



Effectiveness of Wordwall interactive learning media in improving students' early reading ability

Iros Rosita¹, Ari Kartini², Asep Nurjamin³, Agus Hamdani⁴

^{1,2,3,4} Institut Pendidikan Indonesia, Kabupaten Garut, Indonesia

irosrosita2024@gmail.com¹, arikartini00@gmail.com², asep5nurjamin@institutpendidikan.ac.id³
gushamdan69@gmail.com⁴

ABSTRACT

Early reading skills are among the basic skills that elementary school students must master. Early reading difficulties persist among first-grade students, underscoring the need for effective instructional media to support learning. This study aims to assess the effectiveness of Wordwall interactive learning media in improving early reading skills among first-grade students at SDN Pasirwaru Limbangan. This study uses a quantitative approach with a one-group pretest-posttest pre-experimental design. The population in this study was all 21 first-grade students, who were also used as the research sample. Data were collected through reading comprehension tests before and after the implementation of Wordwall. Data analysis was performed using the Wilcoxon Signed-Rank Test, a nonparametric test, because one of the data sets was not normally distributed. The results showed a difference in reading comprehension between before and after the use of Wordwall. These findings indicate that Wordwall interactive learning media is effective in teaching reading comprehension to first-grade elementary school students.

ARTICLE INFO

Article History:

Received: 28 Aug 2025

Revised: 14 Dec 2025

Accepted: 2 Jan 2026

Publish online: 19 Jan 2026

Keywords:

beginning reading;

interactive learning;

Wordwall

Open access

Curricula: Journal of Curriculum Development is a peer-reviewed open-access journal.

ABSTRAK

Kemampuan membaca permulaan menjadi salah satu keterampilan dasar yang perlu dikuasai murid kelas awal sekolah dasar. Permasalahan membaca awal masih ditemukan pada murid kelas I, sehingga diperlukan media pembelajaran yang mampu mendukung proses pembelajaran secara efektif. Penelitian ini bertujuan untuk mengetahui efektivitas media pembelajaran interaktif Wordwall dalam meningkatkan kemampuan membaca permulaan murid kelas I SDN Pasirwaru Limbangan. Penelitian menggunakan pendekatan kuantitatif dengan desain pre-eksperimental one group pretest-posttest. Populasi dalam penelitian ini adalah seluruh murid kelas I yang berjumlah 21 orang, sekaligus dijadikan sebagai sampel penelitian. Data dikumpulkan melalui tes kemampuan membaca permulaan sebelum dan sesudah penerapan media Wordwall. Analisis data dilakukan menggunakan uji nonparametrik Wilcoxon Signed Rank Test karena salah satu data tidak berdistribusi normal. Hasil penelitian menunjukkan adanya perbedaan kemampuan membaca permulaan antara sebelum dan sesudah penggunaan media Wordwall. Temuan ini menunjukkan bahwa media pembelajaran interaktif Wordwall efektif digunakan dalam pembelajaran membaca permulaan murid kelas I sekolah dasar.

Kata Kunci: membaca permulaan; pembelajaran interaktif; Wordwall

How to cite (APA 7)

Rosita, I., Kartini, A., Nurjamin, A., & Hamdani, A. (2026). Effectiveness of Wordwall interactive learning media in improving students' early reading ability. *Curricula: Journal of Curriculum Development*, 5(1), 1-14.

Peer review

This article has been peer-reviewed through the journal's standard double-blind peer review, where both the reviewers and authors are anonymised during review.

Copyright



2026, Iros Rosita, Ari Kartini, Asep Nurjamin, Agus Hamdani. This an open-access is article distributed under the terms of the Creative Commons Attribution-ShareAlike 4.0 International (CC BY-SA 4.0) <https://creativecommons.org/licenses/by-sa/4.0/>, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author, and source are credited. *Corresponding author: irosrosita2024@gmail.com

INTRODUCTION

Early reading instruction provides the foundation for the development of literacy skills among lower-grade elementary school students. This skill is important for helping students recognize linguistic symbols and connect them to meaning. First-grade students are at the initial stage of formal learning, which requires concrete and contextual approaches. The process of teaching reading at this stage cannot be separated from the use of instructional media that align with children's developmental characteristics. Learning media assist students in gradually understanding letters, syllables, and words. Monotonous reading activities can reduce students' interest in learning. These conditions highlight the need for innovation in early reading instruction.

Various studies have examined the use of instructional media in improving early reading skills. Big book media are used as visual tools to help students recognize letter and word forms. Research findings indicate that large books can improve early reading comprehension among first-grade students (Setyowati & Imamah, 2023). Other studies have also found that big-book media are effective in enhancing early reading skills among elementary school students (Kudadiri et al., 2025). Visual media are considered capable of attracting students' attention during the learning process. The use of large text facilitates students' participation in shared reading activities (Nafian & Rahmawati, 2024). These findings demonstrate the importance of the role of media in early reading instruction.

Word and picture card media are also widely used in early reading instruction. These media help students connect letter symbols with sounds and word meanings. Research shows that word and picture card media are effective in improving early reading skills in early childhood learners (Setyowati & Imamah, 2023). The use of reading cards enables repeated practice of word recognition. The "suka baca" card media has also been proven to improve early reading skills of first-grade elementary school students (Pamungkas et al., 2021). Reading activities become more active through direct interaction with the media. These results indicate that media variation contributes to the success of reading instruction.

Technological development has encouraged the use of digital-based instructional media in early reading instruction. Media based on Macromedia Flash have been developed to present reading materials interactively. Research indicates that such media are effective for early reading instruction (Hadi et al., 2024). Digital media are also combined with specific learning models to enhance instructional effectiveness. The quantum learning model, supported by learning applications, has been shown to improve early reading skills among first-grade students (Bachtiar, 2023). Other studies report similar results using word-card media based on the quantum learning model (Wijaya, 2021). These facts indicate that the integration of media and learning models has become a focus of recent research.

Recent studies have focused on the development of interactive, digital, and visual instructional media. Educational game media for early reading have been developed to increase learning motivation among first-grade elementary school students (Prasipi et al., 2025). Research results indicate that educational game media can increase students' motivation to learn to read (Setiarini et al., 2024). Application-based interactive media have also been developed to support early reading skills. The use of the Canva application as an

interactive medium shows potential for improving students' early reading skills (Ginayah et al., 2024). Interactive media provide more varied learning experiences. Students can learn through visual activities and simple games.

Although various instructional media have been examined, research remains dominated by large-book media, word cards, pictures, and specific applications. Wordwall, as a game-based interactive learning platform, has not been widely studied in early reading instruction for first-grade students. Wordwall provides activity-based learning features that can be adapted to early reading materials (Putri et al., 2025). This medium enables students to learn through activities such as letter matching, word arrangement, and answer selection (Tue et al., 2025). These activities have the potential to increase student engagement in learning. Empirical evidence regarding the effectiveness of Wordwall in improving early reading skills remains limited. This condition indicates a research gap that warrants further investigation.

The context of instructional media implementation is also an important consideration in studies of elementary education. Each school has different student conditions and learning facilities (Wulandari et al., 2024). Previous studies have primarily been conducted in schools with relatively adequate technological facilities. The implementation of interactive media in elementary schools in certain regions remains infrequently reported. SDN Pasirwaru Limbangan has first-grade students with varying levels of early reading ability. These conditions require instructional media that are easily accessible and engaging for students. Wordwall has the potential to serve as an alternative instructional medium for reading in this school.

Early reading ability is closely related to the mastery of technical reading skills and students' learning motivation. Interactive instructional media can create a more engaging learning environment and encourage active student participation in the learning process. Previous research shows that quiet book media are effective in supporting children who experience difficulties with early reading and positively impact the development of reading skills (Annisa & Iswari, 2020). These findings indicate that media that align with children's developmental characteristics play an important role in supporting early reading skills. Wordwall offers a game-based learning approach that integrates reading activities with digital interaction, aligning with the learning characteristics of lower-grade elementary school students (Yulianti et al., 2025).

In contrast to conventional media that have been widely studied, empirical studies on the use of Wordwall in early reading instruction for first-grade students remain limited. This study aims to examine the effectiveness of Wordwall interactive instructional media in improving the early reading skills of first-grade students. The research hypothesis posits a significant difference in students' early reading skills before and after the implementation of Wordwall interactive instructional media. The results of this study are expected to provide empirical contributions to the development of interactive instructional media in early reading instruction at the elementary school level.

LITERATURE REVIEW

Early Reading Ability

Early reading ability is the initial stage of the literacy process, encompassing the recognition of letters, letter sounds, syllables, and simple words, which serve as the foundation for advanced reading skills. At the first-grade level of elementary school, students are in a transitional phase from pre-reading to early reading, requiring the ability to map written symbols to language sounds. The inability to recognize letters or combine syllables often becomes an indicator of early reading difficulties. This condition may hinder learning in other text-based subjects. Reading instruction at this stage requires structured and repetitive support. This support cannot be separated from the use of instructional strategies and learning media that are aligned with students' developmental characteristics. Research findings indicate that early reading ability develops more effectively when students receive concrete, directed learning experiences. The use of concrete media helps students understand word structures gradually through direct activities (Bahrun, 2020).

The importance of syllable recognition practice as part of early reading instruction (Khalida & Sari, 2022). Learning media help clarify abstract reading concepts for early-grade students. Student interaction with the media supports the internalization of the relationship between letters and sounds. Repeated learning experiences also contribute to increasing students' confidence in reading. Findings from previous studies indicate that early reading ability is determined not only by students' cognitive abilities but also by the instructional approaches employed. Learning media become part of strategies that support the success of early reading. The use of appropriate media helps students build understanding gradually and systematically. The reading learning process becomes more meaningful when students are actively involved. This study positions early reading ability as the dependent variable influenced by the use of learning media. This position provides a basis for examining the relationship between learning media and the improvement in the early reading ability of first-grade students.

Learning Media in Early Reading

Learning media are tools used to deliver learning messages so that learning objectives can be achieved optimally. In early reading instruction, media function as intermediaries between teachers and students in understanding the relationship between written symbols and language sounds. Visual and interactive media can increase students' attention during the learning process. The use of media helps reduce the abstract nature of early reading materials. The learning process becomes more directed when students receive visual support and supporting activities. The selection of appropriate media becomes an important factor in the success of early reading instruction. Several studies show that learning media makes a real contribution to improving early reading skills. Big Book media help students understand reading materials through shared reading activities supported by clear visuals (Istiqomah et al., 2025). This media allows students to follow the text collectively.

The presentation of large text helps students recognize letter and word forms. Learning media also creates a more conducive learning atmosphere. Interaction between students and media supports active engagement in the reading process. Technological development

encourages the use of innovative learning media in early reading instruction. Technology-based media can increase students' interest and engagement in reading (Riyanto et al., 2024). Both print and digital media have the potential to improve early reading skills when adapted to classroom conditions (Firgiawan & Sukasih, 2025). Easily accessible media help teachers manage learning effectively. These findings indicate that the effectiveness of learning media is determined not only by their form but also by their suitability to students' needs. This review positions learning media as the independent variable that influences early reading ability.

Wordwall Interactive Learning Media

Wordwall is a digital, interactive learning medium that provides a range of game-based learning activities. This media allows teachers to design reading exercises in the form of matching, arranging, and selecting answers. The visual and interactive presentation of materials aligns with the characteristics of early-grade students who tend to prefer game-based learning activities (Sugiarti, 2021). Wordwall can be used to train letter, syllable, and simple-word recognition. These activities encourage student engagement in the reading and learning process. Active involvement is an important component of early reading instruction. Previous studies indicate that interactive learning media have a positive impact on early reading ability. Interactive media can improve early reading skills through varied learning experiences (Fahmiyah et al., 2025). Technology-based media support early reading literacy in children by integrating visuals and digital activities (Putri et al., 2024).

Interactive media provide opportunities for students to learn independently and repeatedly. Responsive activities help students understand reading materials more deeply (Azhar et al., 2024). These findings strengthen the position of interactive media as supporting tools in early reading instruction. Although various interactive media have been examined, studies that specifically discuss Wordwall in the context of early reading remain limited. Some studies focus more on certain digital media or other visual-based applications. Wordwall has advantages in terms of flexibility of use and ease of material customization. This media allows teachers to adjust reading activities according to students' abilities. These characteristics make Wordwall relevant to early reading instruction. This position indicates the need for empirical studies on the effectiveness of Wordwall as an early reading learning media.

The Relationship between Wordwall and Early Reading Ability

Wordwall is associated with improving early reading skills through the presentation of materials that combine visual elements, activities, and repetition (Shabrina & Fatayan, 2025). Activities in Wordwall are designed to help students gradually recognize letter and syllable patterns. A structured repetition process supports the formation of early reading skills. Students are directly involved in interactive reading activities. Such involvement helps students build understanding gradually. Activity-based media are aligned with the learning needs of first-grade students in early reading instruction. Game-based media increase student engagement in early reading instruction. Play-based activities provide space for students to learn without pressure (Assubaidi & Ritonga, 2023). Game-based media support early reading readiness in early childhood (Kurnia, 2020).

Both studies emphasize the importance of activities in early reading instruction. Wordwall has similar characteristics through its game-based learning presentation. These shared characteristics indicate the relevance of Wordwall in early reading instruction. The literature review indicates that interactive learning media contribute to improved early reading skills. The development of learning media improves early reading skills in early childhood (Amelia et al., 2025). Learning media affects the early reading ability of first-grade students (Maulida & Wiranti, 2024). Innovative learning media help students understand reading materials more effectively (Adabiah & Chandra, 2024). Wordwall is positioned as an alternative interactive media that integrates activities, visuals, and games in reading instruction. This synthesis positions the current study as an empirical examination of Wordwall's effectiveness in improving the early reading ability of first-grade students.

METHODS

This study employed a quantitative experimental design to examine the effect of Wordwall interactive learning media on students' early reading ability. The quantitative approach was selected because the study focused on measuring changes in students' reading ability expressed in numerical data. The experimental method was implemented by providing a treatment consisting of early reading instruction using Wordwall. The research design employed a one-group pretest-posttest design. In this design, one group of students received a pretest to assess their early reading ability prior to the treatment. Subsequently, the students participated in early reading instruction using Wordwall over several sessions. After all treatments were completed, the students were administered a posttest to assess their early reading ability following the use of Wordwall. The difference between pretest and posttest results was used to assess changes in students' reading ability.

The population of this study comprised all first-grade students at SDN Pasirwaru Limbangan, totaling 21 students. All students were included in the research sample because the population size was relatively small and fully accessible. By using the entire population as the sample, the data obtained were expected to accurately represent the overall state of students' early reading ability. The variables in this study consisted of an independent variable and a dependent variable. The independent variable was the Wordwall interactive learning media used as the treatment in early reading instruction. The dependent variable was the early reading ability of first-grade elementary school students. Early reading ability was assessed through several measures: letter recognition, syllable reading, word reading, and simple sentence reading. The determination of these variables aimed to clarify the research focus and the direction of data collection and analysis.

The research instrument was an early reading ability test. The test was constructed based on indicators of early reading ability for first-grade students and was adjusted to the material taught during the learning process. The test instrument was administered in two stages: pretest and posttest. The pretest was administered prior to students' use of Wordwall to assess their initial reading ability. The posttest was administered after the entire series of learning activities had been completed to determine students' reading ability after the treatment. The instrument was systematically developed to objectively and consistently measure early reading ability. Data were collected through tests and documentation. The test was used to obtain quantitative data on students' early reading ability at the pretest and

posttest stages. Documentation was used to complement the research data, including data on the number of students, classroom conditions, and the implementation of learning activities. The early reading instruction was implemented according to the prepared plan, using Wordwall in an integrated manner in each learning activity. All students were actively involved in reading activities presented through interactive media.

Data were analyzed using quantitative methods. The initial stage of analysis used descriptive statistics to provide a general overview of the data, including the mean, minimum, and maximum scores for students' pretest and posttest results in early reading ability. Subsequently, prerequisite tests were conducted, including a normality test to assess the distribution of the data and a homogeneity of variance test to assess the equality of variances in students' learning outcomes. Based on the results of the prerequisite tests, inferential analysis continued using the Wilcoxon Signed-Rank Test because the data comprised two paired measurements within the same group. In this test, rank analysis was conducted to examine the direction of score change between the pretest and posttest, including increases, decreases, or no change. The results of the Wilcoxon test were used to assess the significance of differences in students' early reading ability before and after the implementation of Wordwall interactive learning media, thereby informing the research conclusions.

RESULTS AND DISCUSSION

Research Results

Normality Test

A normality test was conducted to assess whether the pretest and posttest data on students' beginning reading skills were normally distributed. Data normality is a prerequisite for using parametric statistical analysis. The sample size in this study was 21 students. The Shapiro-Wilk test was used because it is more appropriate for samples with fewer than 50 participants. This test was applied to both pretest and posttest data. The results of the normality test are presented in **Table 1** below.

Table 1. Results of the Normality Test for Pretest and Posttest Data Using Shapiro-Wilk

	Tests of Normality					
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pretest	.175	21	.091	.947	21	.294
Posttest	.242	21	.002	.849	21	.004

a. Lilliefors Significance Correction

Source: Research, 2026

Based on **Table 1**, the significance value of the Shapiro-Wilk test for the pretest data was 0.294, indicating that the pretest data were normally distributed. The p-value from the Shapiro-Wilk test for the posttest data was 0.004, indicating that the data were not normally distributed. The results indicate that one of the data groups did not meet the assumption of normality. This condition indicates that the requirements for using parametric statistical

analysis were not fully satisfied. The effectiveness of the instructional media in this study was therefore assessed using a nonparametric statistical test, namely the Wilcoxon Signed-Rank Test, which is appropriate for comparing paired data with non-normal distributions.

Homogeneity of Variance Test

The homogeneity of variance test was conducted to determine whether the variances of students' learning outcomes between the pretest and posttest data were equal. Homogeneity of variance is required to assess the characteristics of the data distribution in both measurement groups. The homogeneity test in this study used Levene's Test. The test was applied to the data on students' beginning reading learning outcomes. The results of the homogeneity test are presented in **Table 2** below.

Table 2. Results of the Homogeneity of Variance Test Using Levene's Test

		Test of Homogeneity of Variances			
		Levene Statistic	df1	df2	Sig.
Hasil Belajar	Based on Mean	1.675	1	40	.203
	Based on Median	1.834	1	40	.183
	Based on Median and with adjusted df	1.834	1	33.870	.185
	Based on the trimmed mean	1.836	1	40	.183

Source: Research, 2026

Based on **Table 2**, all significance values in Levene's Test were greater than 0.05. The significance value based on the mean was 0.203. The significance value based on the median was 0.183. The significance value, adjusted for degrees of freedom, was 0.185. The significance value based on the trimmed mean was 0.183. These results indicate that the variance in students' learning outcomes was homogeneous. This homogeneity indicates that the distributions of the pretest and posttest measurements were relatively similar. Information on the homogeneity of variance was included in the description of data characteristics before testing the effectiveness of the instructional media using the nonparametric Wilcoxon Signed-Rank Test.

Ranks (Wilcoxon Signed Rank Test)

The Ranks table presents a comparison of students' beginning reading learning outcomes between pretest and posttest scores. These data were used to identify the direction of score changes following the implementation of the interactive Wordwall learning media. The analysis results indicate that all students experienced changes in scores after the treatment was applied. No student experienced a decrease in posttest scores. All score changes indicated an upward trend. A detailed comparison of pretest and posttest scores is presented in Table 3.

Table 3. Ranks of the Wilcoxon Signed Rank Test Results

	Ranks		
	N	Mean Rank	Sum of Ranks
Posttest - Pretest Negative Ranks	0 ^a	.00	.00
Positive Ranks	21 ^b	11.00	231.00
Ties	0 ^c		
Total	21		

a. Posttest < Pretest

b. Posttest > Pretest

c. Posttest = Pretest

Source: Research, 2026

Based on **Table 3**, the number of negative ranks was 0, indicating that no student had a lower posttest score than their pretest score. The number of positive ranks was 21 students, with a mean rank of 11.00 and a sum of ranks of 231.00. These results indicate that all students experienced score improvements after the application of Wordwall. No equal scores were observed between the pretest and posttest, indicating no ties. A distribution of ranks entirely in the positive category indicates consistent improvement in students' initial reading skills following the treatment.

Wilcoxon Signed Rank Test

The Wilcoxon Signed-Rank Test was used to assess differences between pretest and posttest scores of students' beginning reading skills following the use of the interactive Wordwall learning media. This test was used because the normality test results showed that one dataset was not normally distributed. The test was applied to two paired datasets from the same group. The analyzed data were the results of beginning reading tests of first-grade students at SDN Pasirwaru Limbangan. The Wilcoxon test results are presented as test statistics. Detailed results are presented in Table 4.

Table 4. Results of the Wilcoxon Signed Rank Test

Test Statistics ^a	
Posttest - Pretest	
Z	-4.017 ^b
Asymp. Sig. (2-tailed)	.000

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

Source: Research, 2026

Based on **Table 4**, the obtained Z statistic value was -4.017. The negative Z value indicates that the score differences were in the direction of higher posttest scores relative to pretest scores. The significance value of Asymp. Sig. (2-tailed) was 0.000. This value was below the

0.05 significance level. These results indicate a statistically significant difference between pretest and posttest results of students' beginning reading skills. The difference reflects changes in students' reading abilities after the use of Wordwall. These findings are consistent with the rank data, which indicate that all students were assigned positive ranks. All students experienced improvements in their scores after the treatment. No student showed a decrease in score, and no score remained unchanged. This condition strengthens the Wilcoxon test results, indicating a statistically significant difference. The improvement in learning outcomes across all subjects indicates that the use of interactive Wordwall learning media had a positive impact on the beginning reading skills of first-grade students. These results provide evidence that Wordwall is effective in beginning reading instruction.

Discussion

Early reading instruction requires media that bridge students' initial abilities to more complex reading skills. Learning media helps students gradually connect letters, sounds, and meanings. The results of this study indicate that learning media support the early reading process by presenting materials that are more structured and easier to understand. The importance of concrete media in early reading instruction (Bahrun, 2020). Another study reports that learning media helps students understand reading concepts through gradual learning experiences (Merliyani et al., 2021). Media functions as a link between abstract reading concepts and students' learning experiences in early-grade classrooms. The specific contribution of Wordwall in this study lies in its interactive characteristics and digital activity-based features.

Unlike conventional media, which tend to be static, Wordwall enables students to be directly involved in the learning process through educational games. Such active involvement supports repeated recognition of letters and syllables without causing boredom. The effectiveness of letter card media in early reading (Khalida & Sari, 2022). While letter card media emphasize manual syllable-blending activities, Wordwall offers flexible activities that can be adjusted to students' needs and learning paces. This difference indicates that Wordwall provides a more varied learning experience compared to conventional printed media. From a visual perspective, Wordwall is similar to Big Book media, which has been reported to be effective in improving early reading skills (Istiqomah et al., 2025). However, the main difference lies in the pattern of student interaction with the media. Big Book media are typically used through a shared-reading approach, whereas Wordwall enables active individual or small-group interaction.

Direct interaction through reading games helps students develop independent understanding. This difference indicates that media effectiveness is determined not only by visual elements but also by the level of student engagement in the reading process. Technology through QR Code-based Big Book media to improve early reading ability (Riyanto et al., 2024). The distinct contribution of Wordwall lies in its ease of classroom implementation, without requiring additional devices or advanced technological expertise. Wordwall can be used directly as a structured reading practice tool. This convenience supports teachers in managing early reading instruction effectively. These findings indicate that simple digital media can produce significant learning impacts. Wordwall combines visual appeal with interactive activities, thereby keeping students not only visually but also

cognitively engaged. Both print and digital media are equally effective, as supported by this study, with interactive digital media providing a wider variety of learning activities (Firgiawan & Sukasih, 2025).

The suitability of media to classroom conditions becomes an important factor in the success of early reading instruction. Wordwall also shares similar principles with game-based media that have been reported to be effective in early reading instruction (Shabrina & Fatayan, 2025). Previous research studies show that puzzle-based media improve reading ability through play activities (Assubaidi & Ritonga, 2023). Game-based media support children's reading readiness (Kurnia, 2020). Wordwall integrates game elements and reading practice, enabling students to gain enjoyable yet meaningful learning experiences. The contribution of Wordwall lies in its ability to present adaptive and repetitive reading activities within a single medium. The use of learning media affects the improvement of early reading ability among first-grade students (Maulida & Wiranti, 2024). Innovative learning media can support the development of early reading literacy in children.

The development of learning media contributes positively to the reading ability of elementary school-aged children (Putri et al., 2024). In addition, the selection of appropriate learning media helps students understand reading materials more effectively (Adabiah & Chandra, 2024). This study complements these findings by applying Wordwall, an interactive and easy-to-implement tool for early-grade reading instruction. Despite showing positive results, this study has limitations related to the research design, which employed a single-group design without a comparison group and a limited number of subjects from a single class. These limitations have implications for the generalizability of the research findings. Future studies may develop experimental designs that include control groups, larger sample sizes, and the application of Wordwall to a broader range of reading materials. Such efforts are expected to provide a more comprehensive understanding of the effectiveness of interactive learning media in improving early reading ability among elementary school students.

CONCLUSION

The study results indicate that Wordwall interactive learning media contribute to improving the early reading skills of first-grade students at SDN Pasirwaru Limbangan. Improvements in reading ability were observed through changes in students' ability to recognize letters, syllables, and simple words after learning activities using Wordwall. The activity- and game-based characteristics of the media support active student engagement in the early reading process. Such engagement aligns with the developmental needs of early-grade students, who require concrete, engaging learning experiences. These findings reinforce the role of interactive media as a supporting tool in early reading instruction. The difference in early reading ability before and after the implementation of Wordwall indicates that this media functions not only as a visual aid but also as a learning tool that encourages active student participation. These findings address a research gap, as previous studies have primarily focused on conventional media or specific digital media in early reading instruction. Empirical studies on the use of Wordwall in early reading instruction for first-grade students remain limited. This study positions Wordwall as a relevant and applicable interactive media alternative in elementary school settings. This position demonstrates the study's contribution to the body of research on instructional media for early reading. Wordwall interactive learning

media can be considered a viable option for early reading instruction in lower-grade elementary classrooms. Teachers can utilize this media to create more varied learning activities that align with students' characteristics. Future research may examine the use of Wordwall at different grade levels or combine it with specific instructional models. Further studies may also involve control groups to strengthen research findings. The development of more diverse assessment instruments also has the potential to provide a more comprehensive understanding of the effectiveness of interactive learning media in early reading instruction.

AUTHOR'S NOTE

The authors declare that there are no conflicts of interest related to the publication of this article. The entire research and writing process was conducted independently and responsibly. The authors affirm that the data, analysis, and content of this article are original and free from plagiarism. All referenced sources have been cited in accordance with scientific writing standards. The authors express their gratitude to SDN Pasirwaru Limbangan for its support and cooperation throughout the research process. Appreciation is also extended to all parties who contributed to the completion of this article.

REFERENCES

- Adabiah, R., & Chandra, C. (2024). Penggunaan media pembelajaran interaktif berbasis Wordwall untuk menyukseskan pembelajaran majas di sekolah dasar. *Journal of Social Science and Multidisciplinary Analysis*, 1(2), 23-37.
- Amelia, Z., Suwardi, S., Rahmadani, A., Nisa, A. F., & Lestari, A. (2025). Pengembangan media pembelajaran SUMA (Seri Untuk Membaca Anak) dalam meningkatkan membaca permulaan anak usia 5-6 tahun. *Jurnal Pendidikan dan Pembelajaran Indonesia (JPPI)*, 5(1), 118-134.
- Annisa, I., & Iswari, M. (2020). Efektivitas media quiet book untuk meningkatkan kemampuan membaca permulaan bagi anak berkesulitan belajar membaca. *Ranah Research: Journal of Multidisciplinary Research and Development*, 3(1), 47-52.
- Assubaidi, R. J., & Ritonga, R. (2023). Peningkatan kemampuan membaca permulaan menggunakan puzzle pada siswa kelas I sekolah dasar. *Mitra Pilar: Jurnal Pendidikan, Inovasi, dan Terapan Teknologi*, 2(2), 105-112.
- Azhar, M. N., Nurmahanani, I., & Rosmana, P. S. (2024). Penerapan metode pembelajaran game based learning berbantuan media Wordwall dalam meningkatkan kemampuan membaca pemahaman pada siswa kelas VI. *Pendas: Jurnal Ilmiah Pendidikan Dasar*, 9(3), 918-925.
- Bachtiar, M. Y. (2023). Pengaruh media Wordwall terhadap kemampuan membaca permulaan pada anak usia dini. *Edutainment*, 11(1), 33-42.
- Bahrin, M. (2020). Pengembangan media pembelajaran membaca awal dengan menggunakan kartu suku kata kelas I sekolah dasar. *Pendas Mahakam: Jurnal Pendidikan dan Pembelajaran Sekolah Dasar*, 5(2), 134-139.

- Fahmihyah, A. U., Kuswandi, D., & Wahyuni, S. (2025). Using learning media to improve beginning reading skills. *Paudia: Jurnal Penelitian dalam Bidang Pendidikan Anak Usia Dini*, 14(2), 308-326.
- Firgiawan, D. B., & Sukasih, S. (2025). Efektivitas media cetak big book dan media digital aplikasi Secil Membaca dalam meningkatkan keterampilan membaca permulaan peserta didik kelas I sekolah dasar. *JIIP: Jurnal Ilmiah Ilmu Pendidikan*, 8(5), 4648-4656.
- Ginayah, R., Iswara, P. D., & Karlina, D. A. (2024). Pengembangan media interaktif menggunakan aplikasi Canva untuk keterampilan membaca permulaan. *Al-Madrasah: Jurnal Ilmiah Pendidikan Madrasah Ibtidaiyah*, 8(4), 1770-1784.
- Hadi, W., Sari, Y., & Pasha, N. M. (2024). Analisis penggunaan media interaktif Wordwall terhadap peningkatan hasil belajar IPA di sekolah dasar. *Jurnal Pendidikan MIPA*, 14(2), 466-473.
- Istiqomah, A., Rokmanah, S., & Gunardi, A. (2025). Pengaruh media pembelajaran Wordwall terhadap kemampuan literasi membaca pemahaman siswa kelas IV SD Negeri Pegadingan 1. *Jurnal Transformasi Pendidikan dan Pembelajaran*, 9(3), 186-191.
- Khalida, P., & Sari, I. P. (2022). Efektivitas metode kupas rangkai suku kata dengan media kartu huruf untuk meningkatkan kemampuan membaca permulaan pada siswa kelas I sekolah dasar. *IJEETI (Indonesian Journal of Elementary Education and Teaching Innovation)*, 1(2), 43-52.
- Kudadiri, I. E. U., Sumartiningsih, S., & Yuwono, A. (2025). Efektivitas penggunaan media interaktif Wordwall dalam meningkatkan minat belajar siswa kelas V sekolah dasar. *Pendas: Jurnal Ilmiah Pendidikan Dasar*, 10(2), 291-300.
- Kurnia, R. (2020). Efektivitas media dadu putar untuk kesiapan membaca anak usia dini. *Paud Lectura: Jurnal Pendidikan Anak Usia Dini*, 4(1), 32-41.
- Maulida, S. R., & Wiranti, D. A. (2024). Efektivitas media kartu huruf terhadap kemampuan membaca permulaan peserta didik kelas I di SD N 2 Mantingan. *Diskursus: Jurnal Pendidikan Bahasa Indonesia*, 7(3), 454-464.
- Merliyani, R., Sari, I. K., & Hayati, F. (2021). Efektivitas penggunaan media papan flanel dalam meningkatkan kemampuan membaca permulaan pada anak kelompok B1 TK Khairani Lubok Batee Aceh Besar. *Jurnal Ilmiah Mahasiswa Pendidikan*, 2(2), 1-19.
- Nafian, R. K., Widayanti, U. A., & Rahmawati, I. (2024). Penggunaan media wordwall sebagai evaluasi pembelajaran IPAS kelas IV SD Negeri 1 Gumul. *Jurnal Teknologi Pendidikan dan Pembelajaran*, 1(4), 747-750.
- Pamungkas, Z. S., Randriwibowo, A., Wulansari, L. N. A., Melina, N. G., & Purwasih, A. (2021). Pengembangan media pembelajaran interaktif Wordwall dalam meningkatkan motivasi belajar siswa kelas VII SMP Negeri 4 Gunung Sugih. *Social Pedagogy: Journal of Social Science Education*, 2(2), 135-148.
- Prasipi, J., Zuliana, E., & Fauziah, A. (2025). Inovasi pembelajaran bahasa Arab: Implementasi Wordwall sebagai media game edukasi interaktif. *Lisan An Nathiq: Jurnal Bahasa dan Pendidikan Bahasa Arab*, 7(2), 337-353.

- Putri, A. A. V. W., Widiana, I. W., & Kristiantari, M. G. R. (2024). Media augmented reality belajar membaca untuk menumbuhkan kemampuan kognitif dan literasi membaca awal anak usia dini. *Journal of Education Action Research*, 8(3), 504-512.
- Putri, T. C., Mahmud, S., Raharjo, T. J., Avrilianda, D., & Subali, B. (2025). Analisis metode suku kata (syllabic method) berbantuan media interaktif pada materi membaca awal sekolah dasar. *Jurnal Penelitian Pendidikan*, 17(1), 28-40.
- Riyanto, A., Hartinah, S., & Purwanto, B. E. (2024). Pengembangan media big book berbasis QR Code untuk meningkatkan kemampuan membaca permulaan murid kelas awal sekolah dasar. *Journal of Education Research*, 5(3), 3224-3232.
- Setiarini, N. P. D., Margunayasa, I. G., & Rati, N. W. (2024). Media game edukasi membaca permulaan untuk meningkatkan motivasi belajar. *Journal of Education Action Research*, 8(3), 435-443.
- Setyowati, J., & Imamah, I. (2023). Efektivitas media kartu kata dan gambar dalam peningkatan kemampuan membaca awal anak usia dini. *Journal of Education Research*, 4(3), 1014-1020.
- Shabrina, N. I., & Fatayan, A. (2025). The effect of Truth or Dare Wordwall media on increasing students' self-confidence. *Curricula: Journal of Curriculum Development*, 4(2), 1589-1604.
- Sugiarti, L. (2021). Wordwall Game to improve early reading skill with the syllable method for the first grade students in primary school. *Social, Humanities, and Educational Studies (SHES): Conference Series*, 4(6), 88-95.
- Tue, A. K., Husain, R., Pulukadang, W. T., & Monoarfa, F. (2025). Meningkatkan kemampuan membaca cerpen melalui media Wordwall pada siswa kelas III MI Al-Huda. *Edutech: Jurnal Inovasi Pendidikan Berbantuan Teknologi*, 5(1), 165-171.
- Wijaya, R. P. (2021). Efektivitas model quantum learning berbantuan media kartu kata untuk meningkatkan keterampilan membaca permulaan. *Journal of Education Action Research*, 5(1), 26-32.
- Wulandari, P., Masruroh, M., Arianti, C. A. L. E., & Nazilah, A. (2024). Pengaruh media aplikasi Wordwall terhadap keterampilan membaca permulaan siswa sekolah dasar. *Jurnal Multidisiplin Ilmu Akademik*, 1(3), 791-803.
- Yulianti, T. D., Listyarini, I., & Budiman, M. A. (2025). Analisis keterampilan literasi membaca permulaan berbasis Wordwall peserta didik kelas I SD Muhammadiyah Kutoarjo Kabupaten Purworejo. *Jurnal Wawasan Pendidikan*, 5(2), 614-626.