



## Promoting Discovery Learning to Boost the Students' English Writing in Vocational Schools

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**Abstract:** This study aims to examine the impact of implementing the discovery learning (DL) approach on improving students' writing skills in English subjects. The study employed a quantitative method with a quasi-experimental design involving pre-tests and post-tests on two groups: a control group and an experimental group. The population of this study comprised 10th-grade students of Hospitality 1 and 2 at SMK N 6 Semarang in the 2024/2025 academic year, with Hospitality 1 as the control group and Hospitality 2 as the experimental group. In the experimental group, students were taught using the discovery learning (DL) approach, while the control group was taught without it. Data were collected through a writing test on recount texts and a closed questionnaire containing 15 questions to measure students' perceptions of the discovery learning approach. The data analysis, conducted using SPSS 27, revealed that the t-value (9.830) was greater than the t-table value (1.849) at a significance level of 0.025 with 27 degrees of freedom. This indicates that the alternative hypothesis ( $H_a$ ) is accepted, and the null hypothesis ( $H_o$ ) is rejected, showing a significant effect of discovery learning on students' writing skills. The questionnaire results demonstrated that students responded positively to this method, stating that discovery learning helped them become more active and engaged in the learning process. In conclusion, implementing the discovery learning (DL) approach significantly improves students' writing skills, making it an effective alternative for enhancing writing abilities in English language learning. The implication of this study suggests that teachers are encouraged to integrate discovery learning into their teaching strategies to foster active student participation and achieve optimal learning outcomes.

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**Abstrak:** Penelitian ini bertujuan untuk mengetahui pengaruh penerapan metode pendekatan discovery learning (DL) terhadap peningkatan kemampuan menulis siswa pada mata pelajaran bahasa Inggris. Penelitian ini menggunakan metode kuantitatif dengan desain kuasi-eksperimen, yang melibatkan pre-test dan post-test pada dua kelompok, yaitu kelompok kontrol dan kelompok eksperimen. Populasi penelitian ini adalah siswa kelas X Perhotelan 1 dan 2 SMK N 6 Semarang tahun ajaran 2024/2025, dengan kelas X Perhotelan 1 sebagai kelompok kontrol dan kelas X Perhotelan 2 sebagai kelompok eksperimen. Pada kelompok eksperimen, siswa diajar menggunakan metode pendekatan discovery learning (DL), sedangkan kelompok kontrol diajar tanpa metode tersebut. Pengumpulan data dilakukan melalui tes menulis recount text dan kuesioner tertutup dengan 15 pertanyaan yang mengukur persepsi siswa terhadap penerapan discovery learning. Hasil analisis data menggunakan SPSS 27 menunjukkan bahwa t-hitung (9,830) lebih besar dari t-tabel (1,849) pada tingkat signifikansi 0,025 dengan 27 derajat kebebasan. Dengan demikian, hipotesis alternatif ( $H_a$ ) diterima dan hipotesis nol ( $H_o$ ) ditolak, yang mengindikasikan adanya pengaruh signifikan penerapan discovery learning terhadap kemampuan menulis siswa. Hasil kuesioner menunjukkan bahwa siswa merespon positif metode ini, menyatakan bahwa discovery learning membantu mereka lebih aktif dan terlibat dalam pembelajaran. Kesimpulan dari penelitian ini adalah bahwa penerapan discovery learning (DL) secara signifikan dapat meningkatkan kemampuan menulis siswa, sehingga metode ini dapat dijadikan alternatif pembelajaran yang efektif untuk meningkatkan keterampilan menulis siswa pada pembelajaran bahasa Inggris. Implikasinya, guru disarankan untuk mengintegrasikan discovery learning dalam proses pengajaran agar siswa lebih aktif dan memperoleh hasil belajar yang optimal.

## A. Introduction

English is a mandatory subject for students at all educational levels in Indonesia. (Purnamasari & Argawati, 2020) English is formally recognized as a compulsory subject in senior high school. This subject is integrated into the curriculum established by the Indonesian Ministry of Education, Culture, Research, and Technology. Over time, the government has implemented various curriculum models, each accompanied by specific policies. These curriculum changes are driven by several factors, including societal needs, new perspectives on the teaching and learning process, and the rapid developments brought about by globalization (Septyaningrum & Prastikawati, 2024). The primary objective of these curriculum reforms is to enhance the learning processes, instructional designs, and strategies used in schools. Additionally, Mattarima & Rahim (2011) stated that the overarching goals of English education in Indonesia are to develop both spoken and written communicative language skills, raise awareness of the importance of English, and foster an understanding of the relationship between language and culture. e. Furthermore, (Eriza et al., 2023) also argued that English learning at the Junior and Senior high school level aims to provide students with awareness and increase the nation's competitiveness in the current era. Despite the objectives of English education in Indonesia, many students continue to need help with mastering the language as a foreign language (Darma & Widiastuty, 2023). According to Andrian (2023), students primarily use English for specific purposes, which limits their overall ability to interact with the language holistically. One of the main challenges EFL students face is their limited vocabulary, which restricts their ability to express ideas clearly and effectively. With an adequate vocabulary base, students find it easier to comprehend texts, construct sentences, or convey their thoughts in writing. Weak grammar comprehension further compounds this issue, leading to frequent sentence structure, verb usage, and agreement errors, which are critical for producing coherent written texts.

In addition to linguistic challenges, EFL students often encounter motivation-related difficulties. Many students need more intrinsic drive to engage with the language beyond classroom settings, which limits opportunities for practice and improvement. Moreover, an unsupportive learning environment can discourage students from actively participating in their learning process, whether due to limited access to resources or insufficient teacher encouragement (Hibatullah, 2019). The linguistic differences between English and Indonesian also play a significant role in these struggles. English grammar structures and language styles often contrast sharply with those of Indonesian, creating confusion for learners. For example, English tenses and sentence order differ significantly from Indonesian, which does not employ complex tense systems. Such differences make translating ideas from one language to another challenging, particularly when students are required to write accurately and contextually in English (Nuraeni & Aisyah, 2020). These gaps underscore the complexity of learning English as a foreign language, particularly in the context of mastering writing skills. Writing demands precision in grammar, vocabulary, and punctuation, making it one of the most difficult skills for EFL students to acquire. This

reality highlights the urgent need for innovative approaches, such as discovery learning, to address these persistent challenges and support students in developing their writing proficiency.

As a basic skill, writing is a complex skill to teach, and students will undoubtedly face many obstacles in English learning (Purnamasari & Argawati, 2020). Indeed, students still need help with developing and conveying ideas and understanding the various writing concepts such as grammar, vocabulary, wording, and punctuation. Related to that, Septyaningrum & Prastikawati (2024) mentioned that writing is a very important skill for students. In addition, writing is a difficult and productive skill for students, particularly EFL students, to understand writing skills (Jamoom, 2021). As researchers have noted before, there is a linguistic gap between English and Indonesian, so students can translate meaning based on context and ensure that its content is understood by the reader while reading. Currently, most teachers focus only on improving student writing skills while learning English. Often, the teacher needs to pay more attention to the student's interest in writing skills through the media and techniques used when teaching English. Nowadays, English teachers need to improve students' writing skills.

Writing has been regarded as challenging in both EFL and ESL contexts because it requires skill and knowledge in many aspects of English learning. Students are expected to use their knowledge of syntax, grammar, mechanics, and the wording of the written text (Sari & Wahyuni, 2018). Moreover, writing is so important in English teaching that teachers focus not only on students' written results but also on the writing process. Students often need help with a need for more vocabulary and weaknesses in grammar. Another problem is that although students have many concepts, they are afraid to start and struggle to generate ideas because each text genre has a different purpose, language features, and structure. Therefore, qualified English teachers must be more creative in selecting materials, modules, assessments, and teaching methods to make writing classes more interesting and increase students' interest. More importantly, they need lesson plans for implementing distance learning that allow students to feel more comfortable expressing their thoughts in writing. They also emphasize the importance of integrating character education and thematic learning in grammar teaching to improve students' writing skills (Ambarini, 2017).

Additionally, (Ambarini et al., 2018) shed light on how the PACA reading strategy can help TEFL students improve their writing skills by encouraging them to use strategies in the classroom. In addition, studies have shown that using the process approach to writing helps university students in EFL contexts greatly improve their essay writing abilities (Ummah, 2019). Similarly, (Ibrahim, 2015) finds that many college students struggle with writing and offers advice on how to fix it.

This research identifies a critical gap in the existing literature. While prior studies (Ambarini, 2017; Ibrahim, 2015; Ummah, 2019) have explored various strategies to enhance EFL students' writing skills, few have explicitly examined the role of discovery learning as a comprehensive approach to address multiple writing challenges simultaneously. The novelty of this study lies in its focus on integrating discovery learning to improve not only

the outcomes of student writing but also their engagement, creativity, and critical thinking throughout the learning process.

To solve the Problem above, the English teacher would have to use an appropriate approach in the English study method for the instructional approach (Resmini et al., 2023). Discovery learning is an appropriate approach for teaching English (Eriza et al., 2023; Ariyana, 2020). As an educational strategy, discovery learning encourages students to encounter and uncover knowledge in its purest form. It offers a chance for students to have an impactful experience that can change their behaviour for the better. According to (Flora et al., 2020), Students may also gain from this paradigm shift since it encourages them to be more actively involved in their learning (Purnamasari & Argawati, 2020). Students gain a deeper understanding of topics through discovery learning, encouraging them to build on their prior knowledge and experiences to uncover new information and skills. Solano (2020) states that Students can develop greater independence and creativity through this method. In order to pique their students' interest and foster their enthusiasm for learning English written material, teachers can employ the discovery learning approach.

The learner then takes an active role in putting his thoughts on paper. According to Avionitha et al (2021), the discovery learning approach is also used to assess students' writing abilities. Furthermore, it uses a sample of tenth graders and the discovery learning method to assess their writing abilities (Avionitha et al., 2021). His use of the discovery learning strategy in writing instruction has increased student engagement, critical thinking, and originality. It demonstrates that students actively participate in responding to teacher-posed questions (Purnamasari & Argawati, 2020). Students also conduct independent research to respond appropriately to their teacher's questions. Students' writing becomes more genuine and imaginative when they use the discovery learning method – furthermore, the efficacy of discovery learning strategies in enhancing writing instruction for English language arts students.

In addition, (Ariyana, 2020) weaved together paragraphs and sentences using effective sentence structures, pouring words or articulation according to the paragraph's characteristics, and using spelling to create a good text. This proves that the discovery learning method piqued students' interest in learning English. Learning and teaching writing is a collaborative process in which students play an active role.

Considering the problems students face in English, this investigates whether discovery learning helps students boost their writing ability. For those reasons, this study answers the effectiveness of discovery learning by enhancing the students' writing ability by following these questions, 1) How effective is Discovery Learning in boosting the students' writing?, and 2) What are the students' perspectives on Discovery Learning?.

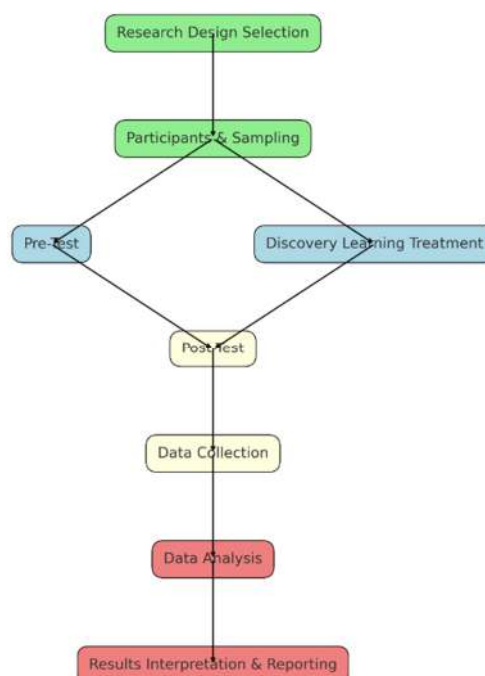
This study contributes to the existing literature on English as a Foreign Language (EFL) education by addressing these objectives and research questions. It aims to fill a critical gap by exploring the potential of discovery learning as an innovative approach to enhance students' writing skills. As a complex and essential skill, writing needs to be addressed in terms of creative and interactive teaching methods. This study offers educators

practical insights into how discovery learning can address students' common challenges, including limited vocabulary, poor grammar, and a lack of motivation or engagement.

Discovery learning encourages students to actively participate in their learning process by exploring, questioning, and synthesizing information. This approach has been shown to foster creativity, critical thinking, and a deeper understanding of concepts. By integrating discovery learning into writing instruction, this study examines its impact on students' written outcomes and their overall engagement and interest in the learning process. In the Indonesian EFL context, where linguistic and cultural differences often hinder effective learning, discovery learning provides a platform for students to connect new information with prior knowledge, promoting meaningful learning experiences.

Furthermore, this study sheds light on students' perspectives regarding discovery learning, giving voice to their experiences and preferences. Such insights are crucial for educators and curriculum developers to design writing instruction that resonates with students' needs and learning styles. The research findings will validate the effectiveness of discovery learning and offer recommendations for its implementation in EFL classrooms. The study contributes to the broader discourse on innovative teaching methods and their role in improving writing skills, emphasizing the importance of creating active, student-centred learning environments.

## B. Method



**Figure 1.** Research Flowchart Depicting the Structured Methodology of the Study

Figure 1 illustrates the structured progression of the research methodology, beginning with selecting the research design and culminating in interpreting and reporting the results. The process starts with identifying and selecting a quantitative experimental design, the foundation for the entire study. This step ensures that the research follows a systematic and objective approach to exploring the impact of discovery learning on students' writing skills.

After defining the research design, participants are selected using random sampling techniques, dividing them into the control and experimental groups. The diagram reflects how these groups are engaged differently in the study. Both groups first undergo a pre-test, which establishes their baseline writing skills. This step allows researchers to understand the starting point for both groups and ensures a fair basis for comparison.

The experimental group receives the discovery learning treatment, while the control group continues with traditional teaching methods. Following the treatment, both groups participate in a post-test, enabling the researchers to evaluate any changes or improvements in writing performance. The post-test marks a critical transition in the research flow, as it provides the primary data for analysis.

Data collection, represented as a distinct stage, combines pre-and post-test results with additional data from student questionnaires and classroom observations. These diverse data sources enrich the study's findings, providing quantitative and qualitative insights into the effectiveness of discovery learning. The collected data is then analyzed using statistical tools such as SPSS and t-tests to identify significant trends and outcomes.

The final stage, results interpretation and reporting, ties together the insights gained from the analysis. This step evaluates the overall impact of discovery learning on student writing skills and offers recommendations for its practical application in educational settings. The interconnectedness of the stages in Figure 1 reflects the comprehensive and systematic approach of the research methodology.

The most important part of the research process is selecting the research design. Further research design suggests that the rules dictate how data is collected, analyzed, and answered, as well as the questions raised by the study. The study implemented experimental research with a quantitative research design (Salter, 2023). Furthermore, (Rahman & Muktadir, 2021) suggest that quantitative design requires statistical data collection and analysis. To achieve research objectives, researchers did pre-tests and post-tests on two groups, the control and experiment groups, to find out and analyze student writing skills using the discovery learning approach.

**Table 1.** Research Design

Group	Pre-Test	Post-Test
Control Group	X -O	Y
Experimental Group	X O	Y

(Septyaningrum & Prastikawati, 2024)

According to Table 1, there are controls and experiment groups. Applying the design shown in Table 1, researchers passed the test and post-test to control groups without adopting the discovery learning approach. Meanwhile, researchers conducted tests on students in research groups and provided treatments with the discovery learning approach. Afterwards, students in the control and test groups received a post-test to measure their abilities and find a difference in the scores.

### Research Participants

The total number of participants in the study is 56 students. In sample selection, researchers use some random sampling techniques. The researchers chose two classes as samples in the study, and the samples were 10th graders at SMK N 6 Semarang of the year 2024/2025.

**Table 2.** Standard table format

Participant	Control Group (X Perhotelan 1)	Experimental Group (X Perhotelan 2)	Total Participant
Students (SMK N 6 SEMARANG)	28	28	56

As in Table 2, there are control groups and experiment groups. His control group is 10th graders of Hospitality 1, consisting of 28 students writing without the discovery learning approach. They learned to write a text without using approach methods. In contrast with the experiment group, the experiment group consisted of 28 students from the 10th class of Hospitality 2 who learned to write using discovery learning.

### Instruments

In conducting the research, writing text is used to measure students' writing ability before and after using discovery learning. The writing test consists of 2 kinds: pre-test and post-test. Writing tests were done to measure how effective discovery learning is in boosting the students' writing. The second instrument is a closed questionnaire. This closed questionnaire uses 15 Likert scale questions to measure students' perceptions of discovery learning as a method to improve their english writing skills in a vocational school. The Likert scale could range from 1 (Strongly Disagree) to 5 (Strongly Agree).

Moreover, observation is also conducted to describe the real classroom activity when implementing discovery learning. When calculating the written results, the researchers included a written test rubric. Rubric scores include five components of writing: content, organization, grammar, vocabulary, and mechanics.

### Data Collection

In collecting data, before giving the treatment, the first step was to give a pre-test to the students by asking them to rewrite the text following these themes: imaginative and

factual within 30-40 minutes. After that, the researcher will explain the discovery learning approach in the experimental class. The steps of the discovery learning approach were also explained. The researcher will teach writing skills to the students by using the discovery learning approach. Meanwhile, students in the control class were still taught writing skills but needed to use the discovery learning approach. After the treatment is implemented, the students are given a post-test. Post-tests will be conducted in the control class and experimental class. The students will be asked to write a recount of their own experiences. Then, the researchers administered a closed questionnaire of 15 Likert scale questions to measure students' perceptions of discovery learning as a method to improve their English writing skills in a vocational school. The Likert scale could range from 1 (Strongly Disagree) to 5 (Strongly Agree).

### Data Analysis

When calculating the written results, the researchers included a written test rubric. Rubric scores include five components of writing: content, organization, grammar, vocabulary, and mechanics.

**Table 3.** Writing Scoring Rubric

Aspect	Score	Performance Description	Weighting
Content (C) 30%	4	The topic is thorough and easy to understand, with relevant facts.	3x
	3	The theme is thorough and clear, but the details are most relevant to the topic.	
	2	The concept is thorough and easy to comprehend; however, the specifics are unrelated and separate from the issue.	
	1	The theme needs to be clarified, and the details are unrelated.	
Organization (O) 20%	4	Identification is nearly complete, and descriptions are organized with practically appropriate connectives.	2x
	3	Identification is nearly perfect, and descriptions are organized with practically appropriate connectives.	
	2	Identification needs to be completed, and descriptions are structured with little use of connectives.	
	1	Identification is incomplete, and descriptions are structured with abuse of connectives.	
Grammar (G) 20%	4	There are very few grammatical and agreement difficulties.	2x
	3	There are a few grammatical or agreement inaccuracies, but they do not affect the meaning.	

• Agreement	2	Numerous grammatical or agreement problems	1.5x
	1	Frequent grammar or agreement problems	
Vocabulary (V) 15%	4	Effective selection of words and word formations	1.5x
	3	A few things need clarification, and word forms should be used to change their meaning.	
	2	Limited range of confusing words and word form	
	1	Very low knowledge of vocabulary, word formations, and not intelligible	
Mechanics (M) 15%	4	It uses correct spelling, punctuation, and capitalization	1.5x
	3	It has occasional errors in spelling, punctuation, and capitalization	
	2	It has many problems in spelling, grammar, and capitalization.	
	1	It was dominated by spelling, punctuation, and capitalization problems.	

Based on the writing scoring rubric, the researcher calculated the students' results in both the control and experimental groups. Then, the researcher adopted an analytical rubric from [Brown \(2014\)](#).

**Table 4.** Range Of Score

No	Scores	Categories
1.	91-100	Very Good
2.	83-90	Good
3.	75-82	Sufficient
4.	66-74	Less

([Hapsari et al., 2022](#))

Table 4 shows the achievement levels in writing. 91-100 and 83-90 are considered excellent and good. If the score is 75-82, it is sufficient, while a score of 66-74 is considered deficient. Finally, if the score is <66, it is categorized as a failure. In data analysis, the researchers used SPSS 27 to measure the data (writing scores and closed questionnaire data). Furthermore, the researchers utilized a t-test to see the effectiveness of discovery learning in boosting students' English writing. Meanwhile, for the data of data, a closed questionnaire was used. The researchers will analyze the present to capture the students' perspective on discovery learning. In this context, tests were used to compare the control and test groups. On the other hand, the closed questionnaires of the students were analyzed using MS Word. Show percentage data in Excel.

## C. Result and Discussion

### Result

The research was conducted from October 17, 2024, to November 1, 2024, at SMK N 6 Semarang. Students from two different Hospitality classes (Hospitality 1 and Hospitality 2) in the 2024–2025 school year served as samples for this research. First, we had the pre-test; second, we collected data: instruction, treatment, and practice; third, we gave the experimental group a post-test; and fourth, we distributed closed questionnaires. Important points regarding the effect of discovery learning on pupils' writing abilities are presented by the results of this study.

Students' writing results will be revealed first as part of this discovery. Following the administration of an initial writing assessment. Students in the control group received instruction using the discovery learning method, and following the steps outlined in the discovery learning technique allowed for the administration of the treatment. The initial stage involves presenting pupils with a confusing stimulus. As a short-term solution, students will have a statement to work within the second step, the problem statement. After gathering information through interviews, observations, etc., the next step is to process and interpret the data. After that comes verification, where students meticulously check whether it is based on their findings and related to the data processing results. The last step is to generalize, which entails concluding. Three or four writing exercises involving retelling texts were distributed to students by the researchers. The researchers then calculated and analyzed the data. The researchers next employed a t-test to determine whether the experimental group was significantly different from the control group. To answer the first research question, we used SPSS 27 to statistically analyze the students' writing skill values and find their standard deviation, minimum and maximum scores, and other relevant information. The outcome statistics for the two groups (control and experimental) are displayed in Table 5.

**Table 5.** Descriptive Statistic Table

No.	Result	Pre-Test		Post-Test	
		Ctr	Exp	Ctr	Exp
1.	Mean	66.04	71.25	74.50	78.50
2.	Median	66.50	70.00	75.00	79.00
3.	X min	60	70	70	70
4.	X max	75	75	80	85
5.	Sum	1849	1995	2086	2198
6.	Standard Deviation	5.095	1.936	3.4594	0.60

Table 5 presents the pre-test and post-test outcomes for both the control and experimental groups. The control group consisted of 1849 participants in the pre-test, yielding an average score of 66.04, and 2086 participants in the post-test, resulting in an average score of 74.50. Table 5 indicates that the highest score in the pre-test for the control

group was 75, while the experimental group achieved a maximum score of 80 in the post-test. The experimental group comprised 1995 pre-tests with an average score of 71.25 and 2198 post-tests with an average score of 78.50. The results indicate that the average score of students instructed without the discovery learning approach was inferior to that of students in the experimental group who received instruction through the discovery learning method. Consequently, the researchers employed the t-test to ascertain the presence of a significant difference due to the disparity in scores between the control and experimental groups.

**Table 6.** Paired Samples T-Test

	Pair	Group Mean	Std. Deviation	t	Df	Sig. (2-tailed)
1	Pre-Test and Post-Test	-8.464	.610	-13.884	27	<.001
2	Pre-Test and Post-Test	-7.250	.738	-9.830	27	<.001

The results from the sample t-test conducted with SPSS 27 indicate that the significance (2-tailed) is less than 0.001. According to the hypothesis testing criteria, if the significance level (Sig. 2-tailed) is less than 0.05, the null hypothesis ( $H_0$ ) is rejected, and the alternative hypothesis ( $H_a$ ) is accepted; conversely, if Sig. 2-tailed is greater than 0.05,  $H_0$  is accepted, and  $H_a$  is rejected. The significance value (2-tailed) is 0.001, less than 0.05, indicating the rejection of  $H_0$  and the acceptance of  $H_a$ . A significant difference exists between the control group and the experimental group. Hypothesis testing for the paired sample t-test can be conducted by comparing the t-statistic with the critical t-value. Table 6 indicates that the t-count for the control group is 13.884, while for the experimental group, it is 9.830. The degrees of freedom (df) remain constant at 28. To determine the t-table, the significance value is  $\alpha/2$  ( $0.05/2$ ) = 0.025. Researchers utilize this value as a fundamental reference to ascertain the t-table value within the distribution of t-table statistical values.

**Table 7.** Critical Values of the *t* Distribution

df	One-Tail = .4	.25	.1	.05	.025
	Two-Tail = .8	.5	.2	.1	.05
25	0.256	0.684	1.316	1.708	2.060
26	0.256	0.684	1.315	1.706	2.056
27	0.256	0.684	1.314	1.703	2.052
28	0.256	0.683	1.313	1.701	2.048

The control and experimental groups' t-counts are greater than 2.052: 13.884 and 9.830, respectively. The value of significance is 0.025.  $H_0$  is rejected, and  $H_a$  is accepted if, as shown in the figure, the t-count is less than the t-table. According to the hypothesis test results, students' performance in the control and experimental groups differs significantly

after treatment using the discovery learning method. Since the t-count is greater than the t-table, we can conclude that  $H_a$  is correct and reject  $H_0$ . This proves that implementing the discovery learning strategy enhances students' writing skills. The researcher also observed and evaluated students' writing, focusing on their discovery learning approach retellings. Table 7 shows that the closed-ended survey asked students about their thoughts on the discovery learning strategy for improving their writing abilities.

**Table 8.** Students' Writing Ability with Discovery Learning Method

No	Items	Options				
		SA	A	N	DS	SDs
1	Discovery learning helps me understand English writing concepts better.	4 (14%)	22 (79%)	2 (7%)	0 (0%)	0 (0%)
2	I feel more confident in my writing after using discovery learning techniques.	3 (11%)	21 (75%)	3 (11%)	1 (4%)	0 (0%)
3	The discovery-learning approach makes English writing more interesting.	2 (7%)	22 (79%)	4 (14%)	0 (0%)	0 (0%)
4	I enjoy exploring new writing ideas on my own through discovery learning.	4 (14%)	19 (68%)	5 (18%)	0 (0%)	0 (0%)
5	Discovery learning encourages me to think critically when writing in English.	3 (11%)	22 (79%)	3 (11%)	0 (0%)	0 (0%)
6	This method helps me improve my English grammar and sentence structure in writing.	6 (21%)	17 (61%)	5 (18%)	0 (0%)	0 (0%)
7	Discovery learning is effective in developing my vocabulary for writing.	2 (7%)	24 (86%)	2 (7%)	0 (0%)	0 (0%)
8	I feel more creative when I use discovery learning in my writing tasks.	2 (7%)	24 (86%)	2 (7%)	0 (0%)	0 (0%)
9	Discovery learning motivates me to improve my English writing skills.	4 (14%)	22 (79%)	2 (7%)	0 (0%)	0 (0%)
10	The feedback I receive during discovery learning helps me enhance my writing.	3 (11%)	22 (79%)	3 (11%)	0 (0%)	0 (0%)
11	I prefer discovery learning to traditional teaching methods for improving my writing skills.	4 (14%)	22 (79%)	2 (7%)	0 (0%)	0 (0%)
12	This learning approach makes me feel more independent in developing my writing skills.	4 (14%)	21 (75%)	3 (11%)	0 (0%)	0 (0%)
13	Discovery learning helps me understand how to organize my thoughts when writing.	3 (11%)	24 (86%)	1 (4%)	0 (0%)	0 (0%)
14	Discovery learning improved my ability to write longer, more complex texts.	2 (7%)	24 (86%)	2 (7%)	0 (0%)	0 (0%)
15	I recommend discovery learning to other students to improve their English writing skills.	4 (14%)	22 (79%)	2 (7%)	1 (4%)	1 (4%)

Table 8 presents the results of fifteen questions from the closed questionnaire regarding the discovery learning approach to students' writing ability. Regarding discovery learning, which helps students understand the concept of English writing better, 79% of students agreed, and 14% strongly agreed. In the second statement, 75% of the students felt more confident in writing after using the discovery learning technique, and 11% felt very confident. Furthermore, the third statement explains that 79% of students are interested in the discovery learning approach to English writing, and the other 7% are very interested. Then, the discovery learning approach can help students with critical thinking, improve English grammar and sentence structure, develop vocabulary, and be more creative. This is supported by statements from four to eight, with 68% agreeing and 14% strongly agreeing with the fourth statement, 79% agreeing and 11% strongly agreeing with the fifth statement, 61% agreeing and 21% strongly agreeing with the sixth statement, 86% agreeing and 7% strongly agreeing with the seventh statement, as well as the same with the results of the eighth statement.

Furthermore, the ninth statement also explains that 79% agree that the discovery learning method motivates students in writing, and 14% strongly agree. The tenth statement explains that 79% agree and 11% strongly agree that the feedback students receive during discovery learning helps students improve their writing skills. In the eleventh statement, 79% agreed, and 14% strongly agreed that they preferred discovery learning over traditional discovery. In the next statement, 75% agreed, and 14% strongly agreed that discovery learning makes students more independent. Even the next two statements explained that 86% agreed that discovery learning helped organize students' thoughts and that students' ability to write longer and more complex texts had improved through discovery learning. Finally, 79% of students agreed to recommend discovery learning to other students to improve their English writing skills.

## Discussion

This study was conducted to examine the effectiveness of the Discovery Learning approach in improving students' English writing skills. The findings show that students' scores improved when they were taught using this approach. Additionally, a closed-ended questionnaire revealed that students responded positively to the benefits of discovery learning in enhancing their motivation and writing abilities in English.

The findings of this study align with those of (Tomkins & Ulus, 2015), demonstrating that Discovery Learning significantly impacts students' writing skills by providing meaningful experiences. As students engage in active exploration, they generate ideas based on new information and past experiences, thus enhancing their ability to articulate thoughts in writing. Another positive outcome of the discovery learning approach is increased student enthusiasm for class activities. For instance, while practising interview techniques and gathering information online, students showed high engagement and enthusiasm. This

approach empowers students to construct their knowledge, thereby fostering independence and critical thinking (Alodwan & Ibnian, 2014)

The discovery learning approach encourages an internally driven learning process, who emphasizes that effective learning environments allow students to achieve targeted objectives aligned with curriculum goals. By systematically planning learning experiences, teachers can facilitate meaningful student progress and positive behaviour change. Discovery Learning enables teachers to create optimal conditions for student-centred learning, allowing students to benefit from a stimulating and supportive environment. Consequently, Discovery Learning offers a novel approach for students learning English, especially in developing their writing skills.

Learning models are designed to support students in developing their knowledge, understanding, behaviour, and skills. Teachers play an important role in encouraging this development by managing the environment to improve students' learning experiences. In particular, teachers carefully select and implement various strategies and models to maximize the learning process (Munawaroh, 2022). Research indicates that using the Discovery Learning approach significantly improves students' writing abilities, as it encourages self-directed exploration and creative thinking.

Through the Discovery Learning model, students actively increase their knowledge, explore ideas, and employ creativity by engaging their imagination and seeking information independently. This method aligns with (Ummah, 2019), who emphasizes that active learning strategies, such as discovery learning, provide students with opportunities to make meaningful connections in writing. Additionally, the Discovery Learning model aids students in selecting appropriate vocabulary and increases their motivation to write.

Furthermore, Discovery learning can also help improve students' writing skills, as mentioned by (Annisa et al., 2018) in his research at SMA N 1 Sungguminasa. In their research, the authors also explained that students could write titles according to the content, use spelling, pour words or diction according to the characteristics of descriptive paragraphs, arrange sentences according to effective sentence structure, and integrate sentences and between paragraphs to form a text.

## D. Conclusion

In summary, this research aims to discover the effect of discovery learning on students' English writing skills. The pre-test and post-test results in both the control and experimental groups show the scores before and after applying the discovery learning. The score of the experimental group was increased, especially when the researchers gave the questionnaire regarding discovery learning in the classroom.

The results of this study suggest that students' writing, particularly those in vocational schools, can be improved through discovery learning. Teachers of English as a second language may find that the discovery learning method brings students' writing to life. Because of this, learning English through discovery is a good strategy. The participants in this study are limited to those attending vocational schools. This is evident in the students'

average scores before and after the lesson. While some students may still have some grammar issues, overall, the students were engaged learners who could correctly complete the test.

The results show that students are more engaged, analytical, and creative after using this strategy. Also, using the discovery learning approach in the classroom is much fun. This is because when teachers engage their students, it encourages them to be more engaged and think critically. Students will be able to learn from both the teacher and other sources. The discovery learning approach method is also expected to be followed up by other researchers and applied to other materials on writing or other language skills. The discovery learning approach stimulates enthusiasm and opens students' minds as they receive stimulation from their teacher and learn actively with peers. This approach, supported by those who note that fostering autonomy and critical thinking is essential in overcoming common writing challenges, shows promise as a valuable methodology in teaching writing. Future research could build on these findings by applying discovery learning to different writing topics or language skills and involving larger, more diverse samples from public and private senior high schools to explore broader impacts. Further research must involve larger samples from senior high schools (public and private) to examine the broader result.

## References

- Alodwan, T., & Ibnian, S. (2014). The Effect of Using The Process Approach to Writing on Developing University Students' Essay Writing Skills in EFL. *Review of Arts and Humanities*, 3 (2), 139-155.
- Ambarini, R. (2017). Integrasi Pendidikan Karakter - Religius dan Pembelajaran Tematik dalam Pengajaran Grammar. *Lensa: Kajian Kebahasaan, Kesusastraan Dan Budaya*, 7, 150-166.
- Annisa, N. I., Nappu, S., & Natsir, R. Y. (2018). The Use of Discovery Method to Improve Students' writing on Descriptive Text at the 10th Grade of SMAN 1 Sungguminasa (Pre-Experimental Research). *Jurnal Keguruan dan Ilmu Pendidikan (JKIP)*, 5(1), 52-60.
- Brown, N. J., Afflerbach, P. P., & Croninger, R. G. (2014). Assessment of critical-analytic thinking. *Educational Psychology Review*, 26, 543-560.
- Ambarini, R., Setyaji, A., & Suneki, S. (2018). Teaching Mathematics Bilingually for Kindergarten Students with Teaching Aids Based on Local Wisdom. *English Language Teaching*, 11(3), 8. <https://doi.org/10.5539/elt.v11n3p8>
- Andrean, F. M., & Ernati, E. (2023). Indonesian Junior High School Students' Problem in Learning EFL. *Innovative: Journal of Social Science Research*, 3(2), 8810-8823.
- Ariyana, A., Enawar, E., Ramdhani, I. S., & Sulaeman, A. (2020). The Application of Discovery Learning Models in Learning to Write Descriptive Texts. *Journal of English Education and Teaching*, 4(3), 401-412.

- Avionitha, C. R. (2021). The Implementation of Discovery Learning Method in Teaching Writing Narrative Text. *EDUTAMA*.
- Darma, R. N., & Widiastuty, H. (2023). The Importance of Learning English at School. *LANDMARK: Jurnal Pengabdian kepada Masyarakat*, 1(1), 23-29. <https://doi.org/10.37253/landmark.v1i1.7878>
- Eriza, N., Safitri, L., Eliza, E., & Pami Putri, H. (2023). An Analysis of Discovery Learning in Teaching English at the First Grade in SMA N 1 Bukittinggi. *Journal of Educational Management and Strategy*, 2(1), 104-113. <https://doi.org/10.57255/jemast.v2i1.229>
- Flora, R. P., & Mahpul. (2020). Discovery Learning Strategy: Integrating Think-Pair-Share and Teacher's Corrective Feedback to Enhance Students' Writing Language Accuracy. *International Journal of Education and Practice*, 8(4), 733-745. <https://doi.org/10.18488/journal.61.2020.84.733.745>
- Hapsari, E. W., Sudarman, S., & Utami, S. (2022). Sources of Students' Errors in EFL Writing in Indonesia. *JADEs Journal of Academia in English Education*, 3(2), 141-160. <https://doi.org/10.32505/jades.v3i2.4678>
- Hibatullah, O. F. (2019). The Challenges of International EFL Students to Learn English in a Non-English Speaking Country. *Journal of Foreign Language Teaching & Learning*, 4(2), 88-105. <https://doi.org/10.18196/ftl.4240>
- Ibrahim, M. A. (2015). University students' English Writing Problems: Diagnosis and Remedy. *International Journal of English Language Teaching*, 3(3), 40-52.
- Jamoom, O. A. (2021). EFL students' needs for improving their writing skills. *Scholars International Journal of Linguistics and Literature*, 4(4), 106-111. <https://doi.org/10.36348/sijll.2021.v04i04.004>
- Mattarima, K., & Rahim, H. A. (2011). The Teaching Constraints of English as a Foreign Language in Indonesia: The Context of School-Based Curriculum. *Sosiohumanika*, 4(2), 287-300.
- Munawaroh, M. Improving the Capability of Addition and Subtract Accounting Operations using Problem Based Learning (PBL) Elementary School. In *Social, Humanities, and Educational Studies (SHES): Conference Series*, 5(6), 245-253. <https://doi.org/10.20961/shes.v5i6.81073>
- Nuraeni, N., & Aisyah, S. (2020). Understanding EFL Students' motivation to Learn: Why do You Study English?. *Jurnal Bahasa Lingua Scientia*, 12(1), 51-70. <https://doi.org/10.21274/lis.2020.12.1.51-70>
- Purnamasari, A., & Argawati, N. O. (2020). The Use Discovery Learning Method in Teaching Writing Recount Text to the Tenth Grade of SMAN Ngamprah. *PROJECT (Professional Journal of English Education)*, 3(4), 470-476. <https://doi.org/10.22460/project.v3i4.p470-476>

- Rahman, A., & Muktadir, M. G. (2021). SPSS: An Imperative Quantitative Data Analysis Tool for Social Science Research. *International Journal of Research and Innovation in Social Science*, 05(10), 300–302. <https://doi.org/10.47772/ijriss.2021.51012>
- Resmini, S., Rizkiani, S., & Maulana, A. (2023). Discovery Learning and Powtoon in Teaching Writing Recount Text: Students Responses And Challenges. *JELA (Journal of English Language Teaching, Literature and Applied Linguistics)*, 5(2), 109-120.
- Salter, M. M. (2023). *Faculty Beliefs on Active Learning Strategies in Higher Education: Identification of Predictors for Use of Active Learning* (Doctoral dissertation, University of South Alabama).
- Sari, F., & Wahyuni, S. (2018). The Use of Clustering Technique to Improve the Students' skill in Writing Descriptive Paragraph. *English Community Journal*, 2(1), 167-174. <https://doi.org/10.32502/ecj.v2i1.1006>
- Septyaningrum, L., Wiyaka, W., & Prastikawati, E. F. (2024). Picture-Cued Sequence Task: How Does It Effect to Students' English Writing Ability?. *International Journal of Research in Education*, 4(2), 410-422.
- Solano, D, A. (2020). We are implementing Guided-Discovery Grammar Learning. *LETRAS*, 68, 143–173. <https://doi.org/10.15359/rl.2-68.6>
- Tomkins, L., & Ulus, E. (2015). Is Narcissism Undermining Critical Reflection in Our Business Schools? *Academy of Management Learning and Education*, 14(4), 595–606. <https://doi.org/10.5465/amle.2014.0107>
- Ummah, M. S. (2019). No 主観的健康感を中心とした在宅高齢者における健康関連指標に関する共分散構造分析Title. *Sustainability (Switzerland)*, 11(1), 1–14.