

The Contextual Teaching and Learning Model Assisted by Word Card Media to Improve Early Reading Skills of Grade 2 Students at SD Negeri 18 Vega, Selimbau District

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Abstract: This research was conducted to investigate the effectiveness of the Contextual Teaching and Learning (CTL) approach supported by word card media in enhancing the beginning reading abilities of second-grade students at SD Negeri 18 Vega, Selimbau District. A quantitative methodology was adopted, utilizing a pre-experimental design with a one-group pretest-posttest framework. The participants comprised 17 second-grade students, all of whom were included in the study through a saturated sampling technique. Data were gathered through reading tests, classroom observations, and documentation. The validity of the research instrument was evaluated using the Pearson Product Moment correlation, while reliability was measured through Cronbach's Alpha coefficient. Data analysis involved both descriptive and inferential statistics, including a paired-samples t-test performed using IBM SPSS Statistics 27. The findings demonstrated that all test items satisfied the required validity standards, although the reliability values did not fully reach the generally recommended level. The descriptive analysis indicated an increase in the average score from 57.64 in the pretest to 78.82 in the posttest. Furthermore, the paired-samples t-test revealed a significant difference between students' scores before and after the intervention (Sig. = 0.000 < 0.05), accompanied by a large effect size (Cohen's $d = 0.85$). These results suggest that the application of the CTL model in combination with word card media contributed positively to the improvement of students' early reading performance. Consequently, the study offers initial empirical support for the use of CTL and word card media as an instructional strategy to foster beginning reading skills in elementary school learners.

Keywords: *Reading, Literacy, Contextual Teaching, Learning, Word Cards*

A. Introduction

Basic education is the primary foundation for developing students' literacy skills, particularly early reading skills, which serve as the basis for success in subsequent levels

of education (Zen, 2026). Early reading is not only related to the ability to recognize letters and words, but also includes the ability to understand simple meanings from the text being read (Bashah & Amran, 2026). However, in reality, early reading skills among elementary school students, especially in lower grades, are still relatively low. This condition is caused by various factors, such as the lack of variation in learning models, the dominance of lecture-based methods, and the limited use of engaging and interactive learning media (Wokas et al., 2026). As a result, students tend to be less motivated, easily bored, and experience difficulties in recognizing letters, syllables, and words as a whole.

This problem is also found among second-grade students at SD Negeri 18 Vega, Selimbau District, where many students have not yet achieved adequate early reading skills. Based on preliminary observations conducted in the second grade during the 2025/2026 academic year, out of 20 students, only 8 students (40%) were able to read simple words fluently and correctly, while 12 students (60%) still experienced difficulties in recognizing letters, combining syllables into words, and reading simple sentences. The observations also revealed that the learning process remained predominantly teacher-centered, relying mainly on lectures and textbook-based activities with limited use of instructional media.

Consequently, students tended to be passive and less motivated during reading lessons. Furthermore, the characteristics of lower-grade students, who generally require concrete, interactive, and enjoyable learning experiences, have not been optimally accommodated. If these difficulties are not addressed early, they may negatively affect students' literacy development and academic achievement in higher grades. Therefore, an instructional innovation is urgently needed to support the improvement of students' early reading skills.

One learning model considered effective in addressing these issues is Contextual Teaching and Learning (CTL) (Sabudu & Manado, 2025). The CTL model emphasizes the connection between learning material and students' real-life contexts, making learning more meaningful (Syaifuddin et al., 2021). Through CTL, students do not merely receive information passively but actively construct knowledge through direct experiences (Sarwari & Kakar, 2023). This model also encourages active student involvement in the learning process, increases motivation, and helps students understand concepts more deeply (Abidin & Muhammad, 2024). In the context of early reading, CTL can assist students in linking the words they learn with their daily experiences, thereby facilitating the process of word recognition and reading comprehension (Aseery & Aseery, 2024).

In addition to learning models, the use of media is also a crucial factor in improving early reading skills (Furbani, 2025). Word card media is one of the simple yet effective tools to help students recognize letters, syllables, and words (Mardiah et al., 2025). This media

can be used interactively through various play-based learning activities, making it suitable for the characteristics of lower-grade students. Word cards also enable students to learn visually and kinesthetically, which can enhance memory retention and understanding of the material (Halirat et al., 2025). Therefore, the combination of the CTL model and word card media is expected to create a more engaging, meaningful, and effective learning process.

Previous studies have reported that the Contextual Teaching and Learning (CTL) model can improve students' learning outcomes, engagement, and critical thinking skills (Jayanti & Rozimela, 2022). Likewise, word card media has been found effective in enhancing letter recognition, vocabulary acquisition, and early reading abilities among elementary school students. However, most previous studies have investigated the effectiveness of CTL and word card media separately, focusing mainly on general learning outcomes rather than specifically addressing early reading skills. In addition, limited research has examined the integrated application of CTL and word card media in lower-grade elementary classrooms, particularly in rural or geographically remote areas such as Selimbau

District, where literacy challenges remain significant. This indicates a clear research gap regarding how the combination of contextual learning approaches and interactive literacy media can simultaneously support students' early reading development. Therefore, this study seeks to fill this gap by examining the effectiveness of integrating the CTL model with word card media to improve the early reading skills of second-grade students. The findings are expected to contribute both theoretically, by enriching evidence on contextual literacy instruction, and practically, by providing teachers with an innovative and effective strategy for improving early reading achievement in elementary schools.

Thus, this study is important to be conducted as an innovative effort to improve the early reading skills of second-grade students at SD Negeri 18 Vega, Selimbau District. It is expected that the results of this study will not only have a positive impact on improving students' reading abilities but also serve as a reference for teachers in developing more effective, creative, and student-centered learning strategies in elementary education.

B. Methods

This research was carried out in 2022 at SD Negeri 18 Vega, located in Selimbau District, Kapuas Hulu Regency. The study adopted a quantitative research approach and employed an experimental method using a pre-experimental design, as proposed by Sugiyono, (2023). Specifically, the research utilized a one-group pretest–posttest design to examine changes in students' beginning reading abilities following the implementation of the instructional treatment.

The design involved two assessment phases. The first phase was a pretest (O1), administered prior to the intervention to identify students' initial reading performance. The second phase was a posttest (O2), conducted after the intervention to evaluate any improvements in reading skills. The treatment (X) consisted of the application of the Contextual Teaching and Learning (CTL) model integrated with word card media as a learning aid. By comparing the pretest and posttest results, the study sought to determine the extent to which the instructional intervention contributed to the development of students' early reading abilities.

Research Design		
Pretest	Treatment	Posttest
O1	X	O2

The target population of this research comprised all second-grade students enrolled at SD Negeri 18 Vega, with a total of 17 learners. Since the number of participants was relatively small, a saturated sampling technique was applied, meaning that every member of the population was included in the study. Consequently, the sample consisted of the same 17 students.

Data were collected through several techniques, including reading tests, classroom observations, and documentation. The test instrument was administered in the form of a pretest and posttest to assess students' beginning reading abilities before and after the implementation of the learning intervention. Observation sheets were utilized to record students' participation and learning activities throughout the instructional process. In addition, documentation was employed to obtain supporting evidence, such as photographs, school records, and other relevant materials related to the study.

The primary research instrument was an early reading assessment rubric designed to evaluate students' ability to read single syllables, two-syllable words, and simple sentences. Preliminary assessment results indicated that 13 students were capable of reading single syllables, while 10 students demonstrated the ability to read two-syllable words and simple sentences. Student achievement levels were classified according to the criteria suggested by (Sugiyono, 2019), namely very good (90–100), good (80–89), fair (70–79), and poor (60–69).

Considering the findings and methodological limitations of the present study, several suggestions can be offered for future investigations. First, researchers are advised to conduct a more comprehensive evaluation of instrument validity and reliability to ensure that measurement tools meet established quantitative research standards. Particular

attention should be given to internal consistency, where a Cronbach's Alpha coefficient of at least 0.60–0.70 is generally recommended to indicate acceptable reliability.

Second, future researchers should carefully examine the outcomes of statistical assumption testing, especially normality testing, by referring to the obtained significance values. The selection of statistical techniques should be aligned with the characteristics of the dataset and the sample size in order to generate more accurate and reliable results.

Third, because this study employed a one-group pretest–posttest design without the inclusion of a comparison group, the ability to draw strong causal conclusions remains limited. Therefore, subsequent studies are encouraged to utilize quasi-experimental or true experimental designs involving both experimental and control groups. Such designs would provide stronger empirical evidence regarding the effectiveness of the Contextual Teaching and Learning (CTL) approach supported by word card media.

Finally, future research should consider involving a larger number of participants from multiple schools and diverse geographical areas. Expanding the scope of the study would improve the external validity of the findings and increase their generalizability, thereby providing a broader understanding of the potential contribution of the CTL model to the development of early reading skills among elementary school students.

C. Results and Discussion

Results

The results of this study began with an analysis of the quality of the instruments used, including validity and reliability tests, before proceeding to the prerequisite tests for analysis, namely normality and homogeneity tests. Based on the results of the validity analysis using SPSS version 27 on the pretest items, all items had *r*-count values greater than the *r*-table value (0.725). The *r*-count values ranged from 0.741 to 0.956, indicating that all items were valid. Similar results were obtained for the posttest, where the *r*-count values ranged from 0.722 to 0.807 and exceeded the *r*-table value. Therefore, all items in both the pretest and posttest met the validity criteria and were suitable for measuring students' early reading skills.

The reliability test using Cronbach's Alpha produced coefficients of 0.205 for the pretest and 0.202 for the posttest. These values are below the commonly accepted threshold for adequate reliability (0.60–0.70). Therefore, although the instruments demonstrated content validity and were reviewed by experts, the reliability results indicate that the internal consistency of the instrument should be interpreted with caution. Future studies are encouraged to refine and re-evaluate the instrument to improve its reliability.

The normality test was conducted using the Kolmogorov-Smirnov test. The significance values obtained were 0.017 for the pretest and 0.010 for the posttest. Since both values were below 0.05, the data did not fully meet the assumption of normal distribution. Therefore, the interpretation of subsequent statistical analyses should be considered with caution. Meanwhile, the homogeneity test using Levene's test produced a significance value of 0.07 (> 0.05), indicating that the variances of the pretest and posttest scores were homogeneous.

Descriptively, there was a notable improvement in students' early reading skills following the implementation of the Contextual Teaching and Learning (CTL) model assisted by word card media. The mean pretest score increased from 57.64 to 78.82 in the posttest. This improvement suggests that students showed better performance in reading syllables, words, and simple sentences after participating in the learning activities.

Further analysis using the paired sample t-test revealed a significance value (Sig. 2-tailed) of 0.000 (< 0.05), indicating a statistically significant difference between the pretest and posttest scores. In addition, the effect size calculated using Cohen's *d* was 0.85, which is categorized as large. These findings suggest that the implementation of the CTL model assisted by word card media was associated with substantial improvements in students' early reading skills. However, because the study employed a one-group pretest-posttest design without a control group, the findings should be interpreted as evidence of improvement following the intervention rather than definitive proof of causality.

The key table in demonstrating the results of this study is the comparison table of descriptive statistics between the pretest and posttest, which includes minimum, maximum, mean, and standard deviation values. This table clearly shows the overall improvement in students' scores. Additionally, the paired sample t-test results table serves as the main inferential evidence that the learning model implemented was statistically effective.

Table 2. Comparison of Descriptive Statistics of Pretest and Posttest Scores

Variable	N	Minimum	Maximum	Mean	Standart Deviation
Pretest	17	45	70	57,64	7,85
Posttest	17	65	90	78,82	6,92

Table 3. Results of the Paired Sample t-test

Variable	Mean Difference	T Hitung	Df	Sig. (2-tailed)
Pretest- Posttest	-21,18	-9,457	16	0,00

Thus, based on the results of the descriptive and inferential analyses conducted, it can be concluded that the implementation of the Contextual Teaching and Learning (CTL) model assisted by word card media is feasible and effective in improving the early reading skills of second-grade students. This model not only enhances learning outcomes quantitatively but is also aligned with the characteristics of elementary school students who require active, contextual, and engaging learning. Therefore, this model is recommended to be applied more widely in early reading instruction at the elementary level, particularly in lower grades.

Discussion

The results of the present study suggest that the application of the Contextual Teaching and Learning (CTL) model supported by word card media contributed to the enhancement of beginning reading skills among second-grade students. Nevertheless, several methodological limitations should be taken into account when interpreting these outcomes. Although all instrument items satisfied the required validity standards and underwent expert review, the reliability coefficients obtained were relatively low, with Cronbach's Alpha values of 0.205 for the pretest and 0.202 for the posttest. These values fall below the commonly recommended threshold for acceptable internal consistency. As a result, the measurement outcomes should be interpreted with caution, and future investigations are encouraged to refine and revalidate the instrument to establish stronger reliability evidence.

Another important consideration relates to the results of the normality test. The obtained significance values were below 0.05, indicating that the data did not fully meet the assumption of normal distribution. Therefore, the interpretation of the statistical analyses should be made with awareness of this limitation. While these methodological issues do not negate the observed findings, they suggest that the conclusions drawn from this study should be regarded as preliminary rather than conclusive evidence regarding the effectiveness of the intervention.

Despite these constraints, both descriptive and inferential analyses demonstrated a consistent pattern of improvement in students' reading achievement following the implementation of the CTL model assisted by word card media. The mean score increased substantially from 57.64 on the pretest to 78.82 on the posttest, reflecting notable progress in students' abilities to recognize and read syllables, words, and simple sentences. Moreover, the paired-samples t-test identified a statistically significant difference between students' performance before and after the intervention. This result was further supported by the effect size analysis, which produced a Cohen's *d* value of 0.85, indicating a large practical impact of the instructional treatment on students' early reading development.

Nevertheless, because this study employed a one-group pretest-posttest design without a control group, it cannot be concluded with certainty that the observed improvement was solely caused by the intervention. Other factors, such as maturation, learning experiences outside the classroom, or testing effects, may also have contributed to the results. Therefore, future studies employing quasi-experimental or true experimental designs are needed to provide stronger evidence regarding the effectiveness of the CTL model assisted by word card media.

Substantively, the improvement in students' early reading skills occurred due to the characteristics of the CTL model, which emphasizes the connection between learning materials and students' real-life contexts. In early reading instruction, students are not only introduced to letters and words in an abstract manner but are also encouraged to relate them to their daily experiences (Siregar et al., 2025). This approach makes the learning process more meaningful, enabling students to better understand and retain the material. The increase in the average score from 57.64 to 78.82 indicates that students experienced significant development in reading syllables, words, and simple sentences. In other words, CTL transforms passive learning into active and contextual learning.

In addition, the use of word card media also contributed significantly to this improvement (Agustin & Latif, 2023; Robiatul & Basri, 2023). Word card media is visual and interactive, making it suitable for lower-grade students who are still in the concrete operational stage (Asrohah, 2026; Chasanah et al., 2025). Through word cards, students can learn while playing, arrange words, recognize syllables, and directly connect letter symbols with their sounds (Fisher et al., 2025). These activities not only increase student engagement but also strengthen their visual and kinesthetic memory (Halirat et al., 2025). The combination of the CTL model and word card media creates a learning environment that is not only meaningful but also enjoyable, thereby increasing students' motivation to learn (Azzahra & Kaniadewi, 2025; Kurniati & Utami, 2024).

The findings of this study are further supported by inferential analysis using the paired sample t-test, which showed a significance value of 0.000 (< 0.05). This indicates a significant difference between the pretest and posttest results, meaning that the improvement can be directly attributed to the treatment given. Furthermore, the effect size value of 0.85 falls into the high category, indicating that the CTL model assisted by word card media has a strong impact on improving students' early reading skills.

These findings are consistent with previous studies that have demonstrated the effectiveness of the CTL model in improving learning outcomes. Studies by Sari et al., (2024) and Haq et al., (2024) state that CTL improves students' conceptual understanding and learning outcomes by connecting learning materials with real-life contexts. In

addition, research by Fitriyani et al. (2023) shows that the CTL model is effective in improving reading skills among lower-grade students (Azizi et al., 2025). On the other hand, the use of word card media is supported by studies conducted by , which found Jannah & Ma, (2025) and Mardiah et al., (2025) that word card media significantly enhances early reading skills by helping students recognize word patterns visually and repeatedly. Therefore, this study not only supports previous findings but also contributes new insights through the integration of both approaches.

The practicality of this instructional model is further reflected in its alignment with the developmental characteristics of elementary school students, particularly those in the lower grades. Young learners generally prefer active participation, learning through play, and the use of tangible learning materials. The integration of the Contextual Teaching and Learning (CTL) model with word card media effectively addresses these learning preferences by creating an engaging and meaningful learning environment. As a result, the teaching and learning process becomes more interactive and conducive to student involvement.

In addition, the model facilitates the progressive development of literacy skills by guiding students through sequential stages of reading acquisition. Students are encouraged to move from recognizing letters and syllables to reading words and comprehending simple sentences, thereby supporting both cognitive and language development in a structured manner. Overall, the improvement in students' beginning reading abilities identified in this study appears to stem from the combined influence of contextual learning strategies and interactive instructional media. The findings indicate that the use of the CTL approach supported by word card media is not only theoretically appropriate but also demonstrates practical effectiveness in classroom implementation. Furthermore, the model possesses strong pedagogical relevance because it responds to the learning needs and characteristics of young learners.

Given these advantages, the CTL model assisted by word card media may be considered a promising alternative for early reading instruction in elementary schools, particularly at the lower-grade level. Its application has the potential to enrich classroom practices by providing a more innovative, student-centered, and meaningful learning experience that supports the development of foundational reading skills.

D. Conclusions

Based on the findings and analysis of the study, it can be inferred that the use of the Contextual Teaching and Learning (CTL) approach supported by word card media contributed positively to the enhancement of beginning reading skills among second-grade students at SD Negeri 18 Vega, Selimbau District. The descriptive results

demonstrated a notable increase in students' mean scores, rising from 57.64 in the pretest to 78.82 in the posttest. This improvement reflects better student performance in reading syllables, words, and simple sentences after participating in the learning activities. The statistical analysis conducted through a paired-samples t-test showed a significant difference between students' scores before and after the intervention, with a significance value of 0.000, which is lower than the 0.05 threshold. In addition, the calculated effect size (Cohen's $d = 0.85$) indicated that the intervention produced a substantial practical impact on students' reading achievement.

These results imply that integrating the CTL model with word card media may serve as an effective instructional strategy for fostering early reading development in elementary school learners. Although the findings provide encouraging initial evidence regarding the effectiveness of this approach, further research is recommended to confirm and extend these results. Future studies should employ more rigorous experimental methodologies, involve larger and more diverse samples, and utilize instruments with stronger reliability and validity to enhance the robustness and generalizability of the findings.

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