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The Effect of Using Jigsaw Technique on Students' Vocabulary Ability at Smp Swasta Kartika 1-2 Medan

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Abstract

The title of this research is The Effect of Using Jigsaw Technique On Students' Vocabulary Ability. This research aimed to know how the effect of using jigsaw technique on students's vocabulary ability at SMP Kartika 1-2 Medan. In this research, the subjects of this research were VII-1 and VII-2's class with 62 students, VII-1 consist of 31 students called an experimental group and VII-2 consist of 31 students called a control group. This research was a quantitative research. The mean score of the pre test in experimental group was 39,45, the mean score of the post test was 75,90, the mean score of the pre test in control group was 53,41 and the mean score of the post test was 53,93. It concluded that using jigsaw technique is effective and significantly effect to improved students' vocabulary ability. It proved by the obtained score of T-test, the T-test showed that T-observe was higher than T-table (25,53 > 0,05). It meant that Ha was accepted and H0 was rejected.

Key word : Effect, Jigsaw Technique, Vocabulary Ability

Introduction

In this study, the writers want to identify "does the jigsaw technique significantly affect the students' scores in vocabulary ability?" and the objective of this study is to know the significantly affect using or not using jigsaw technique in students' scores in vocabulary ability.

Everyone should learn about language, as we know language is a system of communication consisting of sounds, words, grammar, or the system of communication used by people in a particular country. In Indonesia, we have *bahasa*

as a national language and also we have our mother tongue which is from our culture or our traditional language, but that is not enough. We should learn many more owned language by other countries especially English, because we have already know that English is one of the most popular language in the world.

English is an international language which has been used by countries all over the world. Every people in the world used English as a linked in trade, science, business, politics, education and more. That's why we should learn about English to give a good effect to ourself and also our country. According to Gage (1984) learning is process in which an organism changes it's behavior as a result of experience. Learn experience in the life of a person to do something or take an action is a result of the learning process. Purwanto (2011), stating that the learning process is a unique and complex process. This uniqueness for learning outcomes occur only in people who learn not to others. The people have the potential behavior that can be formed and changed behavior, the area includes cognitive, affective and psychomotor. cause learning behavior changes in the three areas of the test results is a change in behavior in the field of cognitive, affective and psychomotor.

In learning English, we as a learners have to master four main abilities but fourth main abilities are difficult to master by the learners if they do not apply with sub abilities. Generally, English has two abilities that are called main skills and sub skills. Main skills consist of speaking, writing, listening and reading. Sub skills consist of grammar, pronunciation, and vocabulary. From the explanations above, we do not only focused on main skills but firstly, we should concern on sub skills such as grammar, pronunciation, and vocabulary because they are very important things before you learning English. The writers find that the scope of this study is to determine how students use the sub skill especially vocabulary skill to develop their vocabulary.

Vocabulary is a sub skill and also the first basic important aspect to learning English. According to Rivers as cited in Nunan (1991: 117) vocabulary is essential for succesful second language use because, without an extensive vocabulary, the learners will be unable to the structures and functions we may have learned for comprehensible communication. So in this paper, the writers will use the Jigsaw Technique to know how the impact or how the effect of this technique to develop students' vocabulary ability.

According to Aronson (2000) Jigsaw is a technique used in cooperative learning. Jigsaw is a technique is an excellent structure for combining learning

partnership into groups or teams (Kagan in walker, 1998:382). Jigsaw relies on highly structuring the interaction among students, both in their teams and in their groups, to create interdependence and intrinsically interesting learning tasks (Kagan, 1992 : 17). Previous research is from Journal Yohanes.P (2018), many benefits of using jigsaw technique in the classroom, jigsaw can build a trust between each other, jigsaw can give some respectful and make a space for taking emotional risk, and jigsaw has to more efficient.

This study is important for students because using jigsaw technique will maximize students' vocabulary ability in learning, and for teacher may be helful to be employed in his/her teaching practice. It can be one of choises to do in the classroom. In this study, the writers only focus on vocabulary skill because based on our observation before, we found that many students have lack of vocabulary, as what we saw before, they were difficult to understand about the vocabularies in their daily activities, vocabularies in profession, how to translate the words, how to know the meaning of words, how to write a text, how to speak well and also many easy vocabularies that in fact they should know about them before.

Therefore, the writers intend to conduct a research using experimental study on a playing jigsaw technique in teaching learning process to know how the effect of students' vocabulary abilty. Thereby, the title of this research is "The Effect Of Using Jigsaw Technique On Students' Vocabulary Ability.

Research Methodology

From this research, writers wanted to know how significantly affect using jigsaw technique for students' scores in vocabulary. Writers used "experimental" as a method. Experimental used to find out the effect of treatment. The approach used in this research is quantitative. This study used design of pre test and post test. The design of the experiment was described as follow :

No	Group	Type	Treatment	Type
1	Experimental	X1	*	**X2**
2	**Control**	**Z2**	**-**	**Z2**

Where :

E :Experimental group

C : Control group
X1 : Pre test of the experimental
X1 : Pre test of the control
Z2 : Post test of the experimental
* : Using jgsaw technique
- : Without using jigsaw technique

The research took place in SMP Kartika 1-2 Medan, where is located on Jl. Brigjend H.A.Manaf Lubis, Helvetia Tengah, Kec.Medan Helvetia, is purposively selected as the research setting because it is reachable for researchers to conduct the research. The subject was students of seven grade at SMP Kartika 1-2 Medan. There are 62 students of seven grade. The writers took two classes as sample for the research, that are VII-1 and VII-2 . So, every class has the same right to be a sample.

Method of collecting data

Data collection is an important step in the research process. The instrument you choose to collect the data will depend on the type of data you plan on collecting (qualitative or quantitative) and how you plan to collect it.

In this research, the data collecting method was administering test that consist of pres-test and post-test.

Pre test

Before applying the jigsaw technique, the researcher take data by pre test in experimental group and control group. The pre test is use to mean sure homogeinity before getting treatment. A pre test can be used to weed out participants who may not succed in a class, to determine class content, or to set pre requisite skilss. A pre test most valuable when participants have partial knowledge of a subject.

Treatment

In an experiment, the factor (also called an independent variable) is an explanatory variable manipulated by the experimenter. Each factor has two or more levels.

The experimental group teach by used jigsaw teaching strategy while the control group will be teach without using jigsaw teaching strategy. Treatments will be given for several meeting.

Post test

A post test is test given to training participants after the instruction is presented or completed. After the students had treatment on learning vocabulary through jigsaw, the writers give them post-test to meansure their vocabulary ability by using jigsaw technique. Using pre tets and post test can show the percentage of knowledge gained.

Instrument of the research

is the general term that researchers use for a measurement device (survey, test, questionnaire, etc.). To help distinguish between instrument and instrumentation, consider that the instrument is the device and instrumentation is the course of action (the process of developing, testing, and using the device).

In this research, writers designed the instrument was in the form of essay. The

instrument consisted of ten questions. The pre test and post test were use to find students' vocabulary scores of both experimental and control group.

Validity and Reliability

Validity

Validity is a size showing steps of validity or originality an instrument. The concept of validity that concerned with meaning and interpretation. The instrument said valid when able to mean sure what desire. The validity must show that a test represent all the objectives of material that obtain by student. Validity is important becaue it can help determine what types of test to use and help to make sure researchers are using methods that are not only ethical but also a method that truly measures the idea or constructs in question. SPSS 23 will be used to test validity.

Reliability

According to Arikunto (2010:221) Test the reliability means that a test is consistent, the test will define as the consistency of the test score. Test reliability use the same formula product moment same with formula of validity. Realibility can be determined statistically by calculating the correlation coefficient. Reliability can be determined statistically by calculating the correlation coefficient. If a test is reliable it should show a high positive correlation between repeat scores. If you use three replicate samples for each manipulation, and one generates completely different results from the others, there is likely something wrong with the experiment. For most experiments of natural phenomena, results follow a normal distribution and there is always a chance that your sample group produces results at one of the extremes. Using multiple sample groups will smooth out these extremes and generate a more accurate spread of results. But if your results continue to be wildly different, then there is likely something wrong with the design itself. In this case, the entire experiment is *externally* unreliable. SPSS 23 will be used to test reliability.

Data analysis technique

Normality

Normality is a test when the distribution of data is normal or not. Used to determine if a data set is well-modeled by a normal distribution and to compute how likely it is for a random variable underlying the data set to be normally distriuted. SPSS 23 will be used to test normality. An assessment of the normality of data is a prerequisite for many statistical tests because normal data is an underlying assumption in parametric testing. There are two main methods of assessing normality: graphically and numerically.

Homogeinity

Homogeinity is needed to know the variant of data is homogeneous or not. They relate to the validity of the often convenient assumption that the statistical properties of any one part of an overall dataset are the same as any other part. SPSS 23 will be used to test homogenity. The test of homogeneity expands the test for a difference in two population proportions, which is the two-proportion Z-test we learned in *Inference for Two Proportions*. We use the two-proportion Z-test when the response variable has only two outcome categories and we are comparing two populations (or two subgroups.) We use the test of homogeneity if the response variable has two or more categories and we wish to compare two or more populations (or subgroups.) The null hypothesis states that the distribution of the categorical variable is the same for the populations (or subgroups). In other words, the proportion with a given response is the same in all of the populations, and this is true for all response categories. The alternative hypothesis says that the distributions differ.To test our hypotheses, we select a random sample from each population and gather data on one categorical variable. As with all chi-square tests, the expected counts reflect the null hypothesis. We must determine what we expect to see in each sample if the distributions are identical. As before, the chi-square test statistic measures the amount that the observed counts in the samples deviate from the expected counts.

Hypothesis test

Hypothesis test is an act in statistics whereby an analyst tests an assumption regarding a population parameter. Hypothesis testing is an act in statistics whereby an analyst tests an assumption regarding a population parameter. The methodology employed by the analyst depends on the nature of the data used and the reason for the analysis. The methodology employed by the analyst depends on the nature of the data used and the reason for the analysis. Hypothesis testing is used to assess the plausibility of a hypothesis by using sample data. The test provides evidence concerning the plausibility of the hypothesis, given the data. Statistical analysts test a hypothesis by measuring and examining a random sample of the population being analyzed. In order to do the hypothesis test , the data taken from pre test and post test by using T-test through SPSS to find out Ha or H0 could be accepted.

Findings and Discussion

Findings

The result of the data analysis above, show that the difference of the mean score of pre test in experimental was 39,45 , the mean score of post test in experimental was 75, 90 while the different of the mean score of pre test in control group was 53, 41 and the mean score of post test in control group was 53,93. Also the normality test of experimental group was higher than significance level that researcher used which was 0,05, it means that the variable data was normal and the normality test of control group was higher than significance level that researcher used which was 0,05, it means that the variable data was normal too. And also the homogeinity test of both of technique was homogent. And the last result from this research was T-observe was higher than T-table, It concluded that using jigsaw technique was significantly effect to improved students' vocabulary ability.

Data analysis

From this research the writers used SPSS to analyzed the data.

- The data can be accepted, if the homogeinity scores were normal distributed and homogenous. (look at the result of homogeinity of both of group in below) :

Test of Homogeinity of Experimental Group

Lev Statis	df1	df2	Signif.
1,754	4	23	,173

Based on the test homogeneity of experimental above , the significance of homogeneity test was higher than significance level that researcher used which was 0,05 so it can be concluded that the homogeneity of variances was homogent

Test of Homogeneity of Control Group

Pretest Leven Statis	df1	df2	Signif.
3,679	7	18	,012

Based on the test of homogeneity above , the significance of homogeneity test was higher than significance level that researcher used which was 0,05 so it can be concluded that the homogeneity of variances was homogent. It showed that both of the data is normal and both of them is homogent.

- The data can be accepted, if the mean score of both of the group were significantly different, because the treatmeant of using the technique significantly affect for the students. (look at the result of the mean score of both of the group in below) :

Descriptive of Experimental Group

	N	Mean
pre	31	39,4516
post	31	75,9032

From the output above, mean score of the pre test which was 39,45 was lower differ with the mean score of the post test which was 75,90. It showed that the scores of pre and post test have a significant different.

Descriptive of Control Group

		N	Mean
pretest		31	53,2258
posttest		31	53,9355
Valid (listwise)	N	31	

Based on the output above, mean score of the pre test which was 53,22 while mean score of the post test was 75,90. It showed that there was not a significance difference of the scores between the pre-test and the post-test.

- It showed that both of the group has a significant different of the mean score. Because the treatmeant has already give the significantly affect of the students. Which is the mean score of experimental group was higher than the mean score of control group.

- The data can be accepted, if the data has more than level of significance

0.05 (0.704 > 0.05). In orther words, both groups have equal ability in mastering vocabulary before the treatment was conducted. (look at the result of the normality in below) :

Test of Normality of Experimental Group

	Unstandardized Residual
N	31
Kolmog-Smirnov Z	,611
Asymp. Sig. (2-tailed)	,850

Based on the normality test of experimental above, the significance (2-tailed) of normality test was normal

Test of Normality of Control Group

	Unstandard-Residual
N	31
Kolmogorov-Smirnov Z	1,241
Asymp. Sig. (2-tailed)	,092
a. Normal.	

Based on the normality test of control group above, the significance (2-tailed) of normality test was higher than significance level that researcher used which was 0,05. So it showed that the variable data was normal.

- It showed that both of group have equal ability, which is both of grup is normal.

- The data can be accepted, if the null hypotesis was accepted. The result of calculation by using independent t-test showed that the significant value is 0.022. It was lower than 0.05 (0.022 > 0.05). It also showed t-table is higher than

t-test. (look at the different of t-test of both of the group in below) :

T- Test of Experimental Group

	Mean	Dev	Error Mean	t	df	Signif.(2-tailed)
pretest - posttest	-36,45161	7,94917	1,42771	-25,531	30	00

Based on the T-test of between pre test and post test in experimental group, significance (2-tailed) of T-test was smaller than significance level which was 0,05 so it can be conclude that there was significant effect from the treatment that the researcher used.

Test of T-Test of Control Group

	Paired Differences				t	df	Signif. (2-tailed)
Pre-Post	-,70968	4,69179	,84267	-2,43064	-,842	30	,406

From the T-test between pre and post test in control group, the significance (2-tailed) of T-test was higher than significance level which was 0,05 so it can be conclude that there was not significant effect from the treatment.

Discussion

This research was conducted 30th November 2019 in SMP KARTIKA 1-2 Medan and the sample was 62 students that consist of two groups, there were experimental and control group. The experimental group was a group that taught by using jigsaw technique, and the control group was not taught by using jigsaw technique.

In this research the data were taken from the results of written test, there were pre test and post test. Pre test and post test were given to both of groups to see the differences of treatment by using jigsaw technique was only given to the experimental group but the control group was given by using conventional method. So, the writers wanted to findout how significantly affect using jigsaw technique for students' scores in vocabulary with analyze the mean score, data analysis and the instrument of collecting the data.

Conclusion

Based on the result of the data analysis was concluded, using jigsaw technique for students' vocabulary ability was effective. It show that the difference of the mean score of pre test in experimental was 39,45 , the mean score of post test in experimental was 75, 90 while the different of the mean score of pre test in control group was 53, 41 and the mean score of post test in control group was 53,93. Also the normality test of experimental group was higher than significance level that researcher used which was 0,05, it means that the variable data was normal and the normality test of control group was higher than significance level that researcher used which was 0,05, it means that the variable data was normal too. And also the homogeinity test of both of technique was homogent. It showed by the obtained of mean score in experimental was higher than mean score in control group. And also showed by the obtained score of T-test, T-test showed that T-observe was higher than T-table (25,53 > 0,05). It mean that Ha was accepted and while H0 was rejected. It was also concluded that the treatment gives significant difference in the achievement between students in class VII-1 that was taught using jigsaw technique and students in class VII-2 was not using jigsaw technique. And also it conclude that experimental group was better than control group.

Suggestion

There are some suggestions the researchers would like to give :

1. It is suggest for teachers, teachers can teach vocabulary not only monoton to their students because with using jigsaw technique could enhance their cooperation with each other and the learning process more exciting.
2. It is suggested for learners, the students could be practice jigsaw technique to improve their vocabulary ability.
3. It is suggested for other researcher, this study could be used as a reference to conduct a further research of teaching.
4. It is suggested for other researcher, other researcher could conduct further research of using jigsaw technique in similar area by improving the approaches, the methods, or the procedures. However, this research could be used as a reference to conduct a further research in a similar area or in a a different area of teaching.

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