

The Effect Of Numbered Head Together And Motivation In Learning Toward Students' Speaking Ability

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Abstract

This study aims to investigate the effect of NHT technique and students' motivation in learning toward the speaking ability of the twelfth grade students of SMAN 8 Mataram. Designed as an experimental research with posttest-only control group design, it examined a sample of two classes of twelfth grade students of SMAN 8 Mataram. In taking the sample, group random sampling technique was used. Each class was divided into two groups (the students who had high and those who had low motivation). Speaking test and questionnaire of motivation in learning were the instruments which were used to collect the data. Then the data were analyzed by using analysis of multi variance (ANOVA). The result of the analysis indicate that (1) NHT technique is more effective than conventional technique in teaching speaking since $F_{count} = 35.132$ is higher than $F_t = 3.970$; (2) there is a significant difference in speaking ability between high motivation students who were taught using NHT technique and those who were taught using conventional technique because $F_{count} (8.090)$ is higher than $F_t (4.113)$ in 0.05 level of significant; (3) there is significant difference in speaking ability between low motivation students who were taught using NHT technique and those who were taught using conventional technique because $F_{count} (19.122)$ is higher than $F_t (4.133)$ in 0.05 level of significance.

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1. INTRODUCTION

English is one of the international languages used by most of the world population. In Indonesia, English is the first foreign language and it has been taught from junior high school up to university level. Here, learners should learn how to use the language spontaneously and flexibly in order to express their intended message and should be placed in situations where they must use language as an instrument for satisfying communicative needs, where the criterion for success is functional effectiveness rather than structural accuracy (Richards and Rodgers, 2001: 153). Thus "communicative language teaching makes use of real-life situations that necessitate communication.

English language teaching has identified the four skills, listening, speaking, reading, and writing. Its success is measured in terms of the students' ability to carry out conversation in an interactive process of constructing meaning that involves producing, receiving, and processing information.

Speaking is one of the important skills to be mastered. It is extremely important because by mastering speaking skill, students are able to make conversation with others, to express the ideas and to exchange information with others. Speaking as one of the basic language skills requires communicative aspects including: pronunciation, grammar, vocabulary, fluency, accuracy, and comprehension skill to build a good communication.

However, the students in Indonesia often find difficulties in mastering speaking skills. In line with this, Richards and Renandya (2002: 204) state that speaking in a foreign language is difficult for foreign language learners because effective oral communication requires the ability to use the language appropriately in social interaction.

In line with Richards and Renandya, the observation of teaching and learning process at SMAN 8 Mata ram shows that the students still face difficulty to express their ideas orally in English. They tend to keep silent when the teacher invites them to use English in the classroom. The students seem to be

unmotivated and have unfavorable attitudes toward English. These problems cannot only be attributed to the students' personal factors but also to the types of teaching technique used by the teacher in delivering the materials which is still teacher-centered. This technique fails to make the students feel confident enough to express their ideas orally while the class is dominated by the teacher.

In order to make the students strongly interested in the teaching and learning process especially in acquiring the speaking skill, the teachers should employ the most appropriate teaching technique which is suitable to the students' level. In addition, the teacher must be able to manage the students' assignment effectively. They are demanded to motivate the students in order to learn English well. Related to that statement, teaching method becomes one of the important points on teaching learning activities. In this case, one of the alternative teaching learning techniques is numbered head together.

Numbered head together is suggested to be applied in speaking. Hopkins (2008) stated that NHT has a powerful effect in raising pupil achievement because it harnesses the synergy of collective action. In this case, Hopkins states that NHT is an activity where learners work in group toward particular topic. Each student in every group is allocated a number and each group is asked to identify the topic given within several minutes. When the time is off one of them will have their number called and will have to respond. This activity motivates group to share information and make sure everyone knows the answer. It gives every student a chance to shine and, because they have the group behind them, no one is made anxious about answering.

By NHT, the teacher is able to improve the students' speaking ability because it is an effective technique to be applied in the classroom. The students become comfortable to speak everything. Teachers only give simple explanation about the activity and review the vocabulary needed for the activity. Students, on their turn, get an opportunity to develop their communicative competence more freely.

In brief, Numbered head together is a cooperative learning strategy that holds each student accountable for learning the material. Students are placed in groups and each person is given a number (from one to the maximum number in each group). The teacher has question and students put their head together to figure out the answer. The teacher calls specific number to respond as spokesperson for the group. By having students work together in a group, this strategy ensures that each member knows the answer to problem or questions asked by the teacher. It is caused by no one knows which number will be called; all team member must be prepared.

Meanwhile, the conventional teaching technique is concerned with the teacher being the controller of the learning environment. Tracey (2008: 1) states that a teacher-centered method to teaching is a traditional or conventional teaching technique which involves the teacher transmitting his knowledge to a group of passive students. The conventional teaching technique is the process of teaching and learning that focuses on how the teacher delivers information rather than how the students absorb it. It tends to involve more passive learning by the students, such as lecturing, in which the teacher disseminates the information and it is up to the student to absorb and process it. It seems that, this technique has some weaknesses regarding to its effectiveness of increasing students' speaking ability.

In addition, in order to learn a language successfully, the students should have motivation since without sufficient motivation (in learning) the students will be passive in joining the speaking class. motivation can be said as an inner drive to achieve learning activity, so the purpose of the subject learning can be maintained in educational environment. Motivation is one of the extremely important factors to encourage a learner to learn language rapidly and effectively. The motivation in learning may come from the learners themselves. This is called the intrinsic, in contrary; the motivation come from outside of the learners is called the extrinsic. So, it is suggested to the teacher to improve students' motivation in learning.

Based on the phenomena above, teaching speaking by using NHT technique can meet the challenges and weakness of students' speaking ability and may improve it. Therefore, the goal toward the research is to investigate the effect of NHT technique in teaching speaking skill as moderated by students' motivation in learning for the twelfth grade students of SMAN 8 Mataram.

Based on the identification of problems found in the background of the study, some problems are identified, for instance:

1. The students generally have lack ability in speaking.
2. The students have difficulties in expressing their ideas in English.
3. The students are mostly not active in the process of teaching and learning.
4. The students have low enthusiasm in learning English especially in learning speaking skill.
5. The problem can be stated to the possibility of using numbered head together (NHT) technique is able to develop students' speaking ability.

6. The problem can be stated to the possibility that NHT technique is able to develop students ‘motivation in learning so that they can enhance their speaking ability.

The problems of this study were limited to some related variables. This study only focused on numbered head together as opposed to the conventional technique NHT was used as an experimental variable and the conventional technique was functioned as the control one. Furthermore, the teaching speaking was concentrated on the teaching of speaking in senior high school.

In line with the formulation of the problem, the objective of this research is:

1. To investigate whether or not there are any significant differences in speaking ability between the students who are taught by using NHT and those taught by using conventional technique?
2. To investigate whether or not there is significant difference in speaking ability between the students who have high motivation in learning taught by using NHT technique and those taught by using the conventional technique.
3. To investigate whether or not there is significant difference in speaking ability between the students who have low motivation in learning taught by using NHT technique and those taught by using the conventional technique.

2. RESEARCH METHOD

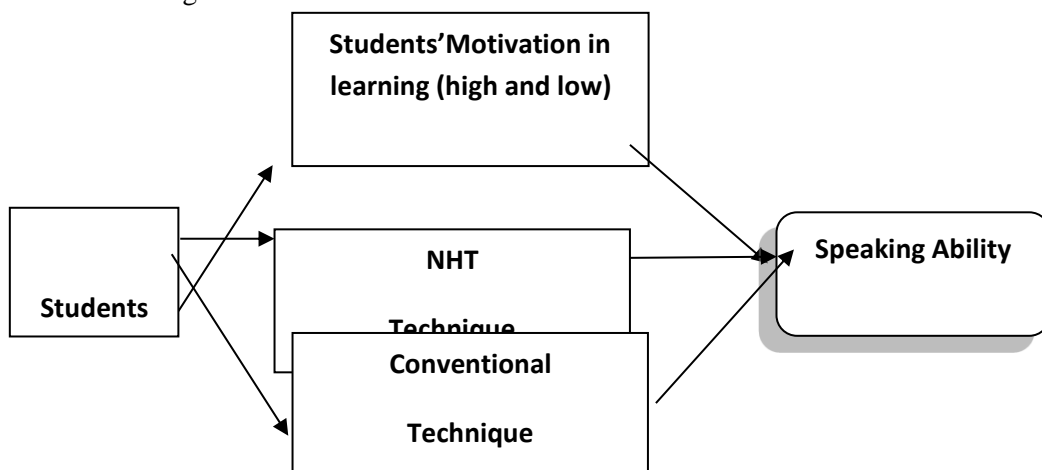
The method applied in this research was an experimental method. Gay, Mills and Airasian (2009: 240) state that experimental research is research that can test hypotheses to establish cause and an effect relation which enables the researcher to manipulate the independent variable. The experimental research method enables the researcher to identify causal relationships because it allows the researcher to observe, under controlled conditions, the effect of systematically, hanging one or more variables. The independent variable in experimental research is commonly called experimental variable or treatment variable. Meanwhile, the dependent variable is known as the outcome variable.

This research design was used because this study was intended to investigate the significant different of the students’ speaking ability who are taught by using numbered head together (NHT) technique and those are taught by using conventional technique and to find out whether or not there was an interaction between the implementation of the teaching techniques and students’ motivation in learning toward students’ speaking ability.

This research deals with three kinds of variables, namely independent variable, dependent variable, and moderator variable. The independent variable of this research was NHT technique and conventional technique. In this case, the NHT technique was used to teach the experimental group and the conventional technique was used to teach the control group.

Meanwhile, the dependent variable of this research was the students’ speaking ability; in this case the students of twelfth grade of SMAN 8 Mataram, while the moderator variable of this study was the students’ motivation in learning. This variable was also assumed as the secondary non-dependent variable to the phenomenon investigated.

This study was interested to investigate the effect of independent variable (X) or teaching techniques on dependent variable (Y) or speaking ability, in which the relationship between X and Y is moderated by moderator variable (Z) or students’ motivation learning. The research design of this study is figured out as the following:



This study used posttest-only control group design. In this design, one group received an experimental treatment while the other got a different treatment. Here, the experimental group was treated by using NHT technique, while the control group was treated by using conventional technique. And then, the scores of the two groups were compared to determine the effect of each treatment (Gay, Mills and Airasian, 2009:257).

Table 3.1: Posttest only control design

Group	Treatment	Post-Test
Experiment	X1	01
Control	X2	02

Note:

X1 : Treatment of numbered head together technique

X2 : Treatment of conventional technique

01 : Post-test result on treatment group

02 : Post-test result on control group

In this study the population is the twelfth grade students of SMAN 8 Mataram who have learn English as foreign language. The total number of population was 232 students which are divided into six classes all together. In more detail can be shown from the table below:

Table 3.3. Distribution of population

Class	Number of Students
XII IPA 1	38
XII IPA 2	40
XII IPA 3	38
XII IPS 1	38
XII IPS 2	40
XII IPS 3	38
TOTAL	232

Sample refers to any group from which the information is gained (Christensen, 1997: 78). Furthermore, Gay, Mills and Airasian (2009: 124) state that if the sample is well selected, the result of a study testing that sample should be generalizable to the population.

The number of accessible population of this study was 218 persons. Arikunto (2006: 134) elaborates: “if the number of population is more than 100, it is supposed to take 10-15% or 20-25% or more. But, if the number of population is less than 100, it is not supposed to take sample.

It is fact that the total number of population of the twelfth grade students of SMAN 8 Mataram is more than 100 persons. So, based on the theory of sampling procedure proposed by Arikunto (2006), this study is taken 20% of the population as the sample. Therefore, I used Cluster Random Sampling technique to determine the two groups of sample. Gay, Mills and Airasian (2009: 125) state that cluster random sampling technique is the selection of naturally occurring groups used in a research.

Besides, to select two classes as the sample, I consulted with the English teacher of twelfth grade of SMAN 8 Mataram in order to know which classes have the same capability in English achievement. Then, based on the English teacher in twelfth grade suggestion, this study determined XII IPA 1 and XII IPA 3 as the sample. Moreover, through lottery, those two classes randomly assigned to be the experimental group and control group. In this case, class XII IPA 1 becomes an experimental group XII IPA 3 becomes a control group. Each class was divided into two groups, students who have high motivation in learning and those who have low motivation in learning. One of the two classes was taught by using NHT technique, another class was taught by using conventional technique. It means that there were four groups: (1) the students with high motivation

in learning that were taught by using NHT technique; (2) the students with low motivation in learning who were taught by using NHT technique; (3) the students with high motivation in learning who were taught by using conventional technique; and (4) the students with low motivation in learning who were taught by using conventional technique

To collect the data which requires in this research, a number of steps are presented, for instance; validity and reliability of the instrument, speaking test, analytical scoring rubric, and student's motivation questionnaire. To clarify these elements become more detail, these elements will be discussed further below:

The good instrument used in the research must be valid and reliable. Based on several references, there are various definitions of validity. Gay, Mills and Airasian (2009: 155) define validity refers to the degree to which a test measures what is supposed to be measured. Furthermore, Brown (1994: 254) states that validity is the degree to which the test actually measures what it is intended to measure. Whereas Nitko (1996:16) states that validity refers to the soundness of or interpretation and uses of students' assessment result. Based on those definitions, it can be concluded that instrument is valid if the instrument measured what should be measured.

Another requirement needed by an instrument is reliability. Reliability refers to the consistency of assessment result. A research instrument has high reliability if the test produces consistency result in measuring what should be measured. Gay, Mills and Airasian (2009: 161) define reliability as the degree to which a test consistently measures whatever it measures. In addition, Gay, Mills and Airasian says the more reliable a test is, the more confidence we can have that the scores obtained from the administration of the test are essentially the same scores that would be obtained if the test were re-administered. Meanwhile, Nitko (1996) defines reliability is the degree to which students' assessment results are the same when (1) they complete the same tasks on two different occasions, (2) they complete different but equivalent tasks on the same or different occasions, or (3) two or more teachers mark their performance on the same tasks.

Based on the expert elaboration of the reliability, it can be concluded that reliability is a stability of test when it is employed. A test is called reliable if the test obtains the stable data or consistent to measure the same testing on the other time and place.

Instrument data in this study are speaking test, analytical scoring rubric, and motivation in learning questionnaire.

Speaking ability is defined as the ability of the students to speak English fluently, accurately, clearly and informatively that can be understood by listeners in which the students' speaking ability can be measured using five dimensions of scoring rubrics namely: comprehension, pronunciation, fluency, grammar, and vocabulary. (Brown, 2007). In this study, I used oral test in the form of performance test as the instruments to obtain the speaking data. The oral test was administrated to experimental group and control group. Based on the topic of oral test or speaking, the respondents were asked to speak maximally 3 minutes. The students were asked to make a description about people and place by using picture-based speaking.

Moreover, speaking test was obtained by scoring all dimensions of speaking. It was graded that all dimensions receive the same score in weighting (4), in this case, each dimension received 5 as the highest score and 1 as the lowest score.

In connection to the previous explanation of Mills and Airasian (2009: 155) validity refers to the degree to which a test measures what is supposed to be measured. In line to the explanation, the item speaking validity is tested by using corrected item-total correlation (Phyllis et al, 2007). The item is valid if $r_{count} > r_{table}$ at 30% level of significance. Therefore, it can be concluded that the speaking score of each indicator is valid.

To know the effect of NHT influence toward student's motivation in learning speaking, the students was tested by using questionnaire. This questionnaire was given to know whether NHT affects student's motivation in learning speaking or not. Questionnaire is a technique of collecting data which is conducted through a set of questions to the respondents and must be answered by them (Sugiyono 2008:199). The questionnaire is given to the students in two classes (XII IPA 1 and XII IPA 3) at SMAN 8 Mataram. There are 30 questions in the questionnaire relates to the

dimension of motivation in learning.

In this study, the questionnaire will be used to measure the students' motivation in learning speaking in both of experimental (NHT) and control group (conventional technique).

Based on the concept, I constructed an outline that was used as the basis on writing the questionnaire items. The outline was as follows:

Table 3.4: The Blue Print of Motivation in Learning Questionnaire

No	Dimension	Motivation Questionnaire		Total Item
		Positive Statement	Negative Statement	
1	Desire and success	1,2,3	4,5	5
2	Reinforcement in learning	8,9,10	6,7	5
3	Expectation	11,13,14	12,15	5
4	Reward	18,19,20	16,17	5
5	Method	21,22,23	24,25	5
6	Environment	26,27,30	28,29	5
	Total	18	12	30

(Modified from Suprijono, 2014)

To perceive the motivation questionnaire, it can be seen in the Appendix 2. Besides, the Pole of this questionnaire is based on Likert's pole which is classified into five categories namely (SS) completely agree, (S) Agree, (KS) Not Completely Agree, (TS) Disagree, and (STS) Completely Disagree. Furthermore, the scoring system would be done by giving the score of each student's respond as following criteria:

- a) For each positive statements: completely agree = 5, Agree = 4, Not Completely Agree = 3, disagree = 2, completely disagree = 1.
- b) In contrast, for each negative statement: completely agree = 1, Agree = 2, Not Completely Agree = 3, disagree = 4 completely disagree = 5.
- c) From the total items of the questionnaire, it would be obtained the ideal maximum score was $30 \times 5 = 150$ and ideal minimum score was $30 \times 1 = 30$.

To face validity and reliability of motivation in learning, I will employ equally treatment like in the validity and reliability of speaking instrument. the item of motivation in learning validity is tested by using corrected item-total correlation (Phyllis et al, 2007). The item is valid if $r_{count} > r_{table}$ at 30% level of significance. Therefore, it can be concluded that the motivation score of each indicator is valid.

Besides, to clarify the reliability of motivation instrument, this study used Cronbach's Alpha. The item is reliability if $r_{count} > r_{table}$ at 60% level of significance (Phyllis et al, 2007).

Teaching scenario is a teacher's detailed description of the course of instruction for an individual lesson. A teaching scenario is developed by the researcher to guide class instruction based on both technique needed. The detail of the scenario would vary depending on the kind of technique used.

There were 2 teaching scenarios produced, one for the experimental group and another was for control group. In this case, I prepared 8 teaching scenarios for each group. The teaching scenario which were designed based on the level and also the need of the students which were used as guidance in every teaching.

The data of the study is obtained by use speaking test. In order to get data, this study administrated the way to collect data as follows:

1. Conducting observation to the real field to find out the phenomena of teaching speaking and find out the problems in teaching speaking.
2. Prepare the instrument and then consulting them to the supervisors.
3. Distributing the instrument to the judges to check the content and face validity.
4. Revising the instruments based on the judges comment.
5. Trying out the instrument to the real field
6. Giving eight times treatments for both experiment (NHT technique) and control group (conventional technique).
7. Giving post test to both groups after the both groups has obtained the treatment.
8. To take students' speaking score, each student was asked to describe particular description topic (describe a person or particular place) in order to measure students' current ability in speaking as individually after they have learned speaking in collective action (experiment class) and individual action (conventional class). In this stage, the student was interviewed relates of the topic test, whether

student would choose to describe person or place. In this case, the teacher gave the student freedom to determine the objects that they wanted to described.

9. While the students were answering the test, their talks were recorded.

In order to analyze the data, this study applied descriptive and inferential statistics analysis to analyze the data in this study. Descriptive statistic is employed to analyze the data with description in order it describes the data which have already collected originally. According to Sugiyono (2012:200) says” statistik deskriptif antara lain adalah penyajian data melalui tabel, grafik, diagram lingkaran, perhitungan modus, median, mean (pengukuran tendensi sentral) dan perhitungan standar deviasi”. In my own translation descriptive statistics present the data through table, graphic, pie chart, the calculation of mode, median, mean (to measure the central tendency) and standard deviation. In addition, mean is measured to find out the average scores in a distribution, While Median would be calculated to know the middle point in a set of data. And the Mode is measured to know the most frequent score occur in a distribution. Moreover, the measurement of standard deviation was done to know the index of variability and the spread of dispersion of scores in a distribution.

In this study, inferential statistic is used to test the hypothesis. Furthermore, this study also applied analysis of variance two ways ANOVA to analyze the data. Parametric test by two-way ANOVA is used to compare the mean score of the data. Here, 2 X 2 factorial designs is an elaboration of single variable experimental designs to permit investigation of two or more variables; at least one of them is manipulated by the researcher (Gay, Mills and Airasian. 2009: 257).

3. FINDINGS AND RESULT

Data Description

This research was conducted in SMAN 8 Mataram which consists of two classes of the twelfth grade as the sample. The two classes were for experimental and control class. The experimental class was taught using numbered head together technique (NHT) while the control class was taught using conventional technique.

The motivation in learning questionnaire consists of 30 items and it was held on the 15th of September. In administrating students’ motivation in learning test, the students are asked to answer a number of items test provided. Meanwhile, speaking test was done on the 10th of October. The students were asked to choose the topic and talked about the topic they had chosen. There were two main topics provided, namely: describing place and describing person.

After distribute the motivation questionnaire and giving speaking test, this study analyzed the validity and reliability of motivation and speaking by using SPSS19. To perceive the result, it can be seen from the following explanation below:

The Analysis of Experiment Motivation Validity

Test validity indicates to what extent do the consistency levels against the use of the instruments to be measured. From the validity test calculation performed on SPSS, the result of validity test trough experiment motivation shows that there is positive correlation of each indicator as shown in Table 4.1., below.

Table The validity test of experiment motivation

No	The indicator of Eksperiment Motivation					
	Indicator	Correlation	Indicator	Correlation	Indicator	correlation
1	ME1	0,863	ME11	0,863	ME21	0,597
2	ME2	0,847	ME12	0,847	ME22	0,511
3	ME3	0,577	ME13	0,577	ME23	0,567
4	ME4	0,879	ME14	0,879	ME24	0,529
5	ME5	0,577	ME15	0,531	ME25	0,577
6	ME6	0,410	ME16	0,533	ME26	0,879
7	ME7	0,543	ME17	0,577	ME27	0,531
8	ME8	0,576	ME18	0,610	ME28	0,533
9	ME9	0,497	ME19	0,543	ME29	0,859
10	ME10	0,411	ME20	0,576	ME30	0,800

Table above indicates positive correlation through each indicator. It can be seen that indicators’ correlation is higher than r table ($r_{count} > r_{table}$ at 30% (0.3)). Thus, it can be concluded that each instrument is valid.

The Analysis of Control Motivation Validity

From the validity test calculation performed on SPSS, the result of validity test trough control motivation shows that there is positive correlation of each indicator as shown in Table 4.2., below.

Table : The validity test of control motivation

No	The indicator of Control Motivation					
	Indicator	correlation	Indicator	correlation	Indicator	correlation
1	MC1	0,675	MC11	0,455	MC21	0,485
2	MC2	0,425	MC12	0,432	MC22	0,628
3	MC3	0,687	MC13	0,675	MC23	0,455
4	MC4	0,644	MC14	0,425	MC24	0,532
5	MC5	0,439	MC15	0,687	MC25	0,675
6	MC6	0,552	MC16	0,644	MC26	0,425
7	MC7	0,520	MC17	0,439	MC27	0,687
8	MC8	0,544	MC18	0,552	MC28	0,644
9	MC9	0,485	MC19	0,520	MC29	0,439
10	MC10	0,628	MC20	0,554	MC30	0,552

Table above indicates positive correlation through each indicator. It can be seen that indicators' correlation is higher than r table (rcount > rtable at 30% (0.3)). Thus, it can be concluded that each instrument is valid.

Whereas, for the item of speaking test there were tested to ensure whether the students' score in both experiment and control classes are valid or not. The validity test of speaking can be seen in the table below:

The Analysis of Speaking Score Validity

From the validity test calculation performed on SPSS, the result of validity test trough speaking score in both experiment and control classes indicated that there is positive correlation of each indicator as shown in Table 4.3., below.

Table : The validity test of speaking

No	Speaking Control		Speaking Eksperiment	
	Indicator	Correlation	Indicator	Correlation
1.	SC1	0,552	SE1	0,569
2.	SC2	0,586	SE2	0,566
3.	SC3	0,582	SE3	0,543
4.	SC4	0,605	SE4	0,563
5.	SC5	0,531	SE5	0,642

Table, I found that each speaking control's correlation is higher than r table 0.3. It indicates that students' English score are valid. Besides, speaking experiment also shows that r count (0.569, 0.566, 0.543, 0.563, and 0.642) is higher than r table which lies on 0.3. Therefore, this study concluded that the score in both experiment and control speaking are valid.

4.1.4. The Analysis of Motivation and Speaking Score Reliability

Reliability is an index that shows that to what extent the respondent's answers do is reliable. Reliability test is conducted by calculating the reliability analysis of SPSS. Therefore, the results is obtained for each value of Cronbach alpha (α) of each of the variables studied, as shown in Table 4.5., Below.

Tabel : The reliability test of speaking score and motivation instrument

No.	Variable	Cronbach alpha value	The standart of Cronbach alpha	Note
1.	Speaking control	0,663	0,60	Reliable
2.	Speaking experiment	0,663	0,60	Reliable
3.	Motivation control	0,898	0,60	Reliable
	Motivation experiment	0,950	0,60	Reliable

Based on Table, this study obtained Cronbach alpha value for each variable is higher than 0.60 (60%). Therefore, the answer of each respondent toward each indicator variable can be said to be reliable.

The Students Who were Taught Using NHT Technique

Descriptive analysis of data of A₁ shows that score range is from 64 to 88. The mean score of NHT cluster is 74.9474. The data obtained from descriptive statistic table and the standard deviation is 4.62044. The graphic is presented in Figure 1 below.

TEST OF ANOVA

Descriptives

Speaking Score								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Conventional Technique	38	67,4737	6,25035	1,01394	65,4192	69,5281	60,00	80,00
NHT Technique	38	74,9474	4,62044	,74954	73,4287	76,4661	64,00	88,00
Total	76	71,2105	6,62986	,76050	69,6955	72,7255	60,00	88,00

The Students Who were Taught Using Conventional Technique

Descriptive analysis of data of A₂ shows that score is 60 up to 80. The mean score of control class is 67.4737. The data obtained from descriptive statistic table and the standard deviation is 6.25035. The graphic can be seen in the following Figure 1 above.

The Student with High Motivation in Learning and Taught Using NHT Technique.

Descriptive analysis of data of A₁B₁ shows that score is 72 up to 88. The mean is 77.0526. The data obtained from descriptive statistic table and the standard deviation is 4.96066. The graphic is presented in Figure 2 below.

TEST OF ANOVA

Descriptives

Speaking Score								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
High Motivation of NHT	19	77,0526	4,96066	1,13805	74,6617	79,4436	72,00	88,00
High Motivation of Conv	19	72,8421	4,12665	,94672	70,8531	74,8311	64,00	80,00
Total	38	74,9474	4,98076	,80799	73,3102	76,5845	64,00	88,00

The Students with High Motivation in Learning and Taught Using Conventional Technique.

According to the Anova test result in Figure 2, descriptive analysis of data of A₂B₁ shows that score is 64 up to 80. The mean is 72.8421. The data obtained from descriptive statistic table and the standard deviation is 4.12665. The graphic can be seen in the following figure 2 above.

The Students with Low Motivation in Learning and Taught Using NHT Technique.

Descriptive analysis of data of A₁B₂ shows that score is 64 up to 76. The mean is 72.8421. The data obtained from descriptive statistic table and the standard deviation is 3.14931. The graphic is presented in figure 3 below.

TEST OF ANOVA

Descriptives

Speaking Score								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Low Motivation of NHT	19	72,8421	3,14931	,72250	71,3242	74,3600	64,00	76,00
Low Motivation of Conv	19	66,9474	4,96066	1,13805	64,5564	69,3383	60,00	76,00
Total	38	69,8947	5,07133	,82268	68,2278	71,5616	60,00	76,00

The Students with Low Motivation in Learning and Taught Using Conventional Technique.

In connection to the Figure 3 above, this study found that descriptive analysis of data of A₁B₂ shows that score is 60 up to 76. The mean is 66.9474. The data obtained from descriptive statistic table and the standard deviation is 4.96066. The graphic can be seen in the following Figure 3 above.

Data Analysis

The purpose of normality test is to know that the sample is in normal distribution or not; and the

purpose of homogeneity test is to know that data are homogeneous or not. Each test will be presented in the following section:

Normality test

In detecting normality using Kolmogorov Smirnov table approach. Based on the test results through SPSS, the results can be seen from Table 4.5.

Table 4.5 the result of normality variable

No.	Variable	Significance	Note
1	Speaking Control	0.025	Normal
2	Speaking Experiment	0.016	Normal
3	Control Motivation	0.013	Normal
4	Experiment motivation	0.024	Normal

Based on Table 4.5 above, it found that the value of Kolmogorov-Smirnov for each variable has significance lower than 0.05 (5%), it can be said that each of the variables were normally distributed.

Homogeneity Test

Before hypothesis test is conducted, the homogeneity test should be done. It aims to detect whether each of the variables tested have a homogeneous relationship or not. The tests were conducted with SPSS which can be seen in the table below:

Tabel : The result of variable homogeneity test

No.	Variabel Relationship	Levene Statistic	Sig.	Note
1	NHT and Control technique	9.138	0.003	Homogen
2	NHT High Motivation with Conventional High Motivation	5.229	0.027	Homogen
3	NHT low motivation with conventional Low Motivation	6.128	0.018	Homogen

The result of Kolmogrov-Smirnov statistics analysis in the table 4.6 showed that each variable relationship has significance under the fault tolerance of 0.05 (5%), it can be said that each variable is homogeneous relations.

Discussion

The purpose of this experiment study is to perceive the effectiveness of NHT techniques in the process of teaching and learning, especially in teaching speaking to senior high school students. The discussions of the finding are as follows:

1. The Significant Difference between Using NHT Technique and Conventional Technique in Teaching Speaking.

To answer the first question that is there any significant differences in speaking ability between the students who are taught by using NHT and those taught by using the conventional technique, the Anova test shows that F_{count} is higher than F_{table} ($35.132 > 3.970$) and the significant level lies on 0.00, it is under error tolerance ($\alpha=0.05$). these data indicates that H_a is accepted and H_o is rejected. The finding implies that speaking achievement of the students who were taught by using NHT technique and those who were taught by conventional technique is significantly different. Therefore, it can be concluded that numbered head together is more effective than conventional technique in affecting students' speaking achievement. The finding above confirms the theory which is proposed by some experts related to the effectiveness of NHT technique as one of the cooperative learning technique for teaching speaking. To begin with, Hopkins (2008:172) affirms that *NHT activities assist the students to share information and make sure everyone in each can speak. It gives every pupil a chance to shine and because they have the group behind them no one is made anxious about speaking. Successful responses bolster both individual and collective confidence, make the students feel attractive in practice speaking.* Furthermore, Alan et al (2005) states that NHT activities provide the academic and social benefits for students, for instance; student can learn actively, and they can promote inter-personal and inter-group understanding. These following benefits consider contributing the students' success in speaking. The finding of this study also strengthens the result of previous studies conducted by Nur (2013), Daniel (2013), and Nuruddin (2013) which investigated the use of NHT technique toward

students' speaking ability. The result of those studies revealed that NHT technique is effective technique to be used in improving students' speaking ability.

1) Teaching Speaking Using NHT Technique is more Effective than Conventional Technique for the Students with High Motivation in Learning.

Refer to the second question which is proposed in this study, the Anova test shows that F_{count} is higher than F_{table} ($8.090 > 4.113$). It means that H_0 is rejected and H_a is accepted. This data indicates that speaking achievement of the students with high motivation taught by NHT technique and those with high motivation taught by conventional technique is significantly different. Furthermore, descriptive test also indicates that the mean score of the students with high motivation taught by NHT techniques is higher than those with high motivation taught by conventional technique ($77.0526 > 72.8421$).

In short, NHT technique is more effective instead of conventional technique in affecting students with high motivation in terms of their speaking achievement. The finding above supports the theory which is proposed by Zenzen (2002). He stated that high motivation creates the drive in the students to acquire the targeted language, enjoy the learning process, and real communication experience.

2) Teaching Speaking Using Conventional Technique is not more Effective than NHT for the Students with Low Motivation

Refer to the third question which is proposed in this study, the Anova test shows that F_{count} is higher than F_{table} ($19.122 > 4.113$). It means that H_0 is rejected and H_a is accepted. This result implies that speaking achievement of the students with low motivation taught by NHT technique and those with low motivation taught by conventional technique is significantly different. In addition, descriptive test also indicates that the mean score of the students with low motivation taught by NHT techniques is higher than those with low motivation taught by conventional technique ($72.8421 > 66.9474$). Therefore, NHT technique is more effective instead of conventional technique in affecting students with low motivation in terms of their speaking achievement. The finding above supports the theory which is proposed by Marhaeni (2005) *confirms that the students with low motivation are interested in static condition in which they feel secure and comfortable because they are not ready to face new thing (feedback) and tend to consider the feedback as their weaknesses. In connection to the theory above, the students with low motivation get difficulties in receiving and also act in learning process. In line with this argument, the use of NHT for the students with low motivation is better than conventional technique in affecting their achievement. It caused by NHT technique assist the students to share information, Hopkins (2008). In addition, this technique also provides academic and social benefit, can promote inter-personal and inter-group understanding, Alan et al (2005).*

4. CONCLUSION

Based on the result of the data analysis presented in the previous chapter, it can be concluded that:

- 1) Using NHT is much more effective than conventional technique for teaching speaking skill to the twelfth grade students of SMAN 8 Mataram. It can be proven by the result of two ways ANOVA test revealed that $F_{\text{count}} \geq F_{\text{table}}$ ($35.132 > 3.970$), in this case H_a is accepted and H_0 is rejected. It can be concluded that the speaking achievement of the student who were taught by using NHT technique and those who were taught by conventional technique is significantly different.
- 2) Using NHT is more effective than conventional technique for teaching speaking skill to the twelfth grade of SMAN 8 Mataram students who have high motivation. It can be indicated by showing the result of two ways ANOVA test showed that $F_{\text{count}} \geq F_{\text{table}}$ ($8.090 > 4.113$), in this case H_a is accepted and H_0 is rejected. It can be concluded that NHT technique is more effective than conventional technique to teach speaking for the students who have high motivation in learning
- 3) Using NHT technique is not more effective than using conventional technique for teaching speaking skill for students who have low motivation. It is shown by the result of ANOVA test that $F_{\text{count}} \geq F_{\text{table}}$ ($19.122 > 4.113$), in this case H_a is rejected and H_0 is accepted. It can be concluded that conventional technique is not much better than NHT technique to teach speaking for students who have low motivation.

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