

The Effect of Jigsaw to Students' Skill in Writing Procedure Text

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Abstract—This research aimed to find out the significant effect of Jigsaw on the students' writing procedure text skill of Yayasan Perguruan Asahan SMK Bisnis dan Manajemen Asahan Kisaran in academic year 2016/2017. This study was conducted in experimental design, namely to find out the The Effect of the use jigsaw to students' skill in writing procedure text of Yayasan Perguruan Asahan SMK Bisnis dan Manajemen Asahan Kisaran in academic year 2016/2017. The population of this research will be taken from the grade X student of Yayasan Perguruan Asahan SMK Bisnis dan Manajemen Asahan Kisaran. X AP class as the experimental group and the X AK class as the control group. It was found the data of that the highest score is 90 and 80 (dominant; 25 students). If it can be compared in the post-test of control class, the dominant score are 70 and 60 (23 students). The treatment given to the experimental class is to provide jigsaw model, have a significant effect on students' skill in writing the text. The conclusions of students' ability to write text, the results of the t-test was higher in the t-table level of 0.05 and 0.01 ($6.45 > 2.00$ and $6.45 > 2.66$), and this very effectively applied in the understanding of students' writing.

Keywords: Procedure Text, Writing Skill, Jigsaw

1. INTRODUCTION

There were some researchs in writing the procedural text, the researchers focus on the strategy, the procedural text, the discussion based on the pictures demonstrations, and video media to the students because they thought that the topics were so interesting and so easy to discuss. If they did the researchs, the researchers just saw their students development of their writing from the strategy which they have had applied in learning-teaching.

In the previous research, the researcher was interested in the video because they thought that it was so interesting to all students, but they would not focus on the Teaching-Learning Plannings (RPP). So it was better video as the alternative media to teach the writing skill so that the materials would be transferred to the students so that they will be able to discuss to their friends in the group. From the researchs above, the author was interested and had a challenge to do this research about the Jigsaw's model in writing the procedure texts because the Jigsaw's model is given us to make the students in a few groups

Writing is one of four basic skills in a language which is used any situation either in formal or informal situation (Cole & Feng, 2015; Prawati, Susilawati, Education, Program, & Training, n.d.; Profile, 2018; Ruswinarsih, 2015; Tarbiyah, 2015). Everyday we read or see writing form from simple up to complex, such as letter, paragraph, diary, newspaper, etc, all of them use writing skill. By writing, people can express their knowledge, message, feeling, and give ideas and opinion to the form the letters and to convey them to the readers. Thus we can conclude that writing is very important to communicate the efficiency. Writing skill can be helpfully in variety of situation where it is the one of making the meaning of experience for us and others. Writing is a process of transforming thought and ideas, into a written form. There are several types of writing such as *Procedure, Narrative, Descriptive, Recount, Explanation, Discussion, Exposition, News Item, Report, Anecdote* (Cole & Feng, 2015; Prawati et al., n.d.; Profile, 2018; Ruswinarsih, 2015; Tarbiyah, 2015). The existing materials make the students trained and learnt the difficult new expressions when the teachers explained the technique of writings to consume the the students. (Buckingham, 2008; Bukhari, 2016; Journal, June, Author, Reserved, & Development, 2014; Whiteley & McIntosh, 2007). The teachers' techniques in teaching writing which are not varied and are not interesting can also cause difficulties for the students to learn how to write a piece of writing, explain that there are some problems faced by EFL teachers in writing instruction. First of all is the problem of teaching the less proficient writers who tend to use the useless strategies of writing. In this case, the teachers should give more attention to them to show them how to plan and produce a piece of writing. The second problem is dealing with the teacher's response.

In writing, and real writing (Air, 2015; Dijk & Mwihaki, 2004; Latief, 2009; Murphy & Smalzer, n.d.; Nimit Patel et al., 2016, 2016, 2016, "No Title," 2013, "TEACHING WRITING OF PROCEDURAL TEXT AT SECOND GRADE STUDENTS OF SMA Anggun Kemala Sari, Patuan Raja, Muhammad Sukirlan Writing is commonly defined as the act of communicating ideas into written form by using knowledge of the language. Writing also invo," n.d.; Şahin, 2011; Shieber, 2013; Sitohang & Purnawarman, 2015; Smith, 2000; Stabler, 2008; UNC Charlotte, n.d.; Untan, 2014; Zahra, 2014). Practically can be done to the students that there are only two text elements on the type of procedure; *Topic+Statement of purpose ^Sequence of steps to accomplish the job* (Şahin, 2011; Untan, 2014; Zahra, 2014). In relation to writing activities, Brown (2001) says classifies the classroom writing performance into five categories: imitative writing or writing down, intensive writing or controlled writing, self-writing, display writing, and real writing. In imitative writing the students simply "write down" English letters, words and possibly sentences in order to learn the convention of writing. Intensive or controlled writing is the writing activity that does not allow much creativity on the part of learner. This type of writing is used as a production mode for learning reinforcing, or testing grammatical concepts and typically appears in controlled, written grammar exercises. In self-writing, the students are doing writing activities for the self-purpose as an

audience. The example of this category in classroom is note-taking, where students take note during a lecture for the purpose of a later recall. Meanwhile, the students are doing display writing activity when the writing activity is intended to display the result of the writing. In real writing, the writing activity is aimed at creating the genuine communication of message to an audience in need of those message.

There are ten easy steps of jigsaw: 1) First, it students into 5 or 6 students in jigsaw groups. The groups should be different in terms of gender, ethnicity, race, and ability. 2) Second, appoint one student from each group as the leader. Initially, this person should be the most mature student in the group. 3) Third, divide the day's lesson into 5-6 segments. For example, if you want history students to learn about Eleanor Roosevelt, you might divide a short biography of her into stand-alone segments on: (a) Her childhood, (b) Her family life with Franklin and their children, (c) Her life after Franklin contracted polio, (d) Her work in the White House as First Lady, and (e) Her life and work after Franklin's death. 4) Step Four, assign each student to learn one segment (Şahin, 2011; Untan, 2014; Zahra, 2014). The hypothesis is a statement about the relationship between two or more variables. A hypothesis is a specific testable prediction about what you expect to happen in your study. The writer makes the hypothesis: H_a : There is a significant effect of jigsaw to students' skill in writing procedure text and H_o : There is no significant effect of jigsaw to students' skill in writing procedure text.

The students' ability at Yayasan Perguruan Asahan SMK Asahan Bisnis dan Manajemen Asahan Kisaran in language skills especially in writing is still insufficient. Their writings have many mistakes in terms of content, organization, and language use. The students do not have enough vocabularies so that they cannot respond to teacher's instruction; they just wait until their teacher translates the instruction into Indonesian. It relates to Indonesian culture that does not accustom to write earlier. Indonesian people tend to more express their idea orally than written.

Writing, actually, can be an interesting activity if the teacher can create interesting learning processes and challenging activities. Writing encourages thinking and learning, for it motivates communication and makes thoughts available for reflection. When ideas are written down, they can be examined, reviewed, added, rearranged, or even changed. Even though writing in foreign language is difficult or poses some difficulties, it is useful and also important to do. It is an enjoyable part of the foreign language lesson, as provides students a space to express their personalities. Referring to the benefit of implementing a new strategy in writing class, this research will be implementing the use jigsaw to students' skill in writing procedure text at Yayasan Perguruan Asahan SMK Bisnis dan Manajemen Asahan Kisaran. This research is focused on the students' procedure writing. Procedure writing is a significant lesson in the grade X. It states that writing competence standard of second semester of grade X of Senior High School is expressing the meaning of functional written text and short essay in the form of descriptive and procedure to interact in the daily life context.

2. METHODOLOGY

This study was conducted in experimental design, namely to find out the effect of jigsaw to students' skill in writing procedure text at Yayasan Perguruan Asahan SMK Bisnis dan Manajemen Asahan Kisaran in school year 2016/2017. There are two groups of students, namely control group and experimental group. The experimental group will be taught by using jigsaw and control group will be taught conventionally. Both groups are given pre-test and post-test. The design was as follows:

Table 1. procedure of experiment in control and experimental group

Group	Types	Experiment	Types
Experimental Group	Pre-test	X	Post-test
Control Group	Pre-test	Y	Post-test

Source: Arikunto, 2006

Where : X : Using jigsaw

Y : Using Conventional Way

A population is a set collection of all people, which is research in certain: the object of our research can be of very large population. The population of this research will be taken from the grade X of Yayasan Perguruan Asahan SMK Bisnis dan Manajemen Asahan Kisaran. In this research the number of the grade X is 120 students, consist of four parallel classes, with 30 students of each class.

2.1 Instrument of Collecting Data

In this research, the writer used a test method as the instrument. Test is a set of questions or other practice or device used to measure the skill, intelligence, ability and talent of an individual or a group. The type of test used here was achievement test. To get the empirical data of the students' mastery in writing, the research administered essay Test. **Pre-test.** Pre test is conducted to find out the students' mastery in writing skill before having experiment. The pre

test was given to the group and their tasks will be scored. The result of the pre-test was considered as the preliminary data. **Treatment.** The experiment was conducted after the administration of pre-test. There are two experiment conducted in this research. The experimental group was taught by using writing in jigsaw and the control group was taught conventionally. **Post-test.** The post-test was administrated to measure the students' competence after the treatment. Then the data taken from the test was compared and analyzed. The test for the post-test is the same(Dtu, 2015; Levy & Ellis, 2011; Systems & Matotek, 2012).

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2.2 Techniques for Collecting Data

In this part, the researcher has the techniques for collecting data, namely: the researcher firstly comes to the school to ask about the students from the grade X of Yayasan Perguruan Asahan SMK Bisnis dan Manajemen Asahan Kisaran. after that, the students are done *pre-test* before they have gotten the treatment and they are also divided in Conventional class and Treatment Class to know more deeply about the Jigsaw's effect. After finishing the *teratment*, they still have *post-test* to know the results of research.

2.3 Validity and Reliability of the test

Validity of the test

The instrument is said to be valid if the instrument is used to measure what intends to measure (Sukardi:2003). It can be said that writing test conducted by using grammar test measured the writing knowledge. Focus on the level of students' knowledge.

The formula to measure validity test (Arikunto:2011):

$$r = \frac{n(\sum XY) - (\sum X)(\sum Y)}{\sqrt{(n \sum X^2 - (\sum X)^2)(n \sum Y^2 - (\sum Y)^2)}} \quad (1)$$

Reliability of the test

A research instrument is said a high reliability value, if the test are made to have a consistent outcome measure to be measured or the result be produced consistently (Sukardi:2003). The formula to measure reliability test (the formula of Spearman-Brown in Arikunto:2011): $r_{11} = \frac{2r}{1+r}$

2.4 Technique of Data Analysis

A test is valid if it measure what is purposed to measure. Firstly, measure the test with the validity and reliability test according the formulas above, and then measure with t-test is the most commonly used method to evaluate the differences in means between two groups. For example, the t-test can be used even if the sample sizes are very small, as long as the variables are normally distributed within each group and the variation of scores in the two groups are not reliably different.

The groups were epected through chance alone under a true null hypothesis. The data analyzed by applying t-test, finally, the significant of the sum, the t-test and t-table was compared with the deegree of freedom (df) of the test, the t-test as follow (Arikunto,2006)

$$t = \frac{M_x - M_y}{\sqrt{\left(\frac{\sum x^2 + \sum y^2}{N_x + N_y - 2}\right)\left(\frac{1}{N_x} + \frac{1}{N_y}\right)}} \quad (2)$$

Where :
M_x = Mean of experimental group
M_y = Mean of control group
X² = The deviation score of experimental group
Y² = The devation score of control group
N_x = The total sample of experimental group
N_y = The total sample of control group

2.5 Data Analysis

This study was conducted in experimental design, namely to find out the effect of jigsaw to students' skill in writing procedure text at Yayasan Perguruan Asahan SMK Bisnis dan Manajemen Asahan Kisaran in school year 2016/2017. There are two groups of students, namely control group and experimental group. The experimental group will be taught by using jigsaw and control group will be taught conventionally.

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3. RESULTS AND DISCUSSIONS

3.1 Results

Table 2. The Criteria of the Marks

NO	Marks	The criteria
1	85-100	Very good
2	70-84	Good
3	60-69	Enough
4	50-59	Low
5	0-49	Very Low

The results of *Pre-Test* of *Control Class* are 70 (there are 15 persons or students), 60 (there are 8 persons or students), 50 (there are 5 persons or students), and 80 (there are only 2 persons or students). Then the results of *Post-Test* of *Control Class* are 70 (there are 15 students), 60 (there are 8 students), 50 (there are 5 students), and 80 (there are only 2 students).

The results of *Pre-Test* of *Experimental Class* are 60 (there are 14 persons or students), 70 (there are 9 persons or students), 80 (there are 4 persons or students), and 50 (there are only 3 persons or students). Then the results of *Post-Test* of *Control Class* are 80 (there are 16 persons or students), 90 (there are 9 persons or students), 70 (there are 3 persons or students), and 60 (there are only 2 persons or students).

The highest learning outcomes of students is 80 and the lowest is 50, and differs from the experimental class. Class control of learning is given only in the conventional. In this *Control Class*, there are no treatment or special action either the *Pre-Test* or the *Post-Test*. So the score of writing skill test did not get the change so significant. The researcher just used the conventional method in teaching the students. it can be seen the score from this table below:

Table 3. The Result of the Pre-test and Post-test and X Value of the Control Group

NO	SCORE		$T_2 - T_1$ (X)
	PRE-TEST (T_1)	POST-TEST (T_2)	
1	60	70	10
2	60	70	10
3	70	70	0
4	60	70	10
5	60	70	10
6	50	50	0
7	50	60	10
8	50	80	30
9	50	70	20
10	40	60	20
11	50	50	0
12	50	70	20
13	40	60	20
14	60	70	10
15	60	70	10
16	50	70	20
17	40	70	30
18	60	80	20
19	50	50	0
20	50	60	10

NO	SCORE		$T_2 - T_1$ (X)
	PRE-TEST (T_1)	POST-TEST (T_2)	
21	40	50	10
22	40	50	10
23	60	60	0
24	60	70	10
25	50	60	10
26	50	60	10
27	50	60	10
28	60	70	10
29	60	70	10
30	50	70	20
TOTAL			360

The highest value is 90 and the lowest is 60. Data taken from the test result after jigsaw models is given. After the treatment is given, it can be seen there is an increase in student learning outcomes. In this *Experimental Class*, the students' scores are not same and it can change or it perhaps higher score before doing the treatment. It can be seen that before doing the treatment, most of the students got the score only 60 and after doing the treatment, the scores had gotten the change, *the post-test* scores are dominant in 80 and 90. In the *Pre-Test*, there are a few students who got the score 50 and there are a few students who got 80. It can be seen from the table below:

Table 4. The Result of the pre-test and post-test and X value of the Experimental Class

NO	SCORE		$T_2 - T_1$ (X)
	PRE-TEST (T_1)	POST-TEST (T_2)	
1	80	90	10
2	80	90	10
3	70	80	10
4	60	80	20
5	60	70	10
6	70	80	10
7	70	80	10
8	60	80	20
9	60	80	20
10	70	90	20
11	60	60	0
12	60	90	30
13	70	80	10
14	70	80	10
15	60	80	20
16	60	90	30
17	60	90	30
18	80	80	0
19	50	60	10
20	70	80	10
21	60	80	20
22	50	80	30
23	70	90	20
24	50	90	40
25	80	80	0
26	60	70	10
27	60	70	10
28	60	90	30
29	70	80	10
30	60	80	20

TOTAL	380
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3.2 Discussions

After assessing the post-test result from experimental classes and control classes, the next step is the analysis. In the first step, students's scores are calculate with different tables, in accordance with their respective classes. Furthermore, students calculated the total score, and the sum of squares of each test. The next step, the final data were analyzed using students t-test (t) formula.

The result showed that the average students in the experimental class is 80,6, and the average value of the control class is 64,6. This suggests that there are differences in outcomes scores of students in the control class and experimental class.

Meanwhile, to find out whether or not the influence of Jigsaw, research to test the hypothesis with the t test analysis of differences in average test score of the control class and experimental class at a significant level of 0.05 (95%), provided that if t count greater than the t-table, so Ho is rejected, otherwise accepted Ha. Based on t test result indicate that learning is Jigsaw is one effective method as an approach in writing. The result of these findings has been demonstrated from the result of t-test. T- test value is higher than the value of t-tables for both the significance level. (6,45 > 2.00 and 6,45 > 2.66). The highest learning outcomes of students is 80 and the lowest is 50, and differs from the experimental class. Class control of learning is given only in the conventional. The above result can be seen there is a difference between experimental classes and control classes, because the learning outcomes of students in lower grade control. the highest value is 90 and the lowest is 60. Data taken from the test result after jigsaw models is given. After the treatment is given, it can be seen there is an increase in student learning outcomes. Based on the data above, it can be seen there are differences in students' scores. Students who learn to use jigsaw of learning (experimental class) got better result compared with conventionally taught classes (Class control).

So based on data analysis, followed by testing the hypothesis, it was found that the treatment given to the experimental class is to provide jigsaw model, have a significant effect on students' skills in writing the text. Furthermore, based on the above table, the data are analyzed to prove the presence or absence of the influence of using jigsaw with students' ability to write text. To test the hypothesis of the students in control class and experimental class at the significant level of 0,05.

Based on the above table, then :

- $\bar{X} = 80,6$
- $\bar{Y} = 64,6$
- $\sum X^2 = 3266,8$
- $\sum Y^2 = 1880$
- $NX = 30$
- $NY = 30$

$$t = \frac{M_x - M_y}{\sqrt{\left(\frac{\sum x^2 + \sum y^2}{N_x + N_y - 2}\right) \left(\frac{1}{N_x} + \frac{1}{N_y}\right)}}$$

$$t = \frac{80,6 - 64,6}{\sqrt{\left\{\frac{3266,8 + 1880}{30 + 30 - 2}\right\} \left(\frac{1}{30} + \frac{1}{30}\right)}}$$

$$t = \frac{16}{\sqrt{\left(\frac{5146,8}{58}\right) \left(\frac{2}{30}\right)}}$$

$$t = \frac{16}{\sqrt{(88,7)(0,07)}}$$

$$t = \frac{16}{\sqrt{6,20}}$$

$$t = \frac{16}{2,48}$$

$$t = 6,45$$

After obtaining the value of the t-test is 6,45 ,the authors consult the *t-table* at level 0.05 (5%) and significant level of 0.01 (1%). The value of the *t-table* at level 5% is 2.00 and the 1% level is 2.66. This means that the t-test value is higher than the value of both those levels.

So based on data analysis, followed by testing the hypothesis, it was found that the treatment given to the experimental class is to provide jigsaw model, have a significant effect on students' skills in writing the text.

This means that the result of the experimental class is better than the control class. This suggests that learning *jigsaw* is one effective method as an approach to the writing skills in writing. The result of these findings has been demonstrated from the result of t-test. T-test value is higher than the value of t-tables for both the significance level. ($6.45 > 2.00$ and $6.45 > 2.66$). So if the Indonesian students are studying English language especially in writing, they are suggested to use the *Jigsaw* method to study the *writing skill* because the method has proved and many students in the world have learnt this method especially in Indonesia.

In writing the procedure texts, the method of *Jigsaw* is so effective for the students in learning-teaching because Learning *jigsaw* model begins with an introduction to the topic that will be discussed by the teachers. Teacher usually write topics will be studied on the board, white board, serving power point and so on. The teachers asks the students what they know about the topic brainstorming activity is intended to activate schemata or cognitive structure of students to be better prepared to face the new lesson activities.

Furthermore, teachers divide the class into smaller groups The number of groups depends on the number of concepts contained in the topic being studied. Eg this topic consists of a heuristic concept, criticism, interpretation, and historiography, then divided into four groups. If in one class there are 40 people, each group consisting of 10 people. The fourth group is the group heuristic, critique groups, group interpretation, and group historiography. These groups are called home teams.

After the original group, shaped, teachers textual material distributed to each group. Every person in every group responsible for studying the textual material received from the teacher. Heuristic group will receive textual material from teachers about heuristics. Each person has a responsibility heuristic examines in depth the concept. Similarly critique group, each person in the group to explore the concept of criticism and so on.

The next session, forming expert teams (group of experts). The number of expert groups constants 4. Each expert group have 10 members from each group of origin. Because the number of members of each group home is 10 people, the most important is in every group there are members of the group of experts of different origins, In one group there are members of the group of experts heuristics, criticism, interpretation, and historiography.

In the *jigsaw* learning, all members of the need group work together to complete the task. There should not be one completed until told to members of the group is completed. Tasks or activities should be designed in such a way. So that each member does not finish his part but work together to accomplish a single product together. *Jigsaw* should heterogenous learning groups. Is the helping once it starts to organize a group such that there is a balance between the ability within and among the top group. You may also willing to consider other variables when creating a balanced group. *Jigsaw* learning activities should be designed in such a way that every students contribution to the group can be assessed on the basis of performance. This can be done either by providing an important role to accomplish the task or activity on each member. Whenever the input should be collected from all members of the group, no one should go away as they wish. Team *jigsaw* learning need to know the academic and social goals of lesson. Students need to know what is expected of them in learning a lesson and how they are expected to work together to complete the study. Students need to processes or to think or talk about how they work on the basis of social skills and evaluation extent to which the group works together meet academic goals. Social skills is not an automated known by students, so these skills should be taught.

4. CONCLUSIONS

This study can be concluded that by using *jigsaw* in teaching has a significant influence on students' ability to write the *procedure text* because the students have low writing skill before they got the treatment. It can be seen from the result of the t-test was higher in the t-table level of 0.05 and 0.01 ($6.45 > 2.00$ and $6.45 > 2.66$), and it is very effectively in teaching the procedure text at grade X of Yayasan Perguruan Asahan SMK Bisnis dan Manajemen Asahan Kisaran. From the previous explanation or elaboration that the *Jigsaw's* method in writing skill teaching has gotten the significant score in learning the writing skill.

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