

The Use of Flowchart in Improving Students' Ability in Writing Paragraph

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Abstract

This research aimed at finding out the use of flowchart in improving the ability of the fifth semester students of Informatics Engineering Study Program of Cokroaminoto Palopo University to write paragraph and to find out the interest of the students to write paragraph by using flowchart. This research was pre-experimental. Independent variable of the research is using flowchart in writing a paragraph and dependent variable is the ability of students to write a paragraph. The population of the research was the fifth semester students of Informatics Engineering Study Program of Cokroaminoto Palopo University. The sample was one class of the fifth semester students of Informatics Engineering Study Program of Cokroaminoto Palopo University. The result shows that flowchart is effective to use in improving students' ability in writing because there was a significant difference between the progresses in writing of the students who were studying through flowchart and those are not. By flowchart strategy, the students can express their ideas easily without stopping and rushing. It gave them writing power and easy to understand.

Keywords:

students'ability
paragraph
flowchart

Ethical Lingua

Vol. 8, No. 1, 2021

ISSN 2355-3448 (Print)

ISSN 2540-9190 (Online)

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Article's History

Submitted 28 March 2021

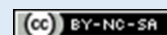
Revised 10 April 2021

Accepted 10 April 2021

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Introduction

There are four skills in language learning that need to be mastered. They are reading, listening, speaking, and writing. Reading and listening are included in receptive skills, while speaking and writing are known as productive skills. Talking about writing as a productive skill, it indicates the ability to express many things such as idea, feeling, opinion, imagination, and knowledge into written form. Nevertheless, to produce good writing result there are many complicated requirements should be included but it actually can be learned. The teacher can help students to be a good writer by applying good teaching technique.

The definition of writing is how to express our mind as the writer on the paper and let another people read it as the reader. Furthermore, According to Lindbolm in Supriandi (2018) that writing is a way of trying and learning to focus our mind on important matters. Someone can find solution of difficult problem by writing activity. This writing process certainly needs more attention on that problem.

Lindbolm in Indrayani (2017) describes that paragraph is a group of sentences. It is composed by expressing one central idea, complete itself, and also subdivision or a part of something larger such as a composition or a chapter in a book. Paragraph is a group of sentences. It means there are some sentences are grouped with one central idea.

According to Crimon in Irwan (2016) paragraph is a group of related sentence which shows one idea or aspect of an idea. A good paragraph not only just state the idea, but also each sentence in it support or extend the central idea. In spite of the paragraph looks short but it is in complete composition form. The basic rule of follow the length of the paragraph you write is making the paragraph long enough to develop its central idea clearly and completely. Do not make a paragraph so long that you do not relate to the central idea becomes repetition and boring.

All in one, flowchart has been around for very long time. Flowcharts can be recognized as a unique quality improvement method. It is recognized as a pictorial representation describing a process being learned or even used to plan stages of a project. The flowchart is the representation of visual about the square of the content of your plan. Programmers use flowchart to plan their programs before write them. A flowchart is a picture to show how to do something. It shows all the necessary steps. When a programmer writes a computer program, it must be very specific. It must include all the steps of a process. A flowchart helps programmers to organize their thinking.

Flowchart is specifically used for a process point. Flowchart tends to provide others with a common language and reference point with dealing with a project. It shows that what comes first, second, next, and so on. as well as what the reader will conduct, if anything, and what will happen when they've conducted it. Complete flowchart organizes the topic, strategy, treatment, and option into form of plan in detail. Flowchart use pictures to symbolize or sign for kinds of work and certain function. It pictures only essential commands and it is effective to design structured programs.

Based on some research findings, students' ability to write paragraph still can not achieve into very good or excellent category. It indicates that teacher help them by writing, like diagram, photograph and pictures, flowchart also be used as one alternative media in writing. Flowchart is specially used to describe chronological order or even and to make planning. It is visual or pictorial representation that is completed by arrows.

It looks that the students are interested to write about something related to their life. Especially if the writing is about students' experience, it will be more interesting. However, the flowchart experience is valuable because the students improve their writing fluency, learning a strategy to start a writing assignment, and studying to say something on any topic. By using flowchart they are able to express their ideas easily to write freely. Flowchart can help students overcome the sense of block. It gives them writing power.

There are several researchers conducted studies related to the ability of students' writing. They are:

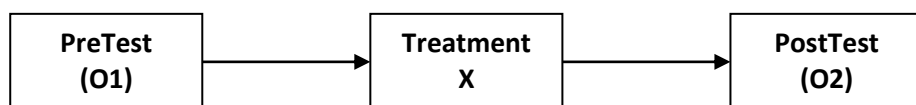
1. Indrayani (2017) concludes that photograph is effective to be used to develop the ability of students' writing because there is a significant difference between the progresses in writing of the students who were though by using photographs. It is seen in the mean sore of pretest 69.97 and posttest 86.3. The result in t-test 13.49.
2. Alam (2016) concludes that the second year students ability in English writing has improved after applying writing materials based on Community Language Learning. It can stimulate the students in learning writing skill. The result can be seen in the mean score of pretest 4.643 and posttest 6.703, with the t-test 8.68.
3. Amin (2017) concludes that using the student's error in teaching the language use aspect of writing is an effective way. The students interested in learning writing through the student's error usage in teaching. The mean score of students' pretest was 6.83 and posttest was 7.55. The result of t-test indicates that the score was 4.13.

All research findings above discuss about writing ability with different methods and the other problems in the students' writing ability. Based on the explanation, the researcher makes conclusion that that the ability of students' writing is still low. The researcher considers that the students still need many exercise and interesting technique to improve the ability of writing.

From the explanation, the research questions of the research are: (1) Is the flowchart effective in improving the ability of the students to write paragraph?,and (2) Are the students interested to use flowchart in writing paragraph?

Method

This study used pre-experimental design. It consisted of one group of pretest (O_1), treatment (X), and posttest (O_2).



(Gay, 2006,225)

The population of was taken from the fifth semester students of Informatics Engineering Study Program of Cokroaminoto Palopo University 2020/2021. The sample of the research was cluster random sampling technique. It means that the researcher chose only one class with 38 students as the sample. It is expected to be more accurate. The researcher used writing test in collecting data. It was pretest and posttest.

The following procedures were conducted in collection data:

- a. Socialization: the researcher socialized about the research.
- b. Pre-test: the students write a paragraph according to the topic that the researcher given.
- c. Treatment: the students were given a treatment for five meetings. In each meeting the students were given materials.
 - 1) The first meeting: the researcher introduced about paragraph.
 - 2) The second meeting: the researcher gave explanation about flowchart.

- 3) The second meeting until the fifth meeting: make a paragraph according to material that the researcher given for students.
- d. Posttest: there was posttest conducted to find out the progress of students..
The researcher observed only one aspect in writing. The aspect observed was content. This is adapted from Indrayani (2017):

Content Classification

Table.1. Content Classification

Classification	Score	Criteria
Excellent - very good	100-84	Knowledge, experience, suitable substance, fluent expression, ideas clearly stated.
Good - average	83-68	Some knowledge and experience of subject, advantage range.
Fair – poor	67-51	Restricted knowledge and experience of subject, few of substance.
Very Poor	50-34	No knowledge and experience of subject, no substance.

(Heaton, J. B: 1984)

Scoring Classification

Table.2. Rank of Scoring

No	Classification	Range of Score
1.	Excellent - very good	100-84
2.	Good - average	83-68
3.	Fair - poor	67-51
4.	Very Poor	50-34

(Heaton, J. B: 1984)

1. To find out the mean score, the formula was:

$$\bar{X} = \frac{\sum x}{N}$$

Where:

\bar{X} : Mean score

$\sum X$: Sum of all scores

N : Number of students

(Gay, 2006: 361)

Results

Total Score of Students' Pretest and Posttest

The data about the scores of the students is shown in table below:

Table.3. Frequency and Rate Percentage from the Students' Score in the PreTest

No.	Classification	Range	Pre-test	
			Frequency	Percentage
1.	Excellent to very good	100-84	-	-
2.	Good to average	83-68	1	2.63%
3.	Fair to poor	67-51	6	15.79%
4.	Very Poor	50-34	31	81.68%
Total			38	100%

The table 3 indicates that, there was only 1 (2.63%) students' score classified as good to average, 6 (15.79%) students' score classified as fair to poor and 31 (61.68%) students' score was very poor. The mean score of the students' ability in writing paragraph for pre-test was 43.47. In this case, the researcher gives conclusion that, students are still low and can not write. It means that, the ability of writing still low. The researcher saw that the students still need to get exercises and interesting technique to improve their ability of writing.

After implementing the strategy, the ability of the students can develop significance. The data can be seen in table below:

Table.4. Frequency and Rate Percentage of the Students' Score in the PostTest

No.	Classification	Range	Post-test	
			Frequency	Percentage
1.	Excellent to very good	100-84	3	7.89%
2.	Good to average	83-68	7	18.42%
3.	Fair to poor	67-51	18	47.37%
4.	Very Poor	50-34	10	26.32%
Total			38	100%

The table 4 indicates that, 3 (7.89%) students' score are classified as excellent to very good, 7 (18.24%) students' score classified as good to average, 18 (47.37%) students' score classified as fair to poor, and 10 (26.32%) students' score classified as very poor. Mean score in the posttest was 59.74

From the data, the researcher can conclude that before treatment, the students' writing ability was 43.43, which is classified as very poor. After the treatment was given, the students' ability increased to 59.74, which is as fair classification. It was proved that there is a significant difference between the result of pretest and posttest.

Mean Score and Standard Deviation

The result of mean score and standard deviation can be seen in the table below:

Table.5. Mean Score and Standard Deviation

Test	Mean Score	Standard Deviation
Pretest	43.47	2.15
Posttest	59.74	2.04

Table 5 shows the summary of the students' mean score and SD in both of pretest and posttest. The mean score of the students' pretest is 43.47 categorized as poor with SD 2.15 and the mean score of the students' posttest 59.74 categorized as fair with SD 2.04.

Test Significance

The table below shows the t-test calculation result:

Table.6. T-Test Calculation

Variable	T-test value	T-table value
X1 – X2	9.70	3.053

Table 6 indicates the value of t-test is higher than the value of t-table (T-test value > T-table value). It shows a significant difference between the results of students' pretest and posttest.

Discussion

After applying the flowchart, the researcher found that it was very effective in teaching writing skill particularly writing paragraph. During the application process of treatment, the researcher showed that the students were very interested to the material that the researcher presented. It can attract the students' attention in learning process especially in writing paragraph.

From the data it shows that the students' ability in writing developed. It can be seen from the frequency and rate percentage of the result of the students' pretest and posttest. In pretest the students' writing ability before being taught by using flowchart in the treatment was found that there is no student in excellent score and the posttest the researcher finds 3 (7.89%) students in excellent to very good and 7 (18.42%) students in good to average. In pre-test there are 18 (40%) students in fair to poor score and there are 27 (60%) students in very poor score.

Then in the posttest there is 1 (2.63%) student in good to average and there are 6 (15.79%) students in fair to poor and 31 (81.68%) students in very poor. The result of data analysis above showed that there was a significant students' writing ability after applying the treatment by using flowchart. This statement was supported by the students' post-test result.

Then it can be determined that the writing ability of the students increased during the treatment. It means that the students got the materials during the treatment. There was improvement of students' writing ability in five meetings. The students got improvement for each meeting. By looking at the comparison, the researcher can conclude that there is development of the ability of students in writing after they got treatment of materials.

Conclusion

From the result of the research, the researcher puts forward some conclusions that Flowchart is effective to use in improving students' ability in writing because there is a significant difference between the progresses in writing of the students studying through flowchart and those are not. By flowchart strategy, the students can express their ideas easily without stopping and rushing. It gave them writing power and easy to understand. They are interested to write by using flowchart. The result is proven that there is significant difference between the result of students' pretest and posttest by the value of t-test is greater than the value of t-table ($T_{\text{test value}} (9.70) > T_{\text{table value}} (3.053)$).

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