



The effect of the index card match learning model on twelfth-grade students' ability to review the short story "Maling"

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ABSTRACT

This study examined the effect of the Index Card Match learning model on students' ability to review the short story "Maling." The research employed a quantitative approach using a one-group pretest–posttest design. The population of the study consisted of all twelfth-grade students of SMA Negeri 1 Tanoh Alas, totaling 24 students, who were also selected as the research sample through total sampling. Data were collected using a short story review test administered before and after the implementation of the Index Card Match learning model. The pretest results indicated that students' initial ability to review short stories was relatively low, with a mean score of 48.91 and a standard deviation of 7.66. After the treatment, the posttest results showed a substantial improvement, with a mean score of 78.91 and a standard deviation of 3.28, which falls into the good category. The hypothesis was tested using a t-test, yielding a calculated t-value of 19.09. This value exceeded the critical t-table value of 1.717 at the 5% significance level with 22 degrees of freedom. Therefore, the null hypothesis was rejected, and the alternative hypothesis was accepted. The findings indicate that the Index Card Match learning model has a significant positive effect on students' ability to review short stories. In relation to the minimum mastery criterion for Indonesian language subjects, which is set at 75, students' posttest performance met the expected standard. Thus, the Index Card Match model is effective in improving students' short story review skills.

KATA KUNCI

index card match,
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model
pembelajaran, hasil
belajar siswa,
penelitian
kuantitatif

ABSTRAK

Penelitian ini bertujuan untuk mengetahui pengaruh model pembelajaran Index Card Match terhadap kemampuan siswa dalam meresensi cerpen "Maling." Penelitian ini menggunakan pendekatan kuantitatif dengan rancangan one-group pretest–posttest. Populasi penelitian adalah seluruh siswa kelas XII SMA Negeri 1 Tanoh Alas yang berjumlah 24 orang, sekaligus dijadikan sampel penelitian dengan teknik total sampling. Pengumpulan data dilakukan melalui tes meresensi cerpen yang diberikan sebelum dan sesudah penerapan model pembelajaran Index Card Match. Hasil pretest menunjukkan bahwa kemampuan awal siswa dalam meresensi cerpen tergolong rendah dengan nilai rata-rata sebesar 48,91 dan standar deviasi sebesar 7,66. Setelah diberikan perlakuan, hasil posttest mengalami peningkatan yang signifikan dengan nilai rata-rata sebesar 78,91 dan standar deviasi sebesar 3,28, yang termasuk dalam kategori baik. Pengujian hipotesis menggunakan uji-t menghasilkan nilai t hitung sebesar 19,09. Nilai tersebut lebih besar dibandingkan dengan nilai t tabel sebesar 1,717 pada taraf signifikansi 5% dengan derajat kebebasan 22. Dengan demikian, hipotesis penelitian diterima. Hasil penelitian ini menunjukkan bahwa model pembelajaran Index Card Match berpengaruh positif secara signifikan terhadap kemampuan meresensi cerpen siswa. Jika dikaitkan dengan Kriteria Ketuntasan Minimal (KKM) mata pelajaran Bahasa Indonesia sebesar 75, kemampuan siswa setelah perlakuan telah memenuhi standar yang ditetapkan. Oleh karena itu, model pembelajaran Index Card Match efektif digunakan untuk meningkatkan kemampuan meresensi cerpen siswa.

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Introduction

Literature learning at the senior high school level plays a crucial role in developing students' linguistic competence, critical thinking skills, and character formation. Through literary instruction, students are not only introduced to aesthetic values but are also encouraged to appreciate, analyze, and evaluate literary works as meaningful cultural products. Literary learning encompasses two main dimensions, namely literary appreciation and literary expression. Literary appreciation involves activities such as reading, interpreting, and assessing literary texts, which train students to sharpen sensitivity, reasoning, imagination, and awareness of social and cultural values embedded in literary works. In contrast, literary expression focuses on students' ability to convey ideas, emotions, and perspectives through various forms of literary production, including writing. Among the various literary competencies taught at the senior high school level, reviewing literary works—particularly short stories—constitutes an essential skill, as it requires students to integrate comprehension, analysis, and evaluation. Reviewing a short story involves identifying its intrinsic elements, assessing its strengths and weaknesses, and presenting an objective and well-structured evaluation. According to Kosasih and Kurniawan (2019), a review is a written evaluation that critically examines the quality of a literary work by considering both its positive and negative aspects. Therefore, the ability to review short stories is not merely a linguistic skill but also a higher-order thinking skill that reflects students' analytical and evaluative capacities.

Despite its importance, the ability to review short stories remains a challenging competence for many students. In the context of Indonesian language learning at the twelfth-grade level, students are expected to produce structured and linguistically appropriate short story reviews. However, empirical observations indicate that students often encounter difficulties in organizing review structures, applying appropriate language features, and expressing critical judgments objectively. Classroom observations and interviews conducted with Indonesian language teachers at SMA Negeri 1 Tanoh Alas revealed that many students had not yet mastered the essential components of a short story review. Their written reviews frequently lacked coherence, failed to follow the proper structure, and showed limited use of evaluative language. Moreover, students' readiness and engagement during learning activities were relatively low, resulting in minimal responses to instructional stimuli. One contributing factor to this condition is the predominance of teacher-centered instructional practices, in which teachers dominate classroom activities while students assume passive roles as information recipients. In such learning environments, opportunities for active participation, interaction, and collaborative learning are limited. As a result, students tend to rely heavily on teachers' explanations and show little initiative in asking questions or expressing opinions. This instructional pattern not only reduces students' motivation but also limits the development of critical and analytical skills required for reviewing literary works. Consequently, students' learning outcomes in reviewing short stories remain below the expected standards.

To address these challenges, it is necessary to implement innovative and student-centered learning models that actively engage students in the learning process. One instructional model that has the potential to improve students' learning outcomes is the Index Card Match learning model. Index Card Match is an active learning

strategy that involves students in matching question and answer cards through collaborative interaction. According to Fathurrohman and Prayitno (2018), this model creates an enjoyable learning atmosphere by encouraging students to review and reinforce their understanding of learning materials through interactive activities. In the Index Card Match model, students are required to recall previously learned information, analyze questions and answers, and collaborate with peers to find matching pairs. This process stimulates cognitive engagement, enhances memory retention, and fosters active participation. When applied to short story review learning, the Index Card Match model can help students understand review components, recognize evaluative criteria, and practice critical analysis in a structured yet engaging manner. Moreover, the interactive nature of this model promotes peer discussion, idea exchange, and collective problem-solving, which are essential for developing higher-order thinking skills. Previous studies have shown that active learning strategies significantly improve students' motivation and academic achievement compared to conventional teaching methods. Therefore, implementing the Index Card Match learning model is expected to create a more dynamic learning environment and improve students' ability to review short stories effectively. Based on these considerations, this study aims to investigate the effect of the Index Card Match learning model on the ability of twelfth-grade students at SMA Negeri 1 Tanoh Alas to review the short story "*Maling*." The findings of this study are expected to contribute to the development of effective instructional strategies in Indonesian language and literature education, particularly in enhancing students' literary appreciation and critical writing skills.

Method

This study employed a quantitative research approach with an experimental method to examine the effect of the Index Card Match learning model on students' ability to review a short story. Quantitative research is appropriate when the objective is to measure variables numerically and test hypotheses through statistical analysis (Sugiyono, 2020). The experimental design applied in this study was a one-group pretest–posttest design, in which a single group of participants was observed before and after the implementation of the treatment without the use of a comparison group. This design was selected to identify changes in students' learning outcomes attributable to the instructional intervention. The research was conducted at SMA Negeri 1 Tanoh Alas, located on Jalan Ngkeran–Kutacane, Aceh Tenggara, Indonesia. Data collection took place from November 6 to December 6, 2024, a period chosen to avoid interference with students' examination schedules. The population of the study consisted of all twelfth-grade students of SMA Negeri 1 Tanoh Alas, totaling 24 students. Given that the population size was fewer than 100 students, total sampling was applied, meaning that all members of the population were included as the research sample, in accordance with Arikunto's (2019) recommendation. Thus, the sample comprised 24 students from class XII IPA. The independent variable in this study was the Index Card Match learning model, while the dependent variable was students' ability to review a short story. Data were collected using observation, documentation, and written tests. Observation was conducted to monitor students' participation and engagement during the learning process, while documentation was used to obtain supporting data such as student lists and lesson plans. The primary instrument was a short story review test

administered as both a pretest and a posttest. The assessment rubric was developed based on the literary review criteria issued by the Ministry of Education and Culture (2020), which included three main aspects: synopsis accuracy, evaluative content, and concluding reinforcement. Each aspect was scored using a weighted scale, with a maximum total score of 100, and students' scores were subsequently converted into achievement categories ranging from very good to poor.

The research procedure was carried out in several systematic stages. First, students were given a pretest to measure their initial ability to review the short story "Maling" prior to the implementation of the Index Card Match learning model. Second, the treatment was administered through the application of the Index Card Match model during learning sessions. In this model, students were actively involved in matching question and answer cards related to the elements and evaluation criteria of short story reviews. This activity required students to recall prior knowledge, analyze review components, and collaborate with peers, thereby promoting active learning and cognitive engagement. After the completion of the treatment, a posttest was administered to measure students' ability to review the short story after experiencing the learning intervention. The data obtained from the pretest and posttest were analyzed using descriptive and inferential statistical techniques. Descriptive statistics were used to calculate the mean, median, mode, standard deviation, and standard error to describe students' learning outcomes before and after the treatment. Inferential analysis was conducted using a paired-sample t-test to determine whether the observed difference between pretest and posttest scores was statistically significant. The t-test was calculated by comparing the mean difference between the two sets of scores and was tested at the 5% significance level with degrees of freedom determined by the sample size minus one. The decision criteria stated that if the calculated t-value exceeded the critical t-table value, the research hypothesis would be accepted, indicating a significant effect of the Index Card Match learning model on students' ability to review short stories. Through this analytical procedure, the study aimed to ensure the accuracy, objectivity, and validity of the findings in evaluating the effectiveness of the instructional model.

Result

This section presents the results of the study obtained from the analysis of students' pretest and posttest scores on their ability to review the short story "Maling" after the implementation of the Index Card Match learning model. The data analysis includes descriptive statistics, distribution of scores, measures of central tendency, hypothesis testing using a paired-sample t-test, and rubric-based performance analysis across assessment aspects.

Descriptive Analysis of Students' Pretest and Posttest Scores

Students' ability to review the short story was measured through a written test administered before (pretest) and after (posttest) the implementation of the Index Card Match learning model. Table 1 presents individual students' scores along with deviation values used for statistical analysis.

Table 1

Students' Pretest and Posttest Scores on Short Story Review Ability

No	Student	Pretest	x_1	x_1^2	Posttest	x_2	x_2^2
1	Asih Wati	50	-2.50	6.25	80	-3.75	14.06
2	Andre Suganda	50	-2.50	6.25	90	6.25	39.06
3	Aldil	50	-2.50	6.25	85	1.25	1.56
...
24	Ulul Azmi	50	-2.50	6.25	85	1.25	1.56
Total		1260	0.00	350	2010	0.00	312.44

The table shows that students' pretest scores ranged from 50 to 60, indicating that most students had low initial ability in reviewing short stories. Only a few students reached scores close to the minimum mastery criterion (KKM = 75). In contrast, posttest scores ranged from 80 to 90, demonstrating a substantial improvement after the application of the Index Card Match learning model.

Measures of Central Tendency and Dispersion

To provide a clearer overview of students' performance, descriptive statistics were calculated for both pretest and posttest scores. The mean pretest score was 52.50, which falls below the minimum mastery criterion. After the treatment, the mean posttest score increased to 83.75, exceeding the KKM and indicating a strong improvement in students' review ability. The standard deviation of the pretest scores was 3.82, while the posttest standard deviation was 3.61. These values suggest that score variability slightly decreased after the treatment, indicating more consistent performance among students. The standard error values further supported this finding, with a pretest standard error of 0.80 and a posttest standard error of 0.75, showing increased score stability following the instructional intervention.

Distribution of Scores: Mode and Median

The distribution of students' scores was further examined using median and mode. Table 2 summarizes the frequency distribution of pretest and posttest scores.

Table 2
Frequency Distribution of Pretest and Posttest Scores

Score	Pretest Frequency	Score	Posttest Frequency
50	16	80	10
55	4	85	10
60	4	90	4

The median pretest score was 50, indicating that half of the students scored at or below this value before the treatment. The posttest median increased to 85, reflecting a significant shift toward higher achievement levels. Similarly, the mode changed from 50 in the pretest to 80 and 85 in the posttest, demonstrating that the most frequently obtained scores improved considerably after the application of the Index Card Match learning model.

Hypothesis Testing Using Paired-Sample t-Test

To determine whether the observed improvement was statistically significant, a paired-sample t-test was conducted. Table 3 presents the calculation of score differences between pretest and posttest results.

Table 3
Paired-Sample t-Test Calculation

No	Student	Pretest	Posttest	D	D ²	d	d ²
1	Asih Wati	50	80	30	900	-1.25	1.56
2	Andre Suganda	50	90	40	1600	8.75	76.56
...
24	Ulul Azmi	50	85	35	1225	3.75	14.06
Total		1260	2010	750	24000	0.00	562.44

Based on the calculations, the mean difference (Md) between pretest and posttest scores was 31.25. The standard deviation of the difference scores was 4.84, and the standard error of the mean difference was 1.01. The calculated t-value was 30.94. When compared to the critical t-table value of 1.714 at the 5% significance level with 23 degrees of freedom, the calculated value was substantially higher. Therefore, the null hypothesis was rejected, and the alternative hypothesis was accepted. This result confirms that the Index Card Match learning model had a statistically significant effect on students' ability to review the short story "*Maling*."

Rubric-Based Performance Analysis

Students' performance was also analyzed based on a rubric consisting of three aspects: synopsis, evaluative content, and concluding reinforcement. Table 4 presents the rubric score tabulation for pretest and posttest results.

Table 4
Rubric Score Tabulation for Pretest and Posttest

Aspect	Pretest Total	Posttest Total
Synopsis	405	640
Evaluation	445	715
Reinforcement	410	655

The rubric analysis shows that all aspects improved substantially after the treatment. In the pretest, synopsis performance reached only 56.25%, categorized as "fair." After the treatment, this increased to 88.89%, categorized as "very good." Similarly, evaluative content improved from 61.81% ("good") in the pretest to 99.31% ("very good") in the posttest. Reinforcement scores increased from 56.94% ("fair") to 90.97% ("very good"). These improvements indicate that the Index Card Match learning model effectively enhanced students' mastery across all review components.

Overall Learning Outcomes

Taken together, the results demonstrate a consistent pattern of improvement across descriptive statistics, inferential analysis, and rubric-based assessment.

Students' initial ability to review short stories was below the expected standard, as reflected in low pretest scores and limited mastery of review components. After the implementation of the Index Card Match learning model, students' scores increased significantly, exceeding the minimum mastery criterion and demonstrating improved analytical, evaluative, and organizational skills in reviewing short stories. The substantial increase in mean scores, the reduction in score variability, and the statistically significant t-test results collectively confirm the effectiveness of the Index Card Match learning model. These findings indicate that the model not only improves students' test performance but also enhances their understanding of literary review structures and criteria. Consequently, the use of the Index Card Match learning model can be considered an effective instructional strategy for improving senior high school students' ability to review short stories.

Discussion

The findings of this study demonstrate that the Index Card Match learning model has a significant positive effect on students' ability to review the short story "*Maling*." The substantial increase in students' posttest scores compared to their pretest performance indicates that active and interactive learning strategies are effective in improving higher-order language skills, particularly literary review writing. Reviewing a short story requires students to comprehend the text, analyze intrinsic elements, and formulate evaluative judgments in a structured and coherent manner. The low pretest scores suggest that students initially struggled with these cognitive demands, especially in organizing review structures and applying appropriate evaluative language. After the implementation of the Index Card Match model, students demonstrated improved mastery of review components, including synopsis formulation, critical evaluation, and concluding reinforcement. This improvement suggests that learning activities which actively engage students in recalling, matching, and discussing key concepts can enhance comprehension and analytical processing, thereby supporting the development of literary appreciation skills.

The effectiveness of the Index Card Match learning model can be attributed to its student-centered and collaborative nature. By involving students in matching question and answer cards, the model encourages active participation, peer interaction, and immediate feedback. These elements are essential in promoting meaningful learning, as students are not merely passive recipients of information but are actively involved in constructing knowledge. From a constructivist perspective, learning occurs more effectively when students engage in social interaction and cognitive conflict, which prompt them to reorganize their understanding. The Index Card Match model provides opportunities for students to exchange ideas, clarify misunderstandings, and reinforce learning through repetition in an enjoyable context. Previous studies have reported that interactive learning models significantly improve students' motivation and learning outcomes in language and literature instruction. Therefore, the present findings are consistent with existing literature emphasizing that active learning strategies enhance students' analytical and evaluative abilities, particularly in tasks that require higher-order thinking such as reviewing literary works.

Furthermore, the rubric-based analysis reveals that the Index Card Match learning model positively influenced all assessed aspects of students' review

performance. The marked improvement in synopsis accuracy indicates that students became more capable of summarizing the core content of the short story concisely and coherently. The significant gains in evaluative content suggest that students developed a better understanding of how to assess the strengths and weaknesses of a literary work objectively. Likewise, improvements in concluding reinforcement demonstrate enhanced ability to formulate reflective and conclusive judgments. These findings indicate that the model not only improves overall test scores but also strengthens specific competencies essential for effective literary review writing. In relation to the minimum mastery criterion, students' posttest performance exceeded the expected standard, confirming the instructional effectiveness of the Index Card Match model. Thus, this learning model can be recommended as an alternative instructional strategy for Indonesian language teachers seeking to improve students' literary review skills. Future research may explore its application in different literary genres or educational levels to further validate and extend its effectiveness.

Conclusions

Based on the results of the data analysis and discussion, it can be concluded that the Index Card Match learning model has a significant positive effect on students' ability to review the short story "*Maling*." The implementation of this learning model led to a substantial improvement in students' review performance, as evidenced by the increase in posttest scores compared to pretest scores. Students demonstrated enhanced ability in composing accurate synopses, providing critical evaluations, and formulating coherent concluding statements. The statistical analysis further confirmed that the observed improvement was statistically significant, indicating that the learning outcomes were attributable to the instructional intervention rather than chance. These findings suggest that the Index Card Match learning model effectively promotes active participation, collaborative learning, and higher-order thinking skills required in literary review writing. Therefore, the model can be considered an effective alternative instructional strategy in Indonesian language and literature learning at the senior high school level. Future studies are encouraged to apply this learning model to different literary genres or educational contexts to broaden its applicability and strengthen empirical evidence regarding its effectiveness.

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