

THE RELATIONSHIP BETWEEN EFFECTIVE SENTENCE MASTERY AND THE ABILITY TO WRITE SCIENTIFIC WORK FOR CLASS XI STUDENTS AT SMK NEGERI 6 PADANG

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Abstract

This research is motivated by the following things. First, there is a lack of effective sentence mastery on the ability to write scientific papers for class XI students of SMK Negeri 6 Padang. The purpose of this research is as follows. First, it describes the effective sentence mastery of class XI students of SMK Negeri 6 Padang. Second, it describes the ability to write scientific papers for class XI students of SMK Negeri 6 Padang. Third, to describe the relationship between effective sentence mastery and the ability to write scientific papers for class XI students of SMK Negeri 6 Padang. This type of research is quantitative research using correlational methods. The population in this study were students of class XI at SMK Negeri 6 Padang. The sample in this research is class XI students. Clothing 4. The instruments used in this study were objective tests and performance tests. The research data is in the form of students' effective sentence mastery results and scores of students' scientific writing ability test scores. Based on the results of the study, three things were concluded as follows. First, students' effective sentence mastery obtained an average of 81.18 in the range of 76-85% with good qualifications (B). Second, the ability to write scientific papers for class XI students of SMK Negeri 6 Padang obtained an average score of 49.09 in the range of 46-55% with almost sufficient qualifications (HC). Third, there is a significant relationship between effective sentence mastery and the ability to write scientific papers for class XI students of SMK Negeri 6 Padang. This shows that sentence mastery effectively influences students in writing scientific papers. This can be seen from the test results which prove that $t_{count} > t_{table}$, namely $6.56 > 1.70$.

Keywords: effective sentences; scientific work.

Abstract

Penelitian ini dilatarbelakangi oleh beberapa hal berikut ini. Pertama, terdapat kurangnya penguasaan kalimat efektif terhadap kemampuan menulis karya ilmiah siswa kelas XI SMK Negeri 6 Padang. Adapun tujuan dari penelitian ini sebagai berikut. Pertama, mendeskripsikan penguasaan kalimat efektif siswa kelas XI SMK Negeri 6 Padang. Kedua, mendeskripsikan kemampuan menulis karya ilmiah siswa kelas XI SMK Negeri 6 Padang. Ketiga, mendeskripsikan hubungan penguasaan kalimat efektif dengan kemampuan menulis karya ilmiah siswa kelas XI SMK Negeri 6 Padang. Jenis penelitian ini adalah penelitian kuantitatif

menggunakan metode korelasional. Populasi dalam penelitian ini adalah siswa kelas XI SMK Negeri 6 Padang. Sampel pada penelitian ini adalah siswa kelas XI. Busana 4. Instrumen yang digunakan dalam penelitian ini adalah tes objektif dan tes unjuk kerja. Data penelitian ini berupa skor hasil penguasaan kalimat efektif siswa dan skor tes kemampuan menulis karya ilmiah siswa. Berdasarkan hasil penelitian, disimpulkan tiga hal sebagai berikut ini. Pertama, penguasaan kalimat efektif siswa diperoleh rata-rata 81,18 berada pada rentangan 76-85% dengan kualifikasi baik (B). Kedua, kemampuan menulis karya ilmiah siswa kelas XI SMK Negeri 6 Padang diperoleh nilai rata-rata hitung 49,09 berada pada rentangan 46-55% dengan kualifikasi hampir cukup (HC). Ketiga, terdapat hubungan yang signifikan antara penguasaan kalimat efektif dengan kemampuan menulis karya ilmiah siswa kelas XI SMK Negeri 6 Padang. Hal ini menunjukkan bahwa penguasaan kalimat efektif mempengaruhi siswa dalam menulis karya ilmiah. Hal ini terlihat dari hasil pengujian yang membuktikan bahwa $t_{hitung} > t_{tabel}$ yaitu $6,56 > 1,70$.

Kata Kunci: kalimat efektif; karya ilmiah.

1. INTRODUCTION

Learning Indonesian in the independent curriculum is literacy learning which aims to develop learning to listen, read, speak and write. Indonesian language learning can be developed through models that suit certain learning achievements. These four aspects in learning Indonesian must be applied to students as basic skills in language activities. The main model used in learning Indonesian is genre pedagogy. This model has four stages, namely explanation to build the context, modeling, joint construction, and independent construction. Apart from genre pedagogy, Indonesian language learning can be developed with other models according to certain learning achievements. The implementation of the curriculum has undergone changes and improvements from year to year. The independent curriculum provides various materials related to the environment and natural surroundings, one of which is in class XI material, namely playing a role in preserving Indonesia's nature through scientific work. Learning scientific work is found in Phase F (generally for classes XI and critical and creative. Furthermore, which is described in the TP (Learning Objectives), namely understanding the various languages of scientific works, writing scientific papers in nature conservation by paying attention to the rules for writing scientific papers and presenting scientific works in nature conservation in presentation applications.

Scientific work can be said to be written work that presents a systematic discussion, uses standard language and is supported by theory and empirical evidence. The discussion can be in the form of descriptions, ideas or problem solving. Therefore, scientific writing can be a reference for increasing insight and disseminating knowledge (Barnawi, 2016:18). One of the causes of students' low ability to write scientific papers is their lack of mastery of

effective sentences. Effective sentences are sentences that are structured based on rules or elements that each sentence must have. Effective sentences always have a subject and predicate and pay attention to perfected spelling and the correct way of selecting words (diction) in the sentence. Effective sentences are also sentences that are easy for other people to understand quickly. Effective sentences are not always in written form, but can also be in spoken form. This research is important because it can be found to predict the relationship between effective sentence mastery and students' writing of scientific papers. This means that the better the mastery of effective sentences, the better the students' writing abilities (Fitriyani, 2015: 138).

The identification of problems in this research is as follows: First, students do not understand the material provided by the teacher. Second, it is difficult for students to find and develop ideas. Third, students do not understand effective sentences so there are many writing errors in scientific work. Fourth, students think that writing scientific papers takes a very long time because they have to carry out research, observations and require lots of references. Fifth, students' lack of understanding regarding how to write good scientific work. Based on the background and problem identification above, this research is limited by "The Relationship between Effective Sentence Mastery and the Writing Ability of Class XI Students at SMK Negeri 6 Padang".

Based on the limitations of the problem, the formulation of the problem in this research is as follows: First, how is the mastery of effective sentences in class XI students at SMK Negeri 6 Padang? Second, what is the ability to write scientific papers for class XI students at SMK Negeri 6 Padang? Third, what is the relationship between mastering effective sentences and the ability to write scientific papers for class XI students at SMK Negeri 6 Padang? Based on the problem formulation, the objectives of this research are as follows: First, to describe the mastery of effective sentences in class XI students at SMK Negeri 6 Padang. Second, to describe the ability to write scientific papers of class XI students at SMK Negeri 6 Padang. Third, describe the relationship between mastery of effective sentences and the ability to write scientific papers in class XI students at SMK Negeri 6 Padang.

2. METHOD

This type of research is quantitative research, because the data is in the form of numbers and analyzed using statistical data. According to Fitri (2019: 23), quantitative research is research where the data is in the form of numbers and analyzed based on statistical formulas. Alfianika (2016: 28) stated that quantitative research is research where the data is in the form of numbers and analyzed based on statistical formulas. Quantitative research is called traditional research because this research has been used long enough to become a tradition. This research is called scientific research because it meets scientific principles, namely concrete/empirical, objective, measurable, rational and systematic

(Sugiyono, 2013:7). So, it can be concluded that quantitative research is research where the data is in the form of numbers and analyzed based on statistics. The method used in this research is the correlational method. According to Alfianika (2016: 152), correlation research is a data collection activity to determine whether there is a relationship between variables in the subject or object that is of concern for research. This correlation research aims to determine the relationship between two or more variables in a study. Sampling was taken using simple random sampling technique. Of the ten research classes, one class was selected to be the research sample, namely class XI. Clothing 4, totaling 31 people and class XI. Clothing 3, totaling 32 people, became the trial class.

3. FINDINGS AND DISCUSSION

Data on Effective Sentence Mastery of Class XI Students at SMK Negeri 6 Padang

According to Dalman (2014: 62), effective sentences are sentences that have the potential to convey messages, ideas, ideas or information completely, clearly and precisely, so that listeners and readers can understand the meaning expressed by the speaker or writer. Suyanto (2015: 42) states that effective sentences are sentences that have the power or ability to regenerate ideas in the mind of the listener or reader. So, effective sentences always emphasize the main idea by using emphasis so that it can be accepted by the reader. Data on effective sentence mastery of class XI students at SMK Negeri 6 Padang. This question has five objective answer choices, namely A, B, C, D and E. There are 50 objective questions. Of the 50 questions, 30 questions were valid. Of the 30 valid questions, there are 7 assessment indicators to measure mastery of effective sentences, including structural similarity, form parallelism, meaning clarity, word economy, reasoning accuracy, idea coherence, and language logic. Data on the scores for mastery of effective sentences for class XI students at SMK Negeri 6 Padang are described as follows.

Mastery of effective sentences can be seen in the attachment and is known after the scores are processed into grades after the percentage formula. The scores obtained for mastery of effective sentences generally range between 70-93.33. There were 4 students who got a score of 70 (12.90%). There were 2 students who got a score of 73.33 (6.45%). There were 5 students who got a score of 76.66 (16.13%). There were 7 students who got a score of 80 (22.58%). There were 2 students who got a score of 83.33 (6.45%). There were 5 students who got a score of 86.66 (16.13%). There were 4 students who got a score of 90 (12.90%). There were 2 students who got a score of 93.33 (6.45%).

Frequency Distribution of Effective Sentence Mastery for Class XI Students at SMK Negeri 6 Padang in General

No	X	F	FX
1.	70	4	280
2.	73,33	2	146,66

3.	76,66	5	383,3
4.	80	7	560
5.	83,33	2	166,66
6.	86,66	5	433,3
7.	90	4	360
8.	93,33	2	186,66
		31	2516,58

After that, the average student score is calculated using the following formula.

$$M = \frac{\sum FX}{N}$$

$$= \frac{2516,58}{31} = 81,18$$

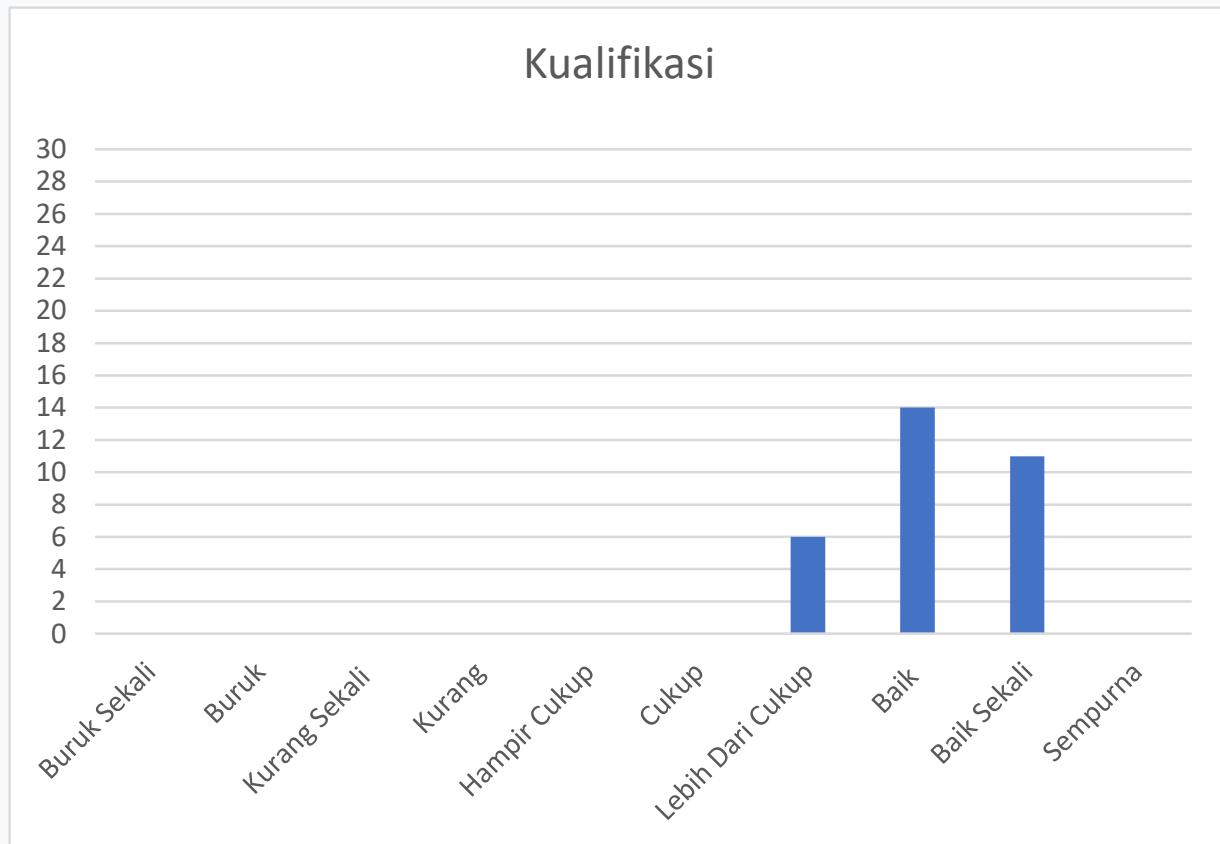
Based on the data above, the calculated average (M) is 81.18. So it is concluded that the overall level of mastery of effective sentences in class XI students at SMK Negeri 6 Padang is at a mastery level of 76-85% with Good (B) qualifications.

Effective Sentence Mastery Grouping Class XI students at SMK Negeri 6 Padang

No	Mastery Level	Qualification	Frequency	Percentage (%)
1.	96-100%	Sempurna	0	0
2.	86-95%	Baik sekali	11	35,48
3.	76-85%	Baik	14	45,16
4.	66-75%	Lebih Dari Cukup	6	19,36
5.	56-65%	Cukup	0	0
6.	46-55%	Hampir Cukup	0	0
7.	36-45%	Kurang	0	0
8.	26-35%	Kurang Sekali	0	0
9.	16-25%	Buruk	0	0
10.	0-15%	Buruk Sekali	0	0
Jumlah			31	100

From the table above, the mastery level is 86-95% with very good qualifications with a total of 11 students (35.48%), the mastery level is 76-85% with good qualifications with a total of 14 students (45.16%), the mastery level is 66-75 % qualified more than enough with the number of students being 6 people (19.36%).

The next step in creating a histogram for qualifying mastery of effective sentences in general can be seen below.



Ability to Write Scientific Work for Class XI Students of SMK Negeri 6 Padang

The ability to write scientific papers for class XI students at SMK Negeri 6 Padang scored 38.88 to 72.22. There were 6 students (19.35%) who got a score of 38.88. There were 6 students (19.35%) who got a score of 44.44. There were 9 students who got a score of 50 (29.03%). There were 9 students who got a score of 55.55 (29.03%). There were 1 students who got a score of 72.22 (3.22%).

Frequency Distribution of Ability to Write Scientific Work for Class XI Students of SMK Negeri 6 Padang

No	X	F	FX
1	38,88	6	233,28
2	44,44	6	266,44

3	50	9	450
4	55,55	9	499,95
5	72,22	1	72,22
		31	1.521,89

Based on the table above, the score for the ability to write scientific papers for class XI students at SMK Negeri 6 Padang is 1,521.89. In accordance with data analysis techniques, the next step is to determine the ability to write scientific papers for class XI students at SMK Negeri 6 Padang based on the arithmetic average. To find out the calculated average, the following formula is used.

$$M = \frac{\sum FX}{N}$$

$$= \frac{1.521,89}{31} = 49,09$$

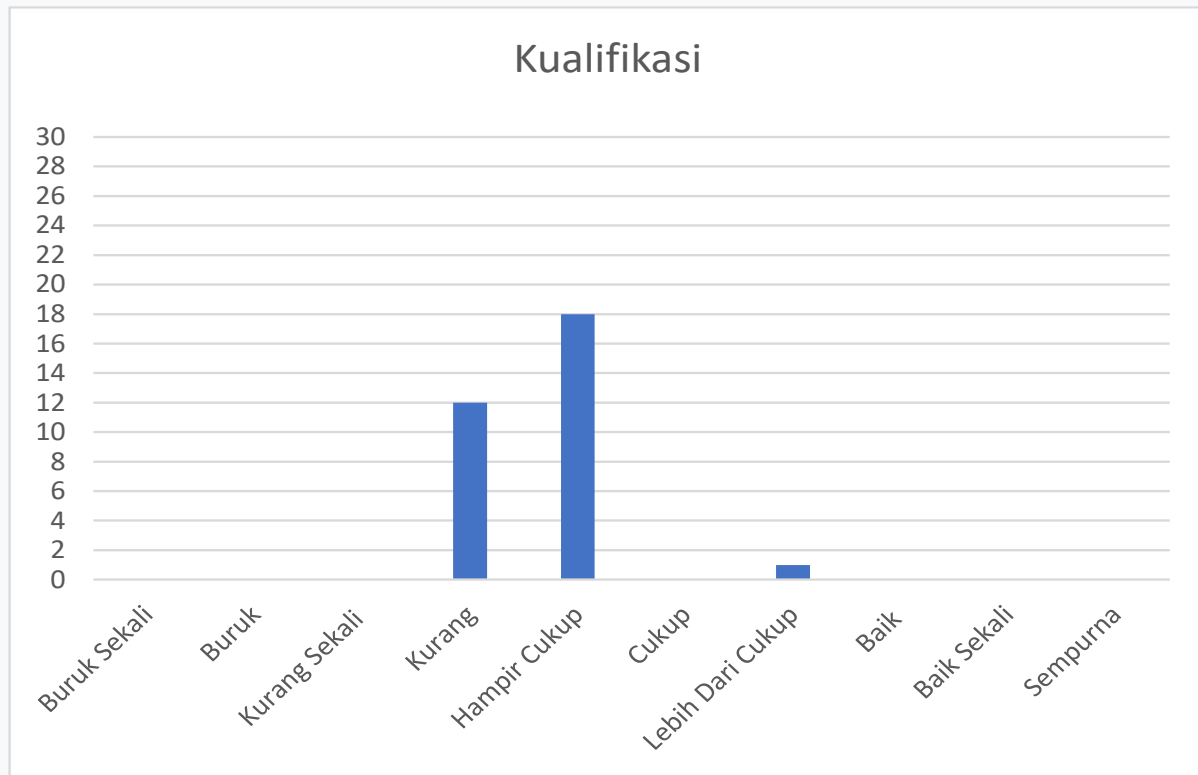
From the data above, the calculated average (M) is 49.09. Based on the calculated average, it can be concluded that the level of ability to write scientific papers for class.

**Classification of Ability to Write Scientific Papers Class XI students at
SMK Negeri 6 Padang**

No	Mastery Level	Qualification	Frequency	Percentage (%)
1.	96-100%	Sempurna	0	0
2.	86-95%	Baik sekali	0	0
3.	76-85%	Baik	0	0
4.	66-75%	Lebih Dari Cukup	1	03,22
5.	56-65%	Cukup	0	0
6.	46-55%	Hampir Cukup	18	58,06
7.	36-45%	Kurang	12	38,71
8.	26-35%	Kurang Sekali	0	0
9.	16-25%	Buruk	0	0
10.	0-15%	Buruk Sekali	0	0
Jumlah			31	100

From the table above, the mastery level of 66-75% is more than adequate with the number of students being 1 (03.22%), the mastery level of 46-55% is almost sufficient with

the number of students being 18 (58.06%), the mastery level is 36-45 % less qualified with 12 students (38.71%).



Test Data Analysis Requirements

The test requirements for data analysis carried out in this research are the normality test and homogeneity test. Test requirements analysis will be explained as follows.

a. Data Normality Test

The data normality test is carried out to find out whether the data is normally distributed or not. The data normality test can be done using the Liliefors test. Based on the normality test carried out, L_0 and L_t were obtained at a significance level of 0.05 as in the following table.

No	Group	Total (N)	Real Level	L_0	L_t	Information
1	Variabel X	31	0,05	0,146	0,159	Berdistribusi Normal
2	Variabel Y	31	0,05	0,152	0,159	Berdistribusi Normal

b. Data Homogeneity Test

The data homogeneity test was carried out to determine whether the two sample groups had homogeneity or not. The homogeneity test is carried out using the formula for comparing the largest variance with the smallest variance as explained in chapter III. Based on the homogeneity test carried out, Fcount and Ftable were obtained at a significance level of 0.05 as in the following table.

No	Group	Total (N)	Real Level	L _o	L _t	Information
1	Variabel X	31	0,05	1,65	1,84	Homogenitas
2	Variabel Y	31	0,05			

c. Hypothesis testing

The relationship between mastery of effective sentences and the ability to write scientific papers in class XI students at SMK Negeri 6 Padang was analyzed using the product moment formula. Data on effective sentence mastery is variable X and data on ability to write scientific papers is variable Y. Both data are entered into the correlational percentage preparation table.

X	Y	X ²	Y ²	XY
83,33	55,55	6943,89	3085,8	4628,98
70	50	4900	2500	3500
86,66	72,22	7509,96	5215,73	6258,59
90	55,55	7509,96	3085,8	4813,96
80	38,88	6400	1511,65	3110,4
86,66	50	7509,96	2500	4333
80	38,88	6400	1511,65	3110,4
80	50	6400	2500	4000
86,66	44,44	7509,96	1974,91	3851,17
76,66	50	5876,76	2500	3833
70	38,88	4900	1511,65	2721,6
90	55,55	8100	3085,8	4999,5
80	55,55	6400	3085,8	4444
70	55,55	4900	3085,8	3888,5
76,66	55,55	5876,76	3085,8	4258,46

93,33	38,88	8710,49	1511,65	3628,67
76,66	44,44	5876,76	1974,91	3406,77
80	50	6400	2500	4000
90	44,44	8100	1974,91	3999,6
80	44,44	6400	1974,91	3555,2
76,66	50	5876,76	2500	3833
70	55,55	4900	3085,8	3888,5
73,33	38,88	5377,29	1511,65	2851,07
80	50	6400	2500	4000
73,33	50	5377,29	2500	3666,5
76,66	44,44	5876,76	1974,91	3406,77
86,66	50	7509,96	2500	4333
83,33	44,44	6943,89	1974,91	3703,19
86,66	50	7509,96	2500	4333
93,33	38,88	8710,49	1511,65	3628,67
90	55,55	8100	3085,8	4999,5
2513,24	1516,54	205.206,9	75821,49	123.985

$$r_{xy} = \frac{N \cdot \sum XY - (\sum X)(\sum Y)}{\sqrt{\{N \sum X^2 - (\sum X)^2\} \{N \sum Y^2 - (\sum Y)^2\}}}$$

$$r_{xy} = \frac{31 \cdot 123.985 - (2513,24)(1516,54)}{\sqrt{\{31 \cdot 205206,9 - (2513,24)^2\} \{31 \cdot 75821,49 - (1516,54)^2\}}}$$

$$= \frac{3.843.535 - 3.811.428,99}{\sqrt{\{6.361.413,9 - 6.136.375,30\} \{2.350.466,19 - 2.299.893,57\}}}$$

$$= \frac{32.106,01}{\sqrt{\{45.038,6\} \{50.572,62\}}}$$

$$= \frac{32.106,01}{47.725,46} = 0,67$$

$$t = \frac{r\sqrt{n-2}}{\sqrt{1-r^2}}$$

$$\begin{aligned}
 t &= \frac{0,67\sqrt{31}-2}{\sqrt{1-(0,67)^2}} \\
 &= \frac{0,67 \times 5,39}{1-0,45} \\
 &= \frac{3,61}{0,55}
 \end{aligned}$$

$$T_{hitung} = 6,56$$

So it can be concluded that H0 is accepted and H1 is rejected because $6.56 > 1.70$. This means that there is a significant relationship between the mastery of effective sentences and the ability to write scientific papers in class XI students at SMK Negeri 6 Padang.

4. CONCLUSION

Based on the data description, data analysis, and discussion regarding the relationship between mastering effective sentences and the ability to write scientific papers for class XI students at SMK Negeri 6 Padang, three things can be concluded as follows. First, the students' mastery of effective sentences in class Second, the ability to write scientific papers of class. Third, there is a significant relationship between mastery of effective sentences and the ability to write scientific papers in class XI students at SMK Negeri 6 Padang. This shows that mastery of sentences effectively influences students in writing scientific papers. This can be seen from the test results which prove that $t_{count} > t_{table}$, namely $6.56 > 1.70$.

5. REFERENCES

- Alfianika, Ninit. (2016). Indonesian Language Teaching Research Methods. Yogyakarta: Deepublish.
- Arifin, Tasai, et al. (2019). Careful Speak Indonesian. Jakarta: Akademika Pressindo
- Barnawi, and M. Arifin. (2016). Technique Writing Scientific Papers. Jogjakarta: Ar-Ruzz Media.
- Dalman. (2014). Writing skills. Raja Grafindo Persada.
- Dalman. (2014). Writing Scientific Papers. Rajawali Pres.
- Dwiloka, Bambang, and Rati Riana. (2005). Techniques for Writing Scientific Work: Theses, Theses, Dissertations, Articles, Papers and Reports. Jakarta: PT. Rineka Cipta.
- Fitri, Rahayu, et al. (2019). Method Language Teaching Research. Padang: STKIP PGRI Sumbar Press.

- Fitriyani, Dwi. (2015). Mastery Effective Sentences and Diction Mastery with Expository Writing Ability in Middle School Students. Charm Journal 1(2): 129-139.
- Sugiyono. (2013). Research methods Quantitative and R&D. Alphabet.
- Suyanto, Edi. (2015). building, Maintaining and Using Indonesian Correctly. Yogyakarta: Graha Ilmu.