The Effect of the Jago Baca E-Flashcard on Students Mastery of Letters and Syllables at SDN 2 Karangtengah

Pengaruh E-Flashcard Jago Baca terhadap Penguasaan Huruf dan Suku Kata Siswa SDN 2 Karangtengah

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A B S T R A K

Membaca permulaan merupakan keterampilan dasar yang berperan penting dalam perkembangan literasi siswa sekolah dasar, namun hasil asesmen nasional dan kondisi lapangan menunjukkan masih rendahnya penguasaan huruf dan suku kata siswa kelas awal. Penelitian ini bertujuan untuk mengetahui pengaruh media E-Flashcard Jago Baca terhadap penguasaan huruf dan suku kata siswa kelas I SDN 2 Karangtengah. Penelitian menggunakan pendekatan kuantitatif dengan desain pra-eksperimen tipe one-group pretest–posttest yang melibatkan 18 siswa. Instrumen penelitian berupa tes unjuk kerja membaca yang mencakup pengenalan huruf, membaca suku kata, membaca kata sederhana, kelancaran membaca, dan kepercayaan diri. Hasil penelitian menunjukkan adanya peningkatan signifikan kemampuan membaca permulaan siswa setelah penerapan media E-Flashcard Jago Baca, yang ditunjukkan oleh kenaikan rata-rata nilai dari 52,6 pada pretest menjadi 80,9 pada posttest serta ketuntasan belajar mencapai 94,4%. Uji paired sample t-test menunjukkan nilai signifikansi 0,000 (<0,05), sehingga dapat disimpulkan bahwa media E-Flashcard Jago Baca berpengaruh positif dan efektif dalam meningkatkan penguasaan huruf dan suku kata siswa kelas I sekolah dasar.

A B S T R A C T

Early reading is a fundamental skill that plays an essential role in the development of elementary students' literacy; however, national assessment results and classroom conditions indicate that students' mastery of letters and syllables remains low. This study aimed to determine the effect of the Jago Baca E-Flashcard media on students' mastery of letters and syllables in Grade I at SDN 2 Karangtengah. This research employed a quantitative approach with a pre-experimental one-group pretest–posttest design involving 18 first-grade students. The research instrument was a reading performance test covering letter recognition, syllable reading, simple word reading, reading fluency, and reading confidence. The results showed a significant improvement in students' early reading skills after the implementation of the Jago Baca E-Flashcard media, as indicated by an increase in the mean score from 52.6 in the pretest to 80.9 in the posttest, with 94.4% of students achieving mastery learning. The paired sample t-test results revealed a significance value of 0.000 (<0.05), indicating that the Jago Baca E-Flashcard media has a positive and significant effect on improving students' mastery of letters and syllables in early reading instruction.

1. INTRODUCTION

Early reading serves as a fundamental strategy in building children's literacy, as it functions as a gateway to the development of subsequent learning abilities. Mastery of this skill is not solely oriented toward academic achievement but also contributes to the development of children's cognitive, linguistic, social, and emotional processes. The elementary school period is a critical stage in literacy development,

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particularly in mastering letters and syllables as the foundation of reading skills (Fahmiyah et al., 2025). During this phase, children begin to recognize language symbols and develop a basic understanding of the writing system (Herlina et al., 2018).

The results of the Indonesian National Assessment Programme (INAP) in 2019 indicate that students' reading abilities in Indonesia remain concerning. Only 6.06% of students achieved the good category, while the majority were classified as sufficient (47.11%) and poor (46.83%), reflecting the low quality of national reading literacy (Hendayana et al., 2024). Similar issues were also identified at SDN 2 Karangtengah based on interviews with a first-grade teacher, which revealed persistent challenges in students' basic reading skills. Approximately 50% of first-grade students were unable to recognize letters adequately and had not yet achieved fluency in reading simple words. Limited reading proficiency hinders the learning process in the classroom, requiring teachers to allocate additional assistance to help students meet the learning outcomes set by the curriculum.

The lack of engaging and innovative learning media is one of the main factors contributing to the low mastery of letters and reading skills among early-grade students (Ginayah et al., 2024). Learning media play an essential role in supporting the learning process by stimulating students' attention and abilities (Firmadani, 2020). In early-grade elementary reading instruction, the use of instructional media is particularly important because students are still in the concrete operational stage. In the era of digital transformation, the need for adaptive, interactive, and technology-based learning media has become increasingly relevant.

E-flashcards are digital learning media based on graphic elements, presented in the form of compact electronic cards containing images, symbols, or visual illustrations on one side and explanations in the form of words, phrases, or sentences on the other (Maharani et al., 2025). As interactive media, e-flashcards not only emphasize visual aspects but also integrate auditory learning experiences through listening activities, repetition, and independent practice. These characteristics encourage active student engagement in the learning process in a more independent and effective manner.

Several relevant studies have demonstrated that e-flashcard media effectively improve students' early reading skills. Research by Husna et al. (2024) found that e-flashcards significantly enhanced early reading abilities among first-grade students, as their interactive design facilitated letter-to-sentence recognition while increasing students' active participation and learning motivation. Similarly, a study by Desfrida et al. (2023) reported that e-flashcard media achieved a score of 92.9%, categorized as very good, indicating its suitability as a learning medium for early Indonesian language reading instruction for first-grade elementary students.

Based on the above discussion, this study aims to describe the effect of the "Jago Baca" e-flashcard media on the mastery of letters and syllables among first-grade students at SDN 2 Karangtengah. The contribution of this study to elementary education, particularly in early reading skills at the first-grade level, lies in providing e-flashcard media as an alternative for early literacy learning that is practical, interactive, and aligned with the developmental characteristics of elementary school students. Furthermore, this study is expected to serve as a reference for first-grade teachers in designing engaging, contextual, and digitally based early reading instruction, as well as to enrich scholarly literature on the development of technology-based early literacy learning media in elementary schools.

2. METHOD

The approach employed in this study is a quantitative approach with an experimental research type. Experimental research aims to examine the effect of a particular treatment on other variables under systematically controlled conditions. The research design applied in this study is a Pre-Experimental Design (non-design). According to Sugiyono (2018, p. 112), this design is classified as pre-experimental because it does not yet meet the criteria of a true experimental design, as external variables may still influence the dependent variable, resulting in less optimal control of variables (Hermawan, 2026).

This study uses a pre-experimental design in the form of a One-Group Pretest–Posttest Design. In this design, an initial measurement (pretest) is conducted prior to the implementation of the instructional media, followed by a final measurement (posttest) after the treatment has been administered. By comparing conditions before and after the treatment, the effect of the intervention can be analyzed more thoroughly and objectively (Sugiyono, 2018, p. 114).

The study was conducted at SDN 2 Karangtengah, located in Blitar City, East Java. The research subjects consisted of 18 first-grade students of SDN 2 Karangtengah, who constituted the research population. The data collection instruments used in this study included tests in the form of pretests and posttests to measure students' abilities in letter recognition, syllable reading, simple word reading, reading fluency, and reading confidence (Hermawan, 2026)..

3. RESULT AND DISCUSSION

This study was conducted in Grade I of SDN 2 Karangtengah, Blitar City, and involved 18 students as research subjects. The study employed a One-Group Pretest–Posttest Design to examine the effect of the Jago Baca E-Flashcard media on students' mastery of letters and syllables. Prior to the implementation of the treatment, students were administered a pretest to measure their initial early reading abilities.

Subsequently, the students received the treatment in the form of reading instruction using the Jago Baca E-Flashcard media, which was designed to be interactive and visually engaging. After the treatment was completed, a posttest was administered to determine changes in students' early reading abilities following the use of the Jago Baca E-Flashcard media.

The data obtained from the pretest and posttest were then presented in terms of the highest score, lowest score, and mean score. These results were further analyzed to identify improvements in students' early reading skills and to determine the effect of using the Jago Baca E-Flashcard media in reading instruction for Grade I students at SDN 2 Karangtengah.

Pretest

The pretest was administered to Grade I students during the first meeting on 15 November 2025 to assess students' initial early reading abilities prior to the implementation of the Jago Baca E-Flashcard media. The pretest was conducted at the beginning of the learning activities and was attended by all 18 Grade I students of SDN 2 Karangtengah..

Tabel 1. Nilai Hasil *Pre-Test*

Siswa	*Jumlah*	*Presentase*
45	3	16,67%
46	1	5,56%
50	4	22,22%
52	1	5,56%
55	4	22,22%
56	2	11,11%
58	2	11,11%
64	1	5,56%
Jumlah	18	100%

Based on Table 2, the results of the pretest on early reading skills of Grade I students at SDN 2 Karangtengah indicate that students' scores were predominantly in the low to moderate categories. Of the 18 students, 3 students (16.67%) obtained a score of 45, 1 student (5.56%) obtained a score of 46, and 4 students (22.22%) obtained a score of 50. A score of 52 was obtained by 1 student (5.56%), while 4 students (22.22%) achieved a score of 55. Furthermore, scores of 56 and 58 were each obtained by 2 students (11.11%), whereas the highest score, 64, was achieved by only 1 student (5.56%).

The distribution of these scores indicates that most students were within the score range of 45–55. Therefore, it can be concluded that students' early reading abilities prior to the implementation of the *Jago Baca* media were still not optimal. The pretest results show that the majority of students experienced difficulties in early reading skills, particularly in letter recognition, syllable reading, and simple word reading. Some students were unable to accurately recognize letters, especially letters with similar shapes such as *b–d* and *p–q*, which frequently led to reading errors.
In addition, students' ability to combine letters into syllables remained limited. This limitation was reflected in errors when reading simple words, such as reading the word *"kanguru"* as *"kangguru"* and segmenting

the word *"kerbau"* incorrectly into *"ker-ba-u."* These errors indicate that students had not yet fully understood syllable structures and were still reading through spelling, which negatively affected their ability to read words fluently and holistically.

Based on these findings, it can be concluded that the initial early reading abilities of Grade I students at SDN 2 Karangtengah still require improvement. Therefore, the implementation of engaging, interactive learning media that align with the developmental characteristics of elementary school students is necessary to support the enhancement of students' early reading skills.

Treatment

The research implementation was conducted in stages according to the predetermined schedule. On 24 November 2025, the research activities began with the first learning session. During this session, students were administered a pretest to assess their initial early reading abilities prior to the use of the *Jago Baca* media. In addition, the first meeting included an introduction to the *Jago Baca* media, covering explanations of how to use the media, its features, and the types of learning activities that students would engage in during subsequent sessions. At this stage, some students appeared hesitant and required guidance to understand the instructions, particularly because they were not yet accustomed to using digital learning media.

Subsequently, on 27 November 2025, the second and third learning sessions were conducted using *Jago Baca* media–based instruction. During these sessions, students actively participated in early reading activities using the *Jago Baca* media, beginning with letter recognition through alphabet songs. This activity functioned as an initial introduction to the sequence of letters in the alphabet and helped students memorize letter names through engaging rhythm and melody. In classroom practice, students appeared more enthusiastic, participated in singing, and became more confident in verbally identifying letters.

The activities continued with the presentation of a complete list of alphabet letters, including both uppercase and lowercase forms, displayed in visual slide formats. This visual presentation helped students distinguish letter shapes more clearly. The next stage involved the first practice package, which focused on letter mastery through letter-arranging activities. In this exercise, students were presented with concrete and familiar images from daily life, such as animals and fruits, accompanied by audio that pronounced the names of the objects shown in the images. During implementation, most students demonstrated increased focus and interest, as the images and audio were closely related to their everyday experiences.

This activity integrated visual, auditory, and kinesthetic skills, making the learning process more comprehensive and accommodating various student learning styles. After students demonstrated sufficient mastery of letters, the media provided a syllable-arranging practice package using a drag-and-drop feature. In this exercise, students were presented with images and audio that pronounced specific words or object names. Students were required to arrange the available syllables by dragging and dropping them into the correct positions to form words that matched the images and audio. At this stage, students appeared more confident and increasingly able to complete the exercises independently, although some students still required assistance.

After all stages of the media-based learning activities were completed, students were administered a posttest to assess changes in their early reading abilities following the treatment.

Posttest

The posttest was administered after the entire sequence of treatments using the *Jago Baca* media based on Liveworksheet had been completed. The purpose of the posttest was to assess students' early reading abilities after participating in media-based instruction and to examine changes in reading skills compared to the initial condition. The posttest was conducted during the third meeting and was attended by all 18 Grade I students of SDN 2 Karangtengah. The posttest instrument consisted of a reading performance assessment that covered the aspects presented in Table 2 below.

Tabel 3. Aspek Penilaian Membaca Permulaan

Aspek
Pengenalan Huruf
Membaca Suku Kata
Membaca Kata Sederhana
Kelancaran Membaca
Kepercayaan Diri

Sumber: Kumullah (2019) dimodifikasi

The posttest results indicate an improvement in students' early reading abilities across nearly all measured aspects. Overall, students' posttest scores were higher than their pretest scores, demonstrating the development of reading skills following the implementation of the *Jago Baca* media, as presented in Table 4 below.

Tabel 4. Nilai Hasil *Pre Test dan Post Test* Siswa

Siswa	Nilai Pre Test	Nilai Post Test
S1	50	75
S2	55	80
S3	45	70
S4	45	90
S5	50	78
S6	46	68
S7	55	82
S8	58	72
S9	64	95
S10	50	80
S11	55	83
S12	56	75
S13	50	92
S14	52	78
S15	45	70
S16	58	91
S17	56	85
S18	55	82

The comparison between the pretest and posttest results indicates an improvement in students' early reading abilities following the implementation of the Jago Baca media based on Liveworksheet. In the initial condition (pretest), most students were categorized as having low to moderate reading abilities. Students experienced difficulties in letter recognition, syllable reading, and fluent reading of simple words, which resulted in relatively low scores on the pretest.

After receiving the treatment in the form of reading instruction using the Jago Baca media, the posttest results showed a substantial improvement. Overall, students' posttest scores were higher than their pretest scores. Errors in letter recognition and word pronunciation decreased, and students demonstrated greater fluency in reading syllables and simple words compared to the initial condition. This improvement indicates that students not only progressed in terms of learning outcomes but also in the reading process itself, including accuracy in letter recognition, the ability to combine letters into syllables, and fluency in reading simple words.

The differences between the pretest and posttest results suggest that the Jago Baca media based on Liveworksheet contributed positively to the enhancement of students' early reading abilities. The media's integration of visual, auditory, and interactive activities supported students in understanding reading materials in a gradual and meaningful manner. Therefore, the comparison of pretest and posttest results strengthens the finding that the use of the Jago Baca media is effective in improving early reading skills among first-grade students at SDN 2 Karangtengah.

To ensure that the observed improvement could be appropriately analyzed using parametric statistical tests, it was necessary to examine the underlying assumptions of the data analysis. Accordingly, prior to conducting the paired sample t-test, the pretest and posttest data were first analyzed using a normality test to determine whether the data were normally distributed.

The analytical prerequisite test applied in this study was the normality test, which aims to determine whether the data follow a normal distribution. Normality testing is a prerequisite for conducting

parametric statistical analyses, particularly the paired sample t-test. In this study, the normality test was performed using the Shapiro–Wilk test, as the sample size was fewer than 50 students.

Tabel 5. Hasil Uji Normalitas *Pre Test* dan *Post Test*

Uji Shapiro Wilk	*Statistic*	*Sig*
Pre Test	0,910	0,133
Post Test	0,902	0,161

Based on the normality test results presented in Table 5, the Shapiro–Wilk statistic for the pretest data was 0.910 with a significance value (Sig.) of 0.133, while the posttest data yielded a statistic of 0.902 with a significance value of 0.161. Since the significance values for both datasets were greater than 0.05, it can be concluded that the pretest and posttest data were normally distributed.

After the data were confirmed to be normally distributed, hypothesis testing was conducted using a paired sample *t*-test. The results showed a significance value of 0.000, which is less than 0.05. These findings indicate that the use of E-Flashcard learning media had a significant effect on students' mastery of letters and syllables in early reading among first-grade students at SDN Karangtengah 02.

Tabel 6. Nilai Ketuntasan Siswa

Keterangan	Pre Test		Post Test	
	Jumlah	Persen	Jumlah	Persen
Tuntas	0	0%	17	94,4%
Tidak Tuntas	18	100%	1	5,6%
Jumlah	18	100%	18	100%

The improvement was also evident in the learning mastery analysis. The results of students' early reading abilities in the initial condition (pretest) showed that none of the students had achieved the minimum mastery criterion of 70. All pretest scores were below 70, with a mean score of 52.6, indicating that students' early reading abilities were still low prior to the implementation of the treatment.

After the implementation of learning using the Jago Baca media based on Liveworksheet, the posttest results demonstrated a very significant improvement. A total of 17 out of 18 students (94.4%) achieved learning mastery, with a mean score of 80.9. Only 1 student (5.6%) did not reach the minimum mastery criterion.

This increase in learning mastery indicates that the Jago Baca media not only improved students' average scores but also enabled nearly all students to meet the established standard for early reading ability. Therefore, the implementation of the Jago Baca media based on Liveworksheet is proven to have a significant effect on students' mastery of letters and syllables among first-grade students at SDN 2 Karangtengah.

4. CONCLUSION

Based on the results and discussion of the study on the effect of the Jago Baca E-Flashcard media on first-grade students' mastery of letters and syllables at SDN 2 Karangtengah, several conclusions can be drawn.

First, the implementation of the Jago Baca E-Flashcard media significantly improved students' early reading abilities. The posttest results demonstrated notable improvements in letter recognition, syllable reading, simple word reading, reading fluency, and students' confidence in reading, indicating that the media effectively supported the development of foundational reading skills.

Second, a statistically significant difference was found between students' pretest and posttest scores. The normality test confirmed that both datasets were normally distributed, allowing for parametric statistical analysis. The paired sample t-test yielded a significance value of $p < 0.05$, indicating that the use of the Jago Baca E-Flashcard media had a significant effect on students' mastery of letters and syllables.

Third, the application of the Jago Baca E-Flashcard media substantially improved classical learning mastery. Following the treatment, 94.4% of students achieved the minimum mastery criterion, with a mean posttest score of 80.9. This finding suggests that the media not only enhanced average learning outcomes but also enabled the majority of students to reach the expected standard of early reading competence.

In conclusion, the Jago Baca E-Flashcard media can be considered an effective, interactive, and pedagogically appropriate instructional medium for improving early reading skills among first-grade elementary school students. Future studies are recommended to employ experimental designs with control groups and to extend the application of this media to broader reading competencies in order to strengthen the generalizability and robustness of the findings.

5. ACKNOWLEDGE

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