

THE INFLUENCE OF DISCOVERY LEARNING METHODS AND READING INTEREST ON THE WRITING SKILLS OF EXPLANATORY TEXTS

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Article Info	Abstract
Article History Received: May 2024 Revised: June 2024 Published: July 2024	<i>Discovery learning is considered an effective educational method that can engage students and enhance their reading and writing skills. This method encourages students to develop a greater interest in reading and provides ample opportunities for practicing writing exercises. The discovery learning approach engages students by offering them relevant material to use in their writing, thus making the learning process more interactive and meaningful. This study aims to explore several key aspects of the discovery learning method. First, it examines the influence of discovery learning methods compared to conventional learning models on students' writing skills. Second, it investigates the effect of the discovery learning method on writing skills specifically for students with high reading interest. Third, it looks into the impact of the discovery learning method on students with low reading interest. Lastly, the study aims to understand the interaction between the discovery learning method and students' reading interest in enhancing writing skills. The research was conducted as a quasi-experiment, utilizing a purposive sampling technique to select participants. The samples included students from class XI TPB and XI TPE. The findings of the research revealed that the explanatory writing skills of students taught using the discovery learning method were significantly higher than those of students taught using conventional models, regardless of their level of reading interest. Furthermore, the study identified an interaction between the discovery learning method and reading interest, indicating that this method is particularly effective in improving explanatory text writing skills among students with varying levels of reading interest.</i>
Keywords Discovery learning method; Conventional model; Reading interest; Explanatory text	
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INTRODUCTION

Writers often face challenges in expressing their ideas effectively (Astiantih & Akfan, 2023; Mardiningrum et al., 2024; Rachmaida & Mutiarani, 2022). These difficulties can be attributed to a variety of internal and external factors that impact writing skills (Budjalemba & Listyani, 2020; Le & Le, 2022; Novariana et al., 2018). Internal factors influencing writing skills include issues with grammar, vocabulary selection, and cognitive aspects such as punctuation, capitalization, spelling, content, and organization (Nurlatifah & Yusuf, 2022; Rakafaeri et al., 2020; Rashid & Hui, 2021; Yulandari & Rahman, 2019). These internal challenges can impede a writer's ability to convey their thoughts clearly and coherently. External factors also play a significant role in affecting writing skills. One major external factor is a lack of interest in reading among students, which can hinder their writing development (Al Hadhrami et al., 2022; Alfatihah & Tyas, 2022; L. S. Teng & Zhang, 2018; Toba et al., 2019). Additionally, factors such as attitude, linguistic knowledge, and vocabulary proficiency further

contribute to the difficulty in mastering writing skills (Derakhshan & Karimian Shirejini, 2020; Marjokorpi, 2023; Mathew Nalliveetil & Mahasneh, 2017).

Moreover, less effective teaching methods can exacerbate these challenges, making it harder for students to translate their knowledge into written form (Csizér & Kontra, 2020; Hussain, 2017; Marjokorpi, 2023; Santangelo, 2014; M. F. Teng et al., 2022). Ineffective instructional strategies fail to address the diverse needs of students and do not provide adequate support to enhance their writing capabilities. To improve writing skills, it is essential to consider these various factors and implement more effective teaching methods. Addressing both internal and external influences can help create a more conducive learning environment for developing strong writing skills. Therefore, educators must adopt comprehensive approaches that consider all aspects affecting writing proficiency to facilitate better learning outcomes.

Previous research has demonstrated that the learning methods applied by teachers significantly impact the success of teaching text writing skills (Adeninawaty et al., 2018; Cer, 2019; Özdemir, 2018; Widyawati, 2019). Effective teaching methods are crucial in fostering students' ability to write texts proficiently. However, not all learning methods necessarily attract students to engage in the learning process (Bi et al., 2023; Fadil & Ramadhan, 2023; Hikmah et al., 2022). The effectiveness of these methods largely depends on their appeal to students. The attractiveness of the methods used by teachers is significantly influenced by students' reading interest (Munawaroh et al., 2022; Novindari & Gularso, 2022; C. Rahmawati et al., 2021; Senen et al., 2021). Therefore, it is essential for teachers to consider students' reading interests when selecting a learning method. Interest in reading plays a critical role in students' writing success (Ramandanu, 2019; Shafiee Rad & Jafarpour, 2023; Urfali Dadandi & Dadandi, 2021; Wardat et al., 2024).

Students with a high interest in reading tend to be more enthusiastic and responsive to the learning methods applied by the teacher. They engage more actively and are likely to benefit more from the instructional techniques used (Wahyuni et al., 2020; Wirdiyana et al., 2024). In contrast, students with low interest in reading are generally less enthusiastic and less responsive to the teaching methods provided. This lack of engagement can hinder their ability to benefit fully from the learning process. Therefore, the level of students' reading interest is a determinant factor in the success of receiving and benefiting from the learning methods applied by teachers. To optimize the effectiveness of their teaching, educators must take into account the reading interests of their students, selecting methods that will engage and motivate all learners effectively.

Dewira et al. (2019) state that there are notable differences in the learning outcomes of students taught using the discovery learning method compared to conventional learning models, particularly for students with a high interest in reading. According to Fitriana et al. (2023) and Haryuti & Hadi (2023), the application of the discovery learning method significantly impacts reading interest and student learning outcomes. Furthermore, Annisa & Simanullang (2022) and Effendi & Saputra (2021) found that the discovery learning method successfully improves the learning of writing skills. Therefore, it can be concluded that the use of the discovery learning method positively influences the development of writing skills.

Writing explanatory texts is a critical skill that must be mastered by grade XI students of SMA/MA/SMK. Traditionally, the lecture method is more frequently used in teaching students how to write explanatory texts (Abdurrokhman et al., 2023; Ratmantika et al., 2021). However, research has been conducted to explore the effectiveness of different instructional approaches. Studies by Cahyani et al. (2022), Fitri et al. (2020), Intania & Ramadhan (2023), Kristin & Susianna (2023), Nefira et al. (2019), Purwanugraha & Amanda (2022), Trisnasari & Setiyadi (2020), Agustin & Ramadhan (2023), Koraag & Astawan (2022), Mukhlis et al. (2020), Oktiana & Gani (2022), and Yenti et al. (2022) aim to determine whether there are changes in learning outcomes for explanatory text writing skills when special models, methods, strategies, and

approaches are applied. These studies collectively seek to evaluate the effectiveness of various educational techniques in enhancing students' ability to write explanatory texts. By applying innovative models and strategies, researchers aim to improve the learning experiences and outcomes for students, moving beyond traditional lecture methods to more engaging and effective teaching practices.

Based on the explanation above, it can be concluded that the use of specialized learning methods is crucial in teaching writing. One effective method that can be employed is the discovery learning method. This method is particularly suitable due to its emphasis on engaging students' reading interests, which in turn can enhance their writing skills. Given the importance of aligning teaching methods with students' interests, researchers have conducted a study titled "The Effect of Discovery Learning Method and Reading Interest on Explanatory Text Writing Skills." This study aims to investigate the impact of the discovery learning method on students' ability to write explanatory texts, considering their varying levels of interest in reading. The novelty of this study lies in its dual focus on both the teaching methodology and the intrinsic motivation of students. While previous research has examined the effectiveness of different teaching methods and the role of reading interest separately, this study uniquely combines these two aspects. By doing so, it seeks to provide a more comprehensive understanding of how the discovery learning method can be optimized to improve writing skills, particularly in the context of explanatory text writing. This integrated approach offers valuable insights for educators aiming to enhance student engagement and learning outcomes through tailored instructional strategies.

RESEARCH METHOD

Research Design

This type of research is quantitative research. The applied research method is an experimental method, which is used to find the impact of one treatment on another in a controlled situation (Blackwell et al., 2017; Br Sembiring & Simajuntak, 2023; Ma et al., 2023). This study belongs to the type of quasy experiment. The design of this study is a 2x2 factorial design. The population in this study is all grade XI students of SMKN 1 West Sumatra who are enrolled in the 2022/2023 school year. In the odd semester of 2022/2023, there are 143 class XI students divided into five classes. The technique used to take samples is by purposive sampling. The steps in sampling are as follows: *First*, collecting data on the daily assessment value (PH) of grade XI students of SMKN 1 West Sumatra for the 2022/2023 academic year. *Second*, conduct a normality test on students' grades using the Liliefors test to determine the distribution of data. *Third*, perform a homogeneity test of variance with the Bartlett test to determine if the population has homogeneous variance. *Fourth*, determine the experimental class and the control class. The determination of experimental and control classes is carried out based on the conformity of the mean value, standard deviation, normal distribution of data, and homogeneity of the data. Based on the procedure, the experimental class was designated as class XI TPB and the control class as class XI TPE.

Research Instruments

In this study, two types of instruments were used to collect data: questionnaires and performance tests. Questionnaires were utilized to gather data on students' reading interest, while performance tests were employed to assess their skills in writing explanatory texts. The research was conducted at SMKN 1 West Sumatra from January 9, 2024, to February 9, 2024. The analysis of reading interest data involved several systematic stages. First, the completed questionnaires were collected and reviewed. Each statement in the questionnaire was then identified, and any questionnaire with missing responses was excluded from the research data to ensure the integrity and completeness of the data set. Next, each identified questionnaire statement was scored based on predefined criteria.

Following the scoring process, the total scores for each questionnaire were calculated. These scores were then sorted in descending order, from highest to lowest. To categorize students' reading interest levels, the scores were divided into two groups: the upper group, consisting of the top 27% of scores, and the lower group, consisting of the bottom 27%. This grouping method provided a clear distinction between students with high and low reading interests, which was crucial for subsequent analysis and interpretation of the data. This detailed and systematic approach to data collection and analysis ensured that the research findings were robust and reliable, offering valuable insights into the relationship between reading interest and explanatory text writing skills among students.

Data Analysis

The analysis of explanatory text writing skills data involved several systematic steps to ensure comprehensive and accurate evaluation. First, each student's writing was scored based on specific indicators of explanatory text writing skills. This scoring was guided by established criteria to maintain consistency and objectivity. Second, the raw scores were converted into grades using the Academic Assessment Guidelines (PAP), which involved applying a percentage formula as described by Abdurrahman & Ratna (2003). This conversion process allowed for standardized grading across all student submissions. Third, the grades were classified on a scale of 10, providing a clear and accessible framework for interpreting the scores. This classification system facilitated the comparison and analysis of students' writing skills. Fourth, the values representing students' explanatory text writing skills were interpreted both as a whole and per indicator, based on the average value (M). This step provided insights into the overall performance and highlighted specific areas of strength and weakness in students' writing abilities.

Fifth, to visualize the data, bar charts were created. These charts illustrated the distribution of writing skills scores both overall and for each indicator. Visualization helped in easily communicating the results and identifying trends or patterns in the data. Sixth, the significance of the proposed hypotheses was tested using several statistical methods. The data normality was assessed with the Liliefors test, ensuring that the data followed a normal distribution. The homogeneity of variances was evaluated using the F test formula, which checked whether the variances across different groups were equal. Finally, the hypothesis was tested using two-way analysis of variance (2-way ANOVA), allowing for the examination of the interaction effects between different variables. This thorough and multi-step data analysis process ensured that the findings were robust and reliable, providing valuable insights into the explanatory text writing skills of grade XI students at SMKN 1 West Sumatra.

RESEARCH FINDINGS AND DISCUSSION

Research Findings

The results of the research in this study were discussed in a structured manner, focusing on three main areas: First, the overall explanatory text writing skills of students in the experimental and control classes were analyzed. This comparison provided insights into the effectiveness of the discovery learning method compared to conventional teaching methods. By evaluating the differences in writing skills between these two groups, the study aimed to determine whether the experimental method led to significant improvements in students' ability to write explanatory texts. Second, the explanatory text writing skills of students with high reading interest in both the experimental and control classes were examined. This analysis aimed to understand how the discovery learning method impacted students who already possessed a strong interest in reading. By comparing these students' writing skills across the two teaching methods, the study sought to identify any enhanced benefits provided by the discovery learning approach for this particular group. Third, the study investigated the explanatory text writing skills of students with low reading interest in both the experimental

and control classes. This aspect of the research was crucial for determining whether the discovery learning method could also benefit students who were less inclined to read. By analyzing the performance of these students, the study aimed to assess whether the discovery learning method was effective in engaging and improving the writing skills of students with lower reading interest.

Experimental Class and Control Class Explanatory Text Writing Skills Data

Data on the explanatory text writing skills of experimental class students taught with the discovery learning method were obtained through performance tests. The highest score in the test of students' explanatory text writing skills taught by the discovery learning method was 83, with one student obtaining the score, while the lowest score was 58, with two students obtaining the score. The results of these performance tests are documented in the following table.

Table 1
Writing Skills for Explanatory Text of Experimental Class Students
with the Discovery Learning Method

N o	Value (X)	Frequency (F)	FX	Percentage
1	58	2	115	6.67
2	61	2	123	6.67
3	65	8	520	26.67
4	66	1	66	3.33
5	69	2	138	6.67
6	70	3	210	10.00
7	74	9	664	30.00
8	78	1	78	3.33
9	79	1	79	3.33
10	83	1	83	3.33
	Sum	30	2074	100
	Average			69
	S			6.1

Based on Table 1, the explanatory text writing skills of grade XI students at SMKN 1 West Sumatra who were taught using the discovery learning method can be categorized into 10 groups. The average score for these students was 69, with a standard deviation of 6.1. This statistical information indicates a relatively consistent performance among students taught with this method, suggesting that the discovery learning approach may have contributed to a uniform improvement in writing skills. In contrast, data on the explanatory text writing skills of students in the control class, who were taught using conventional teaching models, revealed a wider range of scores. The highest score in this group was 79, achieved by one student. Meanwhile, the lowest score was 49, with two students obtaining this grade. These results indicate a greater variability in the writing skills of students taught with traditional methods. Details of the test results for the explanatory text writing skills of control class students can be found in Table 2. The data in this table provides a comprehensive overview of the performance of students taught with conventional models, highlighting both the highest and lowest achievers. The variation in scores suggests that conventional teaching methods may not be as effective in uniformly improving the writing skills of all students, particularly when compared to the discovery learning method. These findings underscore the potential benefits of the discovery learning method in promoting more consistent and higher overall performance in explanatory text writing among students.

Table 2
Writing Skills of Explanatory Text of Control Class Students
with Conventional Methods

No	Value (X)	Frequency (F)	FX	Percentage
1	49	2	98	6.67
2	53	1	53	3.33
3	54	4	215	13.33
4	56	1	56	3.33
5	58	6	345	20.00
6	61	4	245	13.33
7	63	3	188	10.00
8	65	2	130	6.67
9	66	1	66	3.33
10	70	1	70	3.33
11	74	2	148	6.67
12	78	2	155	6.67
13	79	1	79	3.33
Sum		30	1846	100
Average				62

From Table 2, it can be concluded that the explanatory text writing skills of grade XI students of SMKN 1 West Sumatra taught by conventional methods can be divided into 13 groups, with an average of 62 and a standard deviation of 8.3.

Data on Writing Skills of Explanatory Text Students Interested in High Reading Experimental Class and Control Class

Data on the explanatory text writing skills of experimental class students who had a high reading interest and were taught with the discovery learning method showed the highest score of 92, with one student obtaining the grade, while the lowest score was 85, with two students obtaining the grade. The explanatory text writing skills of students with high reading interest in grade XI SMKN 1 West Sumatra taught with the *Discovery learning method* can be divided into 7 groups, with an average of 88 and a standard deviation of 2.8. Data on the explanatory text writing skills of students with high reading interest control classes taught with conventional models showed the highest score of 85, with two students obtaining the grade, while the lowest score was 76, with one student obtaining the grade. The explanatory text writing skills of students with high reading interest in grade XI SMKN 1 West Sumatra taught with conventional models can be divided into 7 groups, with an average of 81 and a standard deviation of 3.5.

Data on Persuasive Speech Text Writing Skills Motivated Students Low Learning Experimental Class and Control Class

Data on the writing skills of explanatory texts of experimental class students who had low reading interest and were taught with the discovery learning method showed the highest score of 73, with one student obtaining the grade, while the lowest score was 66, with two students obtaining the grade. The explanatory text writing skills of students with low reading interest in grade XI SMKN 1 West Sumatra who were taught with the discovery learning method can be divided into 6 groups, with an average of 69 and a standard deviation of 2.6. Data on the explanatory text writing skills of low-reading students in control classes taught with conventional models showed the highest score of 67, with two students obtaining the grade, while the lowest score was 59, with one student obtaining the grade. The explanatory text writing skills of students with low reading interest in grade XI SMKN 1 West Sumatra taught

using conventional models can be divided into 6 groups, with an average of 64 and a standard deviation of 2.8.

Data Analysis Prerequisite Test

Before testing the hypothesis, an analysis prerequisite test is carried out which includes testing normality and homogeneity of data. A normality test is performed to determine whether the data has a normal distribution or not. Test normality using Liliefors test. The normality test results are documented in Table 3.

Table 3
Experimental Class Normality Test Results

Sample	α	L_0	L_t	Result
Experimental Class	N = 30 $\bar{x} = 69$ $\sum X = 2074$ SD = 6,1	0,149	0,161	Normal
High Motivation Experiment Class	N = 8 $\bar{x} = 88$ $\sum X = 703$ SD = 2,8	0,136	0,285	Normal
Motivation Experiment Class Low	N = 8 $\bar{x} = 69$ $\sum X = 555$ SD = 2,6	0,239	0,285	Normal

Based on the results of the data normality test conducted with a significance level of $\alpha=0.05$, it was determined that the data on the writing skills of explanatory texts of students taught using the discovery learning method had a normal distribution. This conclusion applies to both students with high reading interest and those with low reading interest. The normal distribution of this data is evidenced by the fact that the observed value (L_0) was less than the critical value (L_t). Similarly, the results of the normality test for the data on the writing skills of explanatory texts of students taught using conventional teaching models also revealed a normal distribution for both groups of students. This includes those with high reading interest and those with low reading interest. These findings are documented in Table 4, which provides a detailed overview of the normality test results. The normal distribution of data for both teaching methods indicates that the assumption of normality is satisfied, allowing for more accurate and reliable statistical analyses. This is crucial for subsequent hypothesis testing, as it ensures that the parametric tests applied will yield valid results. In summary, the normality tests confirm that the data on explanatory text writing skills, regardless of the teaching method or the students' reading interest levels, adhere to a normal distribution. This consistency across different groups underscores the robustness of the data and supports the validity of further comparative analyses between the discovery learning method and conventional teaching models.

Table 4
Control Class Normality Test Results

Sample	α	L_0	L_t	Result
Control Class N = 30		0,129	0,161	Normal
$\bar{x} = 62$				
$\sum X = 1846$				
SD = 8,3				
High Motivation N = 8		0,143	0,285	Normal
$\bar{x} = 81$				
Control Class $\sum X = 645$	0,05			
SD = 3,5				
Low Motivation N = 8		0,184	0,285	Normal
$\bar{x} = 64$				
Control Class $\sum X = 511$				
SD = 2,8				

The results of the data normality test with a significance level of $\alpha=0.05$ show that the data on the writing skills of explanatory texts of students taught with conventional models, both those with high reading interest and low reading interest, have a normal distribution because of the $L_0 < L_t$. In addition to the normality test, a homogeneity test is also carried out to determine whether the data has homogeneous variance or not. The homogeneity test results are documented in Table 9.

Table 5
Test Results of Homogeneity of Experimental Class and Control Class

	Levene Statistic	df1	df2	Sig.	Hasil
Explanatory Text Writing Skills in the Experimental and Control Classes	1.418	1	58	0.239	Homogeneous
Explanatory Text Writing Skills in Experimental and Control Classes with High Reading Interest	0.509	1	14	0.487	Homogeneous
Explanatory Text Writing Skills in Experimental and Control Classes with Low Reading Interest	0.041	1	14	0.842	Homogeneous

The results of the data homogeneity test with a significance level of $\alpha=0.05$ showed that data on explanatory text writing skills in the experimental class and control class, both for students with high reading interest and low reading interest, had homogeneous variance because the significance value was greater than 0.05.

Discussion

The students taught with the discovery learning method in this study have a higher average score compared to students taught with conventional models, both students who have high reading interest and students who have low reading interest. The results of the first hypothesis testing showed a difference in explanatory text writing skills between students taught with discovery learning methods and students taught with conventional models. This indicates that the explanatory text writing skills of students taught with the discovery learning method are superior to students taught with conventional models. Thus, H_0 is rejected and H_1 is accepted. In conclusion, students become more skilled in writing explanatory texts when

using the discovery learning method because this method is able to maintain and increase students' reading interest in writing activities. This is in line with opinion Abdillah (2022); Muliati & Syam (2020) which states that the discovery learning method is one alternative to increase students' reading interest.

Discovery Learning increases reading interest and assists students in writing. Students are more engaged because the discovery learning method provides opportunities for them to use relevant material in writing (Brasil et al., 2019; Hariyanto et al., 2023). In addition, discovery learning methods help improve students' understanding of concepts and knowledge because they learn through hands-on experience and self-discovery and this method can increase students' learning motivation as they feel more engaged and have control over their learning (Risnawati et al., 2022; Suhendro et al., 2023; Widana & Handayani, 2022). This is also stated by Simamora et al. (2018); Simbolon (2022); Winarni et al. (2020) that the implementation of the discovery learning method focuses on arousing the attention of students by using varied and interactive learning methods. This approach encourages students to actively explore, discover, and understand new concepts through hands-on experience (Alfieri et al., 2018; Hartadiyanti et al., 2023; Muhammad et al., 2023). Students are invited to make observations, draw their own conclusions, and connect new knowledge with knowledge that has been previously possessed.

In addition, the focus of the discovery learning method is also on developing critical, creative, and independent thinking skills (Akhir et al., 2023; Ekaputra & Widarwati, 2023; Lieung, 2019; Muvid et al., 2023). This method places students as active subjects in the learning process, so that they can develop a deeper understanding of the subject matter. In addition, this method also encourages students to have a high curiosity and the ability to find solutions to the problems faced. Thus, the discovery learning method is not only oriented to the transfer of knowledge, but also to the development of students' overall thinking skills (Fahmi et al., 2019; Muhali et al., 2021; Nusantara et al., 2021; Sukartiningsih et al., 2019). Based on this research, researchers also applied the same approach to the experimental class. The discovery learning method in experimental classes shows that interest in reading is maintained and even increases during the learning process. Thus, students' reading interest in the experimental class was higher than in the control class using conventional learning models.

The results of the second hypothesis test showed a difference in the skill of writing explanatory texts between students with high reading interest taught with the discovery learning method and students with high reading interest taught with conventional models. This means, the skill of writing explanatory texts in students with high reading interest taught with discovery learning methods is superior to those taught with conventional models. Thus, H₀ is rejected and H₁ is accepted. In conclusion, students with high reading interest who use discovery learning methods can maintain their reading interest and achieve better writing skills when compared to those who use conventional models (Bararoh et al., 2015; Satriani et al., 2022; Usman et al., 2022).

Students who had a high reading interest in the experimental class scored higher than those in the control class who also had a high reading interest. This is due to the use of discovery learning methods in experimental classes that can increase students' reading interest (Rasyida & Ali Nurdin, 2023; Widyastuti et al., 2024). In the control class, students who had a high interest in reading did not get additional stimulation through the learning model, so they could not improve their learning achievement. When students have low interest in reading, there needs to be a stimulus to increase their interest in reading, but if students already have a high interest in reading, teachers only need to maintain and maintain that interest in reading with various teaching approaches (Gustiana et al., 2023; Khasanah, 2015). Discovery learning is one method that teachers can use to maintain and increase interest in reading (Rizka, Putri et al., 2017; Ristanto et al., 2022; Saryadi & Sulisworo, 2023). Thus, the application of discovery learning

methods in experimental classes can maintain students' reading interest, resulting in better explanatory text writing skills than the application of conventional models in control classes.

The results of the third hypothesis test showed a difference in the explanatory text writing skills of students with low reading interest taught with the discovery learning method compared to the explanatory text writing skills of students with low reading interest taught with conventional models. In other words, the explanatory text writing skills of low-reading interest students taught by the discovery learning method are higher than the explanatory text writing skills of low-reading interest students taught with conventional models. Therefore, the null hypothesis is rejected and the alternative hypothesis is accepted. This indicates that the explanatory text writing skills of students with low reading interest taught with discovery learning methods are superior to students with low reading interest taught with conventional models.

Learning using the discovery learning method aims to increase students' reading interest. The results of the third hypothesis test showed that the experimental class with low reading interest using the discovery learning method had better writing skills than the control class. The discovery learning method is also effective in improving student academic achievement in face-to-face learning (Elvadola et al., 2022; F. Kristin, 2019; Purwati, 2020). Thus, the application of discovery learning methods in experimental classes can increase students' reading interest, resulting in better explanatory text writing skills of students with low reading interest than the use of conventional models in control classes.

Testing the fourth hypothesis uses two-way analysis of variance. The results showed that the calculated F value (Fhitung) for the interaction between the discovery learning method and reading interest in the explanatory text writing skills of grade XI students of SMKN 1 West Sumatra was 23, while the table F value for $\alpha = 0.05$ with the numerator degree of freedom = 1 (dbAB) and the denominator degree of freedom = 28 (n-ab) was 4.20. Because the value of Fcalculate is greater than the value of Ftable ($23 > 4.20$), H_0 is rejected and H_1 is accepted. Thus, it can be concluded that there is a significant interaction between the discovery learning method and reading interest on the explanatory text writing skills of grade XI students of SMKN 1 West Sumatra.

An interaction was found between reading interest and the application of discovery learning methods in students' explanatory text writing skills. This occurs at both levels of reading interest, both high and low. The average score of explanatory text writing skills of students with high and low reading interest in the experimental class was higher than that of students with the same reading interest in the control class. This is in line with the views of Lesmana & Lubis (2020) which emphasizes the importance of reading interest in discovery learning methods, which can increase student engagement in reading (Maghfiroh et al., 2023; Sipayung, 2020; Yoni, 2020). In addition, the discovery learning method can also help students who have learning difficulties to increase their interest in reading (Damayanti et al., 2023; Dewi & Silva, 2018; R. R. Rahmawati, 2020).

The interaction between discovery learning methods and reading interest can occur due to the application of key components in discovery learning methods that directly affect students' reading interest (F. Kristin, 2019; Rini, 2021; Salmi, 2019). One important component of the discovery learning method is to provide opportunities for students to do independent exploration of learning material. In the context of increased interest in reading, this means that students are given the freedom to choose topics or materials that suit their interests. This way, students are more engaged in learning because they can learn about topics that really interest them. In addition, the discovery learning method also encourages students to actively seek information and solve problems, not just receive information from the teacher (Dama et al., 2023; Indah, 2020; Mardi et al., 2021; Martaida et al., 2017). In this way, students feel more empowered in the learning process because they feel they have control over their own

understanding. This can increase students' reading interest because they feel more motivated to read more material relevant to the topic they are browsing.

Another component of the discovery learning method is the use of a variety of learning resources, including books, articles, and other sources of information (Andriani & Wakhudin, 2020; Salmi, 2019). By giving students access to use a variety of sources of information, this method can help increase students' reading interest as they can find material that is varied and interesting to them. In addition, a collaborative approach in the discovery learning method can also increase students' reading interest (Fajri et al., 2023; Usman et al., 2022; Wati et al., 2020). By working with classmates to find information and complete assignments, students can feel more motivated to read because they feel part of a team that supports each other in the learning process.

The discovery learning method also promotes learning experiences that are engaging and relevant to students' daily lives (Ratih, 2019; Telaumbanua et al., 2023; Vanichvasin, 2018). By relating learning material to students' real-life contexts, this method can make learning more meaningful and interesting to them. This can help increase students' interest in reading because they feel that what they are learning has direct relevance to their lives. In addition, the discovery learning method also encourages students to develop critical and analytical thinking skills (Anggraeni & Suratno, 2021; Kwangmuang et al., 2021). In this way, students not only read passively, but also actively process information and develop a deeper understanding of the material they are learning. This can make the reading process more interesting and meaningful for students.

In the context of increased interest in reading, student involvement in the learning process is key. The discovery learning method provides opportunities for students to be actively involved in learning, thereby increasing their interest and motivation to read more (Cahyaningsih & Karunia Assidik, 2021; Finamore et al., 2021; Purwaningsih et al., 2020). Thus, the interaction between discovery learning methods and students' reading interest not only occurs through the application of the components of the method, but also through the resulting positive influence on student engagement and motivation in learning.

The average result of explanatory text writing skills using the discovery learning method is higher than the average skill of writing explanatory text with conventional models. Factors beyond the researchers' control, such as filling out reading interest questionnaires conducted at the end of learning when students are saturated, may influence these outcomes. This condition can cause filling out the questionnaire to be less thorough. Therefore, the explanatory text writing skills of students with high and low reading interest taught with the discovery learning method are higher than the explanatory text writing skills of students with high and low reading interest taught with conventional models. Similar findings were also found by Linggile et al. (2022); Mukti et al. (2020); Ponidi et al. (2022) which shows that research results can be affected by conditions that cannot be controlled by researchers.

In this study, the main factor that influenced students' explanatory writing skills was the discovery learning method (Dewi & Silva, 2018). This happens because reading interest and discovery learning methods interact simultaneously. A good interest in reading in an experimental class can be maintained until the end of the lesson because students can manage themselves against various other factors that can affect reading interest. The incorporation of discovery learning methods in learning can increase learning effectiveness because it is able to provide positive feedback on students' reading interests, resulting from the use of learning models that are in accordance with students' cultural backgrounds (Nurrahmayani & Yusni, 2018; Pongpalilu, 2023; Ramadhani, 2021).

Based on this explanation, it can be concluded that the discovery learning method has a significant influence on the entire learning process. This indicates that teachers need to develop alternative strategies to overcome obstacles if students' reading interest is experiencing

problems. Mashuri et al. (2024) Suggest the use of learning media in the form of computer-based educational games that can be combined with discovery learning methods. Moreover Cahyaningsih & Karunia Assidik (2021); Wabula et al. (2020) It also emphasizes that the application of the discovery learning method will be more effective in learning when combined with other learning models, such as problem-based learning, so that it has a greater impact. Therefore, the discovery learning method will be more effective when used in conjunction with other learning models, so it becomes one of the good alternatives to increase students' reading interest in learning.

CONCLUSION

Based on data analysis, several things can be concluded. *First*, the explanatory text writing skills of students who use the discovery learning method are better than students who use conventional models. *Second*, the explanatory text writing skills of students with high reading interest taught with the discovery learning method are also better than students taught with conventional models. *Third*, the explanatory text writing skills of students with low reading interest taught by the discovery learning method also outperformed students taught with conventional models. *Fourth*, there is a significant interaction between discovery learning methods and students' reading interest in influencing explanatory text writing skills.

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