Jurnal Global Ilmiah
Vol. 1, No. 5, February 2024
ISSN: 3026-5207

The Effectiveness of Discovery Learning Model on Students' Writing Skills at Vocational High School Diponegoro Losari

Putri Sofwatunnisa, Amroh Umaemah, Edy Waloyo
IAIN Syekh Nurjati Cirebon, Indonesia
* Email untuk Korespondensi: *Putrisofwa39@gmail.com amrohumaemahlayar@gmail.com edyibnuyahya@yahoo.co.id*

Kata kunci:

pembelajaran penemuan
keterampilan menulis
teks eksposisi analitis

Keywords:

discovery learning
writing skill
analytical exposition text

ABSTRAK

Penelitian ini menyelidiki dampak dari model pembelajaran penemuan pada keterampilan menulis siswa kelas sebelas di Sekolah Menengah Kejuruan Diponegoro Losari. Penelitian ini menggunakan One Group Pretest-Posttest Design dan menganalisis skor tes kinerja sebelum dan sesudah penerapan model tersebut. Hasil penelitian menunjukkan bahwa siswa dengan model discovery learning mendapatkan skor yang lebih tinggi secara signifikan dalam keterampilan menulis teks eksposisi analitis, dengan skor rata-rata 76,66 dibandingkan dengan 36-45% sebelum menggunakan model tersebut. Penelitian ini juga menemukan bahwa penggunaan model discovery learning secara signifikan meningkatkan keterampilan menulis teks eksposisi analitis siswa.

This study investigates the impact of the discovery learning model on the writing skills of eleventh-grade students at Vocational High School Diponegoro Losari. The research used a One Group Pretest-Posttest Design and analyzed performance test scores before and after the implementation of the model. The results showed that students with the discovery learning model scored significantly higher in their analytical exposition text writing skills, with an average score of 76.66 compared to 36-45% before the model. The study also found that the use of the discovery learning model significantly improved the students' analytical exposition text writing skills.

Ini adalah artikel akses terbuka di bawah lisensi CC BY-SA .
This is an open access article under the CC BY-SA license.

INTRODUCTION

Text is an expression of the human mind with a situation and context. Learning Indonesian is using English to convey other learning material and learning the meaning or how to choose the right words. Text is a combination of letters that form words and sentences strung together with a sign system (Harris, 1995; Olson, 1993; Satapathy et al., 2020). Since reading a text can show the meaning it conveys, learning English should be text-based (Abdullah et al., 2020; Hung & Higgins, 2016; Mumba & Mkandawire, 2019).

Writing an analytical exposition text will encourage students to think critically (Semi, 2003). Analytical exposition text is a type of text or writing that contains facts and information. As well as writing components of learning objectives Students are supposed to achieve the targeted competence in the compulsory English subject by the end of Phase F. students' to be able to produce texts with a clear and detailed structure of organization on various topics.

The following information was acquired based on the interviews with English teachers conducted by Haris S.Pd. First, some students' analytic exposition text writing skills are still low, particularly when producing exposition analytic texts with complex issues. Second, some students are unfamiliar with the format of analytic exposition text. Third, some students do not comprehend the linguistic components of an analytic exposition text. It shows up in the writing of students in class when they work on assignments set by the teacher.

In addition, interviews with various students from eleventh-grade were done. The following information was acquired from the interview. First, some students have difficulty developing the text into a paragraph. Second, some students take a long time to produce the analytical exposition text because the theme provided is a topic that students do not understand when carrying out the steps. Third, some students continue to struggle

with the analytical exposition text. As a result of which, students lose interest in producing analytical exposition texts.

A learning model that can motivate students must be chosen to address this issue. The Discovery Learning model is one of the models used in the process of learning to create analytical exposition text (Astuti et al., 2023; Azzahra & Azhari, 2024; Ratmiati & Cahyani, 2020). The Discovery Learning model was chosen for this study because it allows students to think, grasp, and find the processes that must be completed when creating exposition analytic text.

The main principles of Discovery Learning are students as the main subject in the learning process, active and participatory learning, process-directed learning rather than just the result, and problem-oriented learning (Hosnan, 2014). These principles aim to improve students' critical and creative thinking skills and their awareness of students' as a subject of study. This model involves students as active participants in their learning, with the teacher as a facilitator and leader.

The Discovery Learning model can assist students in improving their writing through the practical application of organizing ideas, expressing thoughts in writing, and adapting their writing style for various purposes and audiences. Furthermore, this learning model can assist students in developing research and analysis skills, which can assist them in writing better and more organized essays and scientific papers (Akinwamide, 2012; Druckman & Ebner, 2018; Ismail, 2011). The better learning model used, more effec ive the achievement of the goals students get (Anitah, 2007). The problem in this study is formulated as follows: ”How are students' writing skill in composing analytical exposition text before and after implementing the Discovery Learning model at eleventh-grade Vocational High School Diponegoro? How is the effectiveness Discovery Learning model in teaching analytical exposition text in eleventh-grade Vocational High School Diponegoro Losari?”

The purpose of this study is to determine how the discovery learning model has affected the writing skills of Vocational High School Diponegoro Losari eleventh-grade students who are composing analytical exposition texts. Data was gathered by administering an initial test (pretest) to assess student learning outcomes in writing analytical exposition texts before using the discovery learning model and an assessment at the conclusion of the model's use (posttest) to assess student learning outcomes in writing analytical exposition texts.

METHOD

This methods of research is quantitative approach using pre-experimental mode one group only pretest posttest design (Sugiyono, 2019). Sugiyono (2019) defines quantitative research as scientific research that adheres to scientific principles such as concrete/empirical, objective, measurable, reasonable, and strategic. The data is presented numerically, beginning with data collection, then analyzing the data, and finally displaying the results. In this study using quantitative pre-experiments methods which used one group pretest posttest. The design of this study was measured implement the pretest was carried out before being given treatment and the posttest was given treatment.

Sample

The participants in this study were Vocational High School Diponegoro Losari eleventh-grade , students. (Sugiyono 2014), a population is a generic region comprising things or subjects with specific features and characteristics the researcher chooses to research and then concludes from. This study's population consisted of Vocational High School Diponegoro Losari eleventh-grade students during the 2023/2024 academic year.

Purposive sampling was utilized as a sample approach in this research (Lenaini, 2021). Purposive sampling is a technique used. Sampling is a technique that is used based on specific criteria. The goal of sample selection is to create a homogeneous sample, Accomplished by selecting the sample with the lowest standard deviation. the class that has the smallest standard deviation is eleventh-grade TKJ 3. Therefore, the sample in this study was eleventh-grade TKJ.

Reseach Design

This study's data was collected in three meetings: pre-test, treatment, and posttest. Instruments are data collection tools used in the research process (Arikunto, 2002). Instruments are tools or facilities used by researchers to collect data to make their work easier and the outcomes more accurate, and systematic. The instrument employed in this study is using a writing test for composing analytical exposition text questions. As a result, the test can determine and quantify the student's capacity to compose analytical exposition text.

Data Analysis Technique

Firstly, assign a score to each student's analytical exposition text based on the aspects rubrics analyzed by Spence, L. K. (2010). Secondly, normality and homogeneity must be determined before analyzing the data by t-test. It is evaluated to identify whether the distribution is normal and homogeneous. The Kolmogorov-

Simmov technique is used to calculate normality test using the SPSS. Data distribution is said to be normal if the normality value is greater than 0.05. On the other hand On the other hand, if the normality test statistic is less than 0.05, it is reasonable concluded that the data distribution was not normal. If the data is regularly distributed, a parametric statistical test, the Paired-Samples T Test (T test for two samples in pairs), can be applied. Meanwhile, if the data is not normally distributed, a nonparametric statistical test, such as the Mann-Whitney (U Test), might be utilized.

RESULTS AND DISCUSSION

Writing Skills of Analytical Exposition Text on Eleventh-Grade Students' on Vocational High School Diponegoro Losari Before Using the Discovery Learning Model

The data from writing analytical exposition text test were gathered through a writing test without using the discovery learning model. Following data collection, the data is evaluated using the following indicators ideas and content, organization, word choice. and conventions. The following table provides score information on writing analytical exposition text scores obtained before the use of the discovery learning model.

Table 1. Writing analytical exposition text scores obtained before the use of the discovery learning model

Sample Code	Ideas and Content	Organization	Word Choice	Conventions	Score	Grades
1	1	1	2	1	5	20
2	1	1	2	2	6	25
3	1	1	2	1	5	20
4	4	2	3	2	11	45
5	3	2	3	2	10	41
6	1	1	2	1	5	20
7	1	2	2	1	6	25
8	1	1	2	3	7	29
9	4	2	3	1	10	41
10	1	1	2	2	6	25
11	3	1	3	1	8	33
12	1	1	2	1	5	20
13	3	2	1	1	7	29
14	1	2	1	1	5	20
15	1	2	1	1	5	20
16	4	2	1	1	8	33
17	1	1	1	1	4	16
18	4	2	3	1	10	41
19	1	1	1	1	4	16
20	1	1	2	1	5	20
21	1	1	2	1	5	20
22	3	2	1	1	7	29
23	1	1	2	3	7	29
24	1	1	2	1	5	20
25	3	3	3	1	10	41
26	1	2	2	3	8	33
27	3	3	3	1	10	41
28	3	3	3	1	10	41
29	1	1	2	1	5	20
30	5	3	4	1	13	54
31	1	1	2	2	6	25
32	3	1	3	1	8	33
33	1	1	2	2	6	25
34	3	2	3	2	10	41
35	3	3	1	1	8	33
36	3	3	1	1	8	33
37	3	3	3	1	10	41
38	4	2	3	1	10	41
39	2	1	1	1	5	20

From the table above, It can be concluded that the final score and grades of students' analytical exposition writing skills on eleventh-grade students of Vocational High School Diponegoro Losari before using the discovery learning model. And the results showed that the maximum pre-test grade for was 54 and the minimum grade was 16, with an overall average pre-test grade of 45.20. The data above shows students' analytical exposition writing skills on eleventh-grade before using discovery learning model. The data that shows by researcher is the students' grades are too low.

According to the findings of the data analysis, the level of mastery of analytical exposition text writing skills before using the discovery learning model on eleventh-grade Students of Vocational High School Diponegoro Losari. with an average of 45.20 in the not enough (NE) qualification, because the mean is at 36-45% mastery on a scale of 10. The ability to write an analytical exposition text before employing the discovery learning model is divided into ten criteria on eleventh-grade Students at Vocational High School Diponegoro Losari, namely: perfect, very good, good, more than enough, enough, almost enough, not enough, less, bad, very bad.

The data analysis results show that the mastery level of analytical exposition text writing skills before using the discovery model on eleventh-grade Students of Vocational High School Diponegoro Losari for the idea and content indicator calculated average (M) is 2.12. Description of the level of mastery of analytical exposition text writing skills without using the discovery model on eleventh-grade Students of Vocational High School Diponegoro Losari. It can be grouped into 5 groups, namely as follows. First, good (G) was 1 Students (3%). Second, More Than Enough (MTE)was 5 Students (13%). Third, Almost Enough (AE) was 12 Students (31%). Fourth, Less (L) was 1 Students (3%). Fifth, Bad (B) was 20 Students (51%).

The data analysis results show that the mastery level of analytical exposition text writing skills before using the discovery model on eleventh-grade Students of Vocational High School Diponegoro Losari for the organization indicator calculated average (M) is 1. Description of the level of mastery of analytical exposition text writing skills without using the discovery model on eleventh-grade Students of Vocational High School Diponegoro Losari. It can be grouped into 3 groups, namely as follows. First, Almost Enough (AE) was 7 Students (18%). SecondLess (L) was 13 Students (33%). Third, Bad (B) was 19 Students (49%).

The data analysis results show that the mastery level of analytical exposition text writing skills before using the discovery model on eleventh-grade Students of Vocational High School Diponegoro Losari for the word choice indicator calculated average (M) is 2,69. Description of the level of mastery of analytical exposition text writing skills without using the discovery model on eleventh-grade Students of Vocational High School Diponegoro Losari. It can be grouped into 4 groups, namely as follows. First, More Than Enough (MTE) was 14 Students (36%). Second, Almost Enough (AE)was 4 Students (10%). Third, Less (L) was 16 Students (41%). Fourth, Bad (B)was 5 Students (13%).

The data analysis results show that the mastery level of analytical exposition text writing skills before using the discovery model on eleventh-grade Students of Vocational High School Diponegoro Losari for the convention indicator calculated average (M) is 1,33. Description of the level of mastery of analytical exposition text writing skills without using the discovery model on eleventh-grade Students of Vocational High School Diponegoro Losari. It can be grouped into 4 groups, namely as follows. First, More Than Enough (MTE) was 16 Students (41%). Second, Almost Enough (AE) was 10 Students (26%). Third, Less (L) was 7 Students (18%). Fourth, Bad (B)was 6 Students (15%).

Writing Skills of Analytical Exposition Text on Eleventh-Grade Students' on Vocational High School Diponegoro Losari After Using the Discovery Learning Model

The data from writing analytical exposition text test were gathered through a writing test after using the discovery learning model. Following data collection, the data is evaluated using the following indicators ideas and content, organization, word choice. and conventions. The following table provides score information on writing analytical exposition text scores and grades obtained after the use of the discovery learning model.

Table 2. Writing analytical exposition text scores and grades obtained after the use of the discovery learning model

Sample Code	Ideas and Content	Organization	Word Choice	Conventions	Score	Grades
1	5	5	4	5	19	79
2	5	5	4	5	19	79
3	6	6	6	3	21	87
4	6	5	6	6	23	95
5	4	4	5	5	18	75
6	4	4	4	3	15	62
7	5	5	5	3	18	75

8	3	3	3	4	13	54
9	3	4	4	4	15	62
10	5	5	5	4	19	79
11	4	5	5	5	19	79
12	6	6	4	4	20	83
13	5	5	5	4	19	79
14	5	5	4	4	18	75
15	4	4	5	5	18	75
16	4	5	6	5	20	83
17	3	3	3	4	13	54
18	6	6	6	5	23	95
19	4	5	6	5	20	83
20	4	5	6	5	20	83
21	4	5	5	4	18	75
22	4	5	6	5	20	83
23	4	4	5	5	18	75
24	6	5	6	4	21	87
25	6	6	6	6	24	100
26	5	5	5	4	19	79
27	6	5	5	4	20	83
28	6	6	5	6	23	95
29	5	5	5	4	19	79
30	5	5	5	4	19	79
31	5	5	5	4	19	79
32	6	6	6	6	24	100
33	4	4	4	3	15	62
34	3	4	3	3	13	54
35	6	6	6	4	22	91
36	3	4	3	3	13	54
37	4	4	4	4	16	66
38	6	6	6	5	23	95
39	6	6	4	4	20	83

From the table above, It can be concluded that the final score and grades of students' analytical exposition writing skills on eleventh-grade students of Vocational High School Diponegoro Losari after using the discovery learning model. And the results showed that the maximum pre-test grade for was 100 and the minimum grade was 54, with an overall average pre-test grade of 78.33. The data above shows students' analytical exposition writing skills on eleventh-grade the use of discovery learning model. The data that shows by researcher is the students' posttest grades are higher then pretest.

According to the findings of the data analysis, the level of mastery of analytical exposition text writing skills after using the discovery learning model on eleventh-grade Students of Vocational High School Diponegoro Losari. with an average of 76.66 in the good (G) qualification, because the mean is at 76-85% mastery on a scale of 10. The ability to write an analytical exposition text before employing the discovery learning model is divided into ten criteria on eleventh-grade Students at Vocational High School Diponegoro Losari, namely: perfect, very good, good, more than enough, enough, almost enough, not enough, less, bad, very bad.

The data analysis results show that the mastery level of analytical exposition text writing skills before using the discovery model on eleventh-grade Students of Vocational High School Diponegoro Losari for the idea and content indicator calculated average (M) is 4,74. Description of the level of mastery of analytical exposition text writing skills without using the discovery model on eleventh-grade Students of Vocational High School Diponegoro Losari. It can be grouped into 4 groups, namely as follows. First, Perfect (P) was 12 Students (31%). Second, Good (G) was 10 Students (26%). Third, More Than Enough (MTE) was 12 Students (31%). Fourth, Almost Enough (AE) was 5 Students (13%).

The data analysis results show that the mastery level of analytical exposition text writing skills before using the discovery model on eleventh-grade Students of Vocational High School Diponegoro Losari for the organization indicator calculated average (M) is 4,89. Description of the level of mastery of analytical exposition text writing skills without using the discovery model on eleventh-grade Students of Vocational High

School Diponegoro Losari. It can be grouped into 4 groups, namely as follows. First, Perfect (P) was 9 Students (31%). Second, Good (G) was 19 Students (49%). Third, More Than Enough (MTE) was 9 Students (23%). Fourth, Almost Enough (AE) was 2 Students (5%).

The data analysis results show that the mastery level of analytical exposition text writing skills before using the discovery model on eleventh-grade Students of Vocational High School Diponegoro Losari for the word choice indicator calculated average (M) is 4,87. Description of the level of mastery of analytical exposition text writing skills without using the discovery model on eleventh-grade Students of Vocational High School Diponegoro Losari. It can be grouped into 4 groups, namely as follows. First, Perfect (P) was 12 Students (31%). Second, Good (G) was 14 Students (36%). Third, More Than Enough (MTE) was 9 Students (23%). Fourth, Almost Enough (AE) was 4 Students (10%).

The data analysis results show that the mastery level of analytical exposition text writing skills before using the discovery model on eleventh-grade Students of Vocational High School Diponegoro Losari for the convention indicator calculated average (M) is 4,35. Description of the level of mastery of analytical exposition text writing skills without using the discovery model on eleventh-grade Students of Vocational High School Diponegoro Losari. It can be grouped into 4 groups, namely as follows. First, Perfect (P) was 4 Students (10%). Second, Good (G) was 12 Students (31%). Third, More Than Enough (MTE) was 17 Students (44%). Fourth, Almost Enough (AE) was 6 Students (15%).

The Effectiveness Discovery Learning Model on Students' Analytical Exposition Text Writing Skills at Eleventh-Grade Vocational High School Diponegoro Losari

The main purposes of this research is to find the effectiveness of discovery learning model on students' analytical exposition text writing skills at eleventh-grade vocational high school Diponegoro Losari. The results of data analysis in this study generally indicate that the average writing skills in analytical exposition texts of eleventh-grade Students at Vocational High School Diponegoro Losari have improved after using the Discovery Learning model. The level of mastery is in the range of 76-85% with a good (G) qualification, with an average score of 78.33. In contrast, the writing skills in analytical exposition texts on eleventh-grade Students of Vocational High School Diponegoro Losari before using the Discovery Learning model were at a mastery level of 36-45% with an qualification not enough (NE), and the average score was 45.20.

From the description above, it is clear that there is a significant improvement in students' writing skills in analytical exposition texts after use the Discovery Learning model. The average score has increased from 45.20 to 78.33. Therefore, the use of the Discovery Learning model has a significant impact on students' writing analytical exposition text.

Table 3. Paired sample test

Paired Samples Test								
	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	*Upper*			
Pair 1 pretest - post test	-48.615	14.284	2.287	-53.246	-43.985	-21.255	38	.000

The analytical exposition text writing skills on eleventh-grade Students of Vocational High School Diponegoro Losari before using the discovery learning model were found to be 45.20 on average, while the analytical exposition text writing skills of eleventh-grade Students of Vocational High School Diponegoro Losari after using the discovery learning model were found to be 78.33on average. According to the paired sample t test table, the sig value. (2 tailed) 0.000 < 0.05 indicates that there is a significant difference between writing skills analytical exposition text before using the discovery learning model and writing skills analytical exposition text after using the discovery learning model at eleventh-grade students of vocational high school Diponegoro Losari. In other words, H1 is accepted and H0 is rejected.

Based on this, it is possible to conclude that the discovery learning model has an effect on the writing skills of eleventh-grade students at vocational high school Diponegoro Losari. This is because the discovery learning model is a very exciting and instructional model that suits the students' characteristics. When this discovery learning model is used, students are stimulated to become curious and interested in doing it themselves. Thus, studying through the discovery learning model can pique students' interest in producing analytical exposition texts and make students more creative by allowing students to discover for themselves and transmit it to others in writing.

CONCLUSION

Three conclusions can be drawn from the data analysis and discussion in Chapter IV. First, writing skill analytical exposition texts after using the discovery learning model at eleventh-grade students of vocational high school was calculated average is 45.20. Writing skill analytical exposition texts after using the discovery learning model at eleventh-grade students of vocational high school was calculated based average in the range mastery level of 36-45%. 36-45% located with qualification Not Enough (NE).

Second, Writing skill analytical exposition texts after using the discovery learning model at eleventh-grade students of vocational high school was calculated average is 78.33. Writing skill analytical exposition texts after using the discovery learning model at eleventh-grade students of vocational high school was calculated based average in the range mastery level of 76-85%. 76-85% located with qualification good (G).

Third, the T-test result shows that there is a significant The Effectiveness Of Discovery Learning Model on eleventh-grade Students' Writing Skills at Vocational High School Diponegoro Losari. Based on the paired sample t test table, the sig value. (2 tailed) 0.000 < 0.05 indicates that there is a significant difference between the pretest and posttest. therefore, the use of the discovery learning model has an significant effect of Discovery Learning Model on eleventh-grade Students' Writing Skills at Vocational High School Diponegoro Losari

REFERENCES

Abdullah, F., Tandiana, S. T., & Saputra, Y. (2020). Learning Multimodality through Genre-Based Multimodal Texts Analysis: Listening to Students' Voices. *Vision: Journal for Language and Foreign Language Learning*, *9*(2). https://doi.org/10.21580/vjv9i25406

Akinwamide, T. K. (2012). The influence of Process Approach on English as second language Students' performances in essay writing. *English Language Teaching*, *5*(3). https://doi.org/10.5539/elt.v5n3p16

Anitah, S. (2007). *Strategi pembelajaran*. Universitas Terbuka.

Arikunto, S. (2002). *Prosedur penelitian: Suatu pendekatan praktek (Research procedure: A practical approach)*. Rineka Cipta.

Astuti, W. T., Sumarti, S., Sunarti, I., Samhati, S., & Rusminto, N. E. (2023). Development of LKPD Writing Exposition Text Based on the Discovery Learning Model for Class X High School Students. *International Journal of Multicultural and Multireligious Understanding*, *10*(5). https://doi.org/10.18415/ijmmu.v10i5.4734

Azzahra, I. S. S., & Azhari, Y. Z. (2024). Description of Writing Exposition Text Using the Discovery Learning Model Assisted with Media Canva. *JLER (Journal of Language Education Research)*, *7*(1), 9–16.

Druckman, D., & Ebner, N. (2018). Discovery Learning in Management Education: Design and Case Analysis. *Journal of Management Education*, *42*(3). https://doi.org/10.1177/1052562917720710

Harris, R. (1995). *Signs of writing*. Psychology Press.

Hosnan, M. (2014). *Pendekatan Saintifik dan Kontekstual dalam Pembelajaran Abad 21*. Ghalia Indonesia Press.

Hung, Y. W., & Higgins, S. (2016). Learners' use of communication strategies in text-based and video-based synchronous computer-mediated communication environments: opportunities for language learning. *Computer Assisted Language Learning*, *29*(5). https://doi.org/10.1080/09588221.2015.1074589

Ismail, S. A. A. (2011). Exploring Students' Perceptions of ESL Writing. *English Language Teaching*, *4*(2). https://doi.org/10.5539/elt.v4n2p73

Lenaini, I. (2021). Teknik Pengambilan Sampel Purposive Dan Snowball Sampling. *HISTORIS: Jurnal Kajian, Penelitian & Pengembangan Pendidikan Sejarah*, *6*(1).

Mumba, C., & Mkandawire, S. B. (2019). The Text-based Integrated Approach to Language Teaching : Its Meaning and Classroom Application. *Multidisciplinary Journal of Language and Social Sciences Education*, *2*(1).

Olson, D. R. (1993). How writing represents speech. *Language & Communication*, *13*(1), 1–17.

Ratmiati, R., & Cahyani, I. (2020). Discovery learning model in learning writing of environmental exposition text. *Journal of Physics: Conference Series*, *1567*(4). https://doi.org/10.1088/1742-6596/1567/4/042061

Satapathy, R., Cambria, E., Nanetti, A., & Hussain, A. (2020). A Review of Shorthand Systems: From Brachygraphy to Microtext and Beyond. *Cognitive Computation*, *12*(4). https://doi.org/10.1007/s12559-020-09723-7

Semi, M. A. (2003). *Menulis Efektif*. Angkasa Raya Padang Press.

Sugiyono. (2019). *Metode penelitian kuantitatif, kualitatif, dan R&D*. Alfabeta.