THE EFFECT OF USING INDUCTIVE METHOD ON THE SEVENTH GRADE STUDENTS' TENSE ACHIEVEMENT AT MTS SUNAN AMPEL KERTOSUKO KRUCIL PROBOLINGGO IN THE 2012/2013 ACADEMIC YEAR

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Abstract : Tenses are very important in learning English because they become the basic knowledge in mastering the language skills. To teach tenses, inductive method is considered as an appropriate teaching method because it can make the students' actively involved in learning tenses and help them more easily understand the subjects. This research was intended to know whether or not there was a significant effect of using the inductive method on the students' tense achievement. The findings showed that inductive method significantly affected the students' tense achievement. The mean score of the experimental group was higher than the mean score of the control group (66.9792 > 62.4038).

Key Words : tenses, inductive method, students' tense achievement

INTRODUCTION

English as one of the international languages is used by a large number of people in the world to communicate. This status of international language causes English to function not only as a means of enhancing international relationship but also as a means of absorbing the development of different life sectors. In line with this issue, Pennycook (in Maybin and Swann, 2010:113) states that English is a part of globalization which has wide use in many domains and the massive efforts in both state and private educational sectors to provide access to the language, to its role in global media, international forums, business, finance, politics and diplomacy.

In elementary schools, it is taught as a local content subject, and as a compulsory subject in junior and senior high schools. As stated in the School-Based Curriculum (*Kurikulum Tingkat Satuan Pendidikan (KTSP)*) for the English subject of junior high schools, the English teaching includes four skills, they are speaking, listening, reading and writing and three language components namely vocabulary, grammar and pronunciation that should be taught in integrated way.

Grammar as one of the English language components has a fundamental role to develop the English skills. Langan (2008:3) states that knowing the traditional rules of grammar, punctuations, and usage will help you write clear sentences when communicating with others. In other words, it can avoid distortion and misinterpretation

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and lead to a mutual understanding between the speaker and the listener, as well as between the writer and the reader. Thus, by mastering grammar including tense mastery, it is easier for students to study four language skills as the source of language.

In the English tense teaching learning process, the students are expected to understand the materials given by the teacher to reach the objective of learning. In this case, the role of the teacher in selecting the appropriate technique has an important role. The teacher has to think and consider what materials are going to teach and how to teach them. The inductive method is one of the teaching methods which deals with generalization. It is a concept which works from specific examples to general rules or formulas. Bungin (2005:15) states that inductive thinking is also called *synthetic thinking* that comes from facts, data, individual problems or specific knowledge to general conclusions.

In this research, the procedures of teaching tenses inductively covered the following steps: *(a) introduction*: greeting, giving leading questions related to the concept that will be taught and stating the aims of learning the tenses; *(b) main activities*: Giving examples of the sentences of the specific tense, guiding the students to find the patterns of the tense, and giving the exercises to do for the reinforcement; and *(c) closure*: drawing a conclusion and leave-taking.

Inductive method is considered as the appropriate method used to teach grammar, in this case the two tenses: the simple present tense and the present continuous tense, because of its some advantages: (a) rules learners discover for themselves are more likely to fit their existing mental structure than rule they have been presented with. This in turn will make the rules more meaningful, memorable, and serviceable; (b) the mental effort involved ensures a greater degree of cognitive depth which, again, ensures greater memorability; (c) students are more actively involved in the learning process, rather than being simply passive recipients; they are therefore likely to be more attentive and more motivated; (d) it favours pattern-recognition and problem-solving abilities which suggest that it is particularly suitable for learners who like this kind of challenge; (e) if the problem-solving is done collaboratively, and in the target language, learners get the opportunity for extra language practice; and (f) working things out for themselves prepares students for greater self-reliance and is therefore conductive to learner autonomy (Thornbury, 1999:54).

Putthasupa and Karavi (2010) confirm that teaching grammar inductively can improve the students' accuracy in writing. Through their experimental research, they proved that the frequency of grammatical error issues in students' writing of the experimental group was 1071, while that of the control group was 1476. This indicated that the students who learned English grammar inductively had the lower rate of grammatical errors than the students who did not learn English grammar inductively. It means that the inductive method is a good method to teach grammar, in this case the two tenses: the simple present tense and the present continuous tense.

Based on the descriptions above, the objective of this research was to know whether or not there was a significant effect of using inductive method on the Seventh grade students' tense achievement at MTs Sunan Ampel Kertosuko Krucil Probolinggo in the 2012/2013 academic year.

RESEARCH METHODS

The research design used in this research was experimental research with the post-tests only non-equivalent groups design. Arikunto (2006:3) states that the experimental research observes a cause and effect and relationship. This design was appropriate with the objective of this research that was to know whether there was a significant effect or not of using inductive method on the seventh grade students' tense achievement at MTs Sunan Ampel Kertosuko Krucil Probolinggo in the 2012/2013 academic year.

In this design, two classes were chosen as the experimental and the control groups. The two classes were selected by considering the result of homogeneity test. After conducting the homogeneity test, the experimental and the control groups were selected by lottery. The experimental group received a treatment that was taught tenses by using the inductive method, while the control group was taught tenses by the deductive method. Then, after the treatments, the post-test of tenses was given to both groups to know the significant difference of the tense achievement between them.

The following diagram presents the design used:

	Group	Treatment	Posttest
Experimental group	E	X	O_1
Control group	C		O_2

(Cohen *et al.*: 2007:282)

The area of this research was determined by using the purposive method. It was the method used for certain purposes and reasons. The researcher chose MTs Sunan Ampel Kertosuko Krucil Probolinggo as the research area because it was based on the considerations that the English teacher in that school had never applied the inductive method in teaching tenses. Besides, the school principal permitted the researcher to conduct the experimental research at the school.

The population of this research was all the seventh grade students of MTs Sunan Ampel Kertosuko Krucil Probolinggo that consisted of three classes, they are: VIIIA, VIIIB, VIIIC, in the 2012/2013 academic year. Each class consisted of 24-26 students. According to Sudjana (2002:6), a sample is a part taken from the population. To determine the sample of the research, intact groups method was applied after conducting the homogeneity test to all classes of the seventh year students. The results of the homogeneity test were analyzed by using ANOVA formula. Since the result of homogeneity test showed that the population was not homogenous, the experimental and the control groups who had the closest mean score difference were chosen by lottery. The result was class C as the experimental group and class B as the control group.

There were two kinds of data in this research, primary data and supporting data. The primary data were taken from the results of tense test, while the supporting data were collected from the result of interview with the English teacher and documentation.

According to Lefrancois (1982:357), a test is a collection of tasks (items or questions) assumed to be representative sample of behaviours that the tester wishes to assess. Hughes (2003:11) classifies tests based on the types of the information provided: proficiency test, achievement test, diagnosis test and placement test. The tense post-test as the achievement test with the objective scoring was used in this research in order to investigate the students' tense achievement both in the experimental group and the control group.

Based on the person who constructs the test, the test can be classified into two, namely standardized test and the teacher-made test (Arikunto, 2006:223). In constructing the test, the researcher used the teacher-made test in the form of objective test that was constructed in the form of multiple choices with 4 options in each item. The number of the test items in homogeneity test was 20 items which covered the

indicators of simple present tense (10 items) and present continuous tense (10 items). The test was administrated in 40 minutes. In the post-test, the number of the test items was 40 items and administered in 80 minutes. The test items covered the indicators of simple present tense (20 items) and present continuous tense (20 items). To score the results of the tense test, the correct answers obtained by the students were devided by the number of the test items then multipled by 100 (Ali, 1993:186)

In relation to the validity of the test, Hughes (2003:27) states that a test is considered to be valid if it can measure what is intended to be measured. He says that there are four kinds of validity, they are: *content validity, criterion-related validity, construct validity* and *face validity*. Content validity was established in this test because the items of tense test were constructed by considering the tense material stated in the teaching tense material at Junior high school. The test items were constructed based on the indicators to be measured, namely simple present tense and present continuous tense. They were also constructed based on the suggested material in the English Curriculum *(KTSP 2006)* for Junior High School. Besides, the test items were consulted to the English teacher and the consultants to know whether or not the test materials were in line with the objective to be achieved.

Before administering the post-test, a try out was conducted to know the reliability coefficient, time allocation, and the difficulty index of the test items. The try out was given to one of the three classes of the seventh year students which were not the research respondents that was Class A. The results of the try out were analyzed by using split-half odd even technique (Sudijono, 1998:219).

Concerning with the test reliability, Sudijono (1998:230) confirms that reliability coefficient of the teacher made test is believed to be reliable if the reliability coefficient is ≥ 0.70.

Beside the validity and the reliability of the test, it is important to know about the difficulty index of the test items. As stated by Heaton (1990: 178), the index of difficulty (or facility value) of an item simply shows how easy or difficult the particular item proved in the test. In this case, the good test items must be neither too difficult nor too easy. Therefore, the teacher should also consider the index of difficulty of the test items. In this research, the degree of difficulty index was analyzed by using the following formula:

$$I = \frac{B}{N}$$

Notes:

I : The difficulty index
B : The number of the students who answer the questions correctly
N : The number of the students who answer the questions
The criteria of difficulty index were as follows:

 $0 - 0.30$: Difficult
$0.31 - 0.70$: Sufficient
$0.71 - 1.00$: Easy

(Sudjana, 1990:137)

After the treatments were given, the data obtained from the post-test of tenses were analyzed by using independent sample t-test in SPSS with 5% significance level to know whether the result was significant or not.

RESEARCH FINDINGS AND DISCUSSIONS

Based on the interview with the English teacher, she informed that she used deductive method in teaching tenses. Further, she explained that she taught tenses from patterns to examples. After that, she asked the students to make some other examples, then discussed them with the class. Next, she gave the exercises and finally discussed the students' answers together. She also confirmed that she had never used the inductive method in teaching tenses because she did not know the development of the teaching method. Besides, she was not from the English department. That is why, she taught the students based on what she got from her English experience when she was in junior and senior high school.

The number of the seventh year students of MTs Sunan Ampel Kertosuko Krucil Probolinggo as the population of the research in the 2012/2013 academic year was 75 students. They were distributed into three classes. The number of the samples was 50 students. The experimental group was 24 students from class C, while the control group was 26 students from class B.

The homogenity tense test was conducted on the same day to the seventh grade students of MTs Sunan Ampel Kertosuko Krucil consisting of three classes (VII A, VII B and VII C). The result of the ANOVA analysis showed that the 'f_0' value was 3.408. The value of F table at 5% significance level was 3.13. The result showed that there were differences on the students' tense ability among those three classes. In other

words, the population was not homogeneous. Thus, two classes which had the closest mean were chosen as the samples of the research. They were Class B (52.88) and Class C (52.29). It indicated that they had similar abilities in English, especially in tenses. According to the calculation above, class C was treated as the experimental group and class B as the control group which was determined by lottery.

The try-out of tense test was conducted on Tuesday, September 11st 2013. It was given to the students of another class who were not the samples. They were class C. The results of try out test in this research were analyzed to know the difficulty index of the test items, the reliability coefficient, and the time allocation. The try-out tense test had 40 items with 4 options in each item. Dealing with the scoring, the students' correct answers were divided by the number of the test items then multiplied by 100, so that the maximum score of the test was 100. Then, to know whether the test items were difficult, easy or sufficient, the difficulty index of the test items was analyzed.

Sudjana (1990:135) states that the member of test items proportion judgement can be based on the normal curve. It means that most of the test items are categorized as sufficient and other items are categorized as easy and difficult in the equal proportion. The comparison among easy-sufficient-difficult test items can be made as 3-4-3 (easy items are 30%, sufficient items are 40%, and difficult items are 30%) or 3-5-2 (easy items are 30%, sufficient items are 50%, and difficult items are 20%). Based on the result, it was known that the proportion of the test items fulfilled the requirement because 12 items of 40 items were categorized as easy items (30%), 8 items were categorized as difficult items (20%), and the rest of the items were categorized as sufficient items (50%).

In estimating the value of reliability coefficient, split half odd-even technique was applied in this research. The researcher signed (*X)* for the odd numbers and (*Y)* for the even numbers. The correlation between *X* and *Y* was analyzed by using Product moment formula as presented below:

$$r_{xy} = r_{\frac{11}{12}} = \frac{N\sum XY - (\sum X)(\sum Y)}{N\sum X^2 - (\sum X)^2 \quad N\sum Y^2 - (\sum Y)^2}$$

$$r_{xy} = \frac{25 \times 2938 - 269\,(271)}{25 \times 2927 - (269)^2 \quad 25 \times 2969 - (271)^2}$$

$$r_{xy} = \frac{73450 - 72899}{\sqrt{73175 - 72361}\ \sqrt{74225 - 73441}}$$

$$r_{xy} = \frac{551}{\sqrt{814}\ \sqrt{784}}$$

$$r_{xy} = \frac{551}{\sqrt{638176}}$$

$$r_{xy} = \frac{551}{798.8591} = 0.689734 = 0.69$$

Notes:

r_{xy} = reliability coefficient

ΣXY = the total number of odd items and even items

ΣX = the number of odd items

ΣY = the number of even items

N = the number of the respondents (the experimental group and the control group)

The result of estimation which was 0.69 was the half score of reliability coefficient. In order to obtain the value of the whole test reliability (r_{11}), the value of r_{xy} was taken into Spearman-Brown formula as presented below:

$$r_{11} = \frac{2r_{\frac{11}{12}}}{1 + r_{\frac{11}{12}}}$$

$$r_{11} = \frac{2 \times 0.69}{1 + 0.69}$$

$$r_{11} = \frac{1.379467}{1.689734}$$

$$r_{11} = 0.816382 = 0.82$$

Notes:

r_{11} = reliability coefficient for the whole items

$r_{\frac{11}{12}}$ = reliability coefficient for the half of the test items

From the calculation above, the reliability coefficient of the whole test was 0.82. Regarding this, Sudijono (1998:209) states that the reliability coefficient of a teacher made test is believed to be reliable if the reliability coefficient is ≥ 0.70. Therefore, the test could be regarded as reliable because 0.82 was higher than 0.70.

Dealing with the time and the validity, it was found that the time allocation for the try out test was enough since the students were able to do all the test items within the available time. Content validity was established in the tense post test. The tense post test was constructed based on the 2006 School-Based Curriculum for SMP or MTs. Besides, the test items were constructed based on the indicators to be measured, namely simple present tense and present continuous tense. They were also consulted to the research consultants.

In this research, the primary data were gained from the students' tense achievement in the form of post test score. The tense post test was administered to both of the experimental group and the control group on Friday, September 14th 2013, after the treatments were given to the experimental group. The scores of the post test were used to investigate the significant difference between the experimental group and the control group. The data of the tense post test that were analyzed by using independent sample t-test were as follows:

Table 1. The Output of Independent Sample T-Test of Post Test Group Statistics

	Class	N	Mean	Std. Deviation	Std. Error Mean
Score	B	26	62.4038	6.49926	1.27461
	C	24	66.9792	8.99816	1.83674

Table 2. Independent Samples t-Test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference		
									Lower	Upper
score	Equal variances assumed	2,798	,101	-2,073	48	,044	-4,57532	2,20716	-9,01311	-,13753
	Equal variances not assumed			-2,047	41,609	,047	-4,57532	2,23568	-9,08836	-,06228

From the table above, the value of the significant column of Lavene's test was 0. 101. It was higher than 0.05. Consequently, the row that must be read was the first row of t-test column. In the t-test column, the significant value (2 tailed) was less than 0.05 that was 0. 044. It means that there was a statistical difference between the experimental group and the control group.

Based on the data analysis of the students' post test scores, it was known that the significant value of t-test was 0.044, and it was less than 0.05. It means that inductive method had a significant effect on the seventh grade students' tense achievement at MTs Sunan Ampel Kertosuko Krucil Probolinggo in the 2012/2013 academic year. In other words, the experimental group that was taught tenses by using the inductive method got better tense achievement than that of the control group that was taught tenses by using the deductive method.

The results of the previous research findings conducted by Laila (2004) also confirmed that the use of the inductive method gave a significant effect the second year students' simple future tense at MTs Nasruddin Dampit-Malang in the 2003/2004 academic year. Another researcher, Susanti (2009), who conducted a classroom action research at SDN Karangrejo 1 Jember, also proved that inductive approach could improve the fifth students' tense mastery at SDN Karangrejo 1 Jember in the 2008/2009 academic year. The result of her observation showed that the students who were taught tenses by the inductive method were actively involved in finding the rules or the patterns based on the examples given. It is in line with Paradowski (2007), who stated that the inductive approach was the student-centre learning and allowed learners to become deeply involved in the language they were studying and offered potential for reflection.

Based on the previous research results, it could be seen that the inductive method helped the teacher make their students achieve the objective of learning and the students were more actively involved in teaching learning process, especially in learning tenses. In other words, the use of the inductive method affected the students' tense achievement.

CONCLUSIONS AND SUGGESTIONS

Based on the result of the data analysis, it could be concluded that there was a significant effect of using the inductive method on the seventh grade students' tense achievement at MTs Sunan Ampel Kertosuko Krucil Probolinggo in the 2012/2013 academic year. It was proved by the result of ndependent Sample t-Test analysis that showed the significant value was 0.044 and it was lower than 0.05. It means that the research hypothesis was accepted. In other words, the experimental group that was

taught tenses by the inductive method got better tense achievement than the control group that was taught tenses the deductive method. Therefore, it is suggested to the English teacher to apply the inductive method as an alternative teaching technique in teaching tenses. Besides, the future researchers are suggested to conduct a further research dealing with a similar topic using a different research design or different level of the students, such as a classroom action research to improve the students' tense achievement by using the inductive method.

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