not without challenges. Participants reported facing several challenges, including technical and network issues, limited availability of Wordwall features, and a general unfamiliarity with digital platforms among both teachers and students. These challenges highlighted the importance of adequate infrastructure support, reliable internet access, and comprehensive pedagogical training to ensure the effective use of Wordwall in the classroom. Addressing these issues is essential for maximizing the potential of digital learning tools and ensuring their sustainable integration into educational practices.

In the future, researchers are expected to explore additional digital tools and compare their effectiveness with Wordwall to provide a broader understanding of technology integration in education. It was hoped that further studies would include larger sample sizes and diverse educational contexts to enhance the generalizability of the findings. Additionally, future research could investigate long-term impacts of using interactive media on student learning outcomes and motivation, as well as address technical and pedagogical challenges more comprehensively. Such efforts would contribute to developing more effective strategies for integrating technology into teaching practices and improving student engagement across various educational settings.

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