

# THE EFFECTIVENESS OF NUMBERED HEADS TOGETHER IN TEACHING READING VIEWED FROM STUDENTS' LEARNING MOTIVATION

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## ABSTRACT

The study is aimed at finding out: the difference between Numbered Heads Together (NHT) strategy and expository strategy for teaching reading; the difference between students who have high and low motivation in reading ability; and the interaction between teaching strategies and motivation in teaching reading. The population was all of the eight graders of SMP N 1 Tulung Klaten in 2009/2010 academic year consisted of six classes. Two out of six classes consisting of 40 students from each were taken as the sample by applying cluster random sampling: Class VIII E as the experimental group and Class VIII F as the control group. The experimental group was taught reading using NHT strategy, while the control group was taught using expository strategy. The instruments for collecting the data were a questionnaire on reading motivation and a reading test. The writer analyzed the reading test scores of students who had high and low reading motivation in the experimental and control groups. Multifactor Analysis of Variance (ANOVA) and Tuckey test were applied with significance  $\alpha = 0.05$ . Based on the result of data analysis, it can be concluded that: (1) NHT was more effective than expository strategy in the teaching of reading; (2) the students who had high learning motivation had higher reading ability than those who had low one; and (3) there was an interaction between teaching strategies and motivation for the teaching of reading.

**Keywords:** *Number Heads Together (NHT), Reading, Motivation.*

## ABSTRAK

Penelitian ini bertujuan untuk mencari : perbedaan Strategi *Numbered Heads Together (NHT)* dan strategi ekspositori dalam pengajaran membaca; perbedaan kemampuan membaca siswa antara siswa dengan motivasi tinggi dan siswa dengan motivasi rendah; dan interaksi antara strategi mengajar dan motivasi dalam pengajaran membaca. Populasi dalam penelitian ini adalah seluruh siswa kelas delapan tahun pelajaran 2009/2010 yang terdiri dari enam kelas. Dua dari kelas tersebut diambil menjadi sampel penelitian dengan menggunakan teknik *cluster random*, 40 siswa dari kelas VIII-E sebagai kelompok eksperimen dan 40 siswa dari kelas XIII F sebagai kelas kontrol. Kelas eksperimen menggunakan belajar membaca dnegan menggunakan strategi NHT, sedangkan kelas kontrol menggunakan strategi ekspositori. Instrumen pengambilan data menggunakan angket motivasi membaca dan tes membaca. Data yang didapat kemudian dianalisa dengan menggunakan Anova dan uji Tuckey. Hasil penelitian ini menyimpulkan bahwa: strategi NHT lebih efektif diterapkan dibandingkan strategi ekspositori dalam kegiatan membaca, siswa dengan motivasi belajar tinggi memiliki kemampuan membaca lebih tinggi dibandingkan dengan siswa dengan motivasi belajar rendah, dan terdapat interaksi antara strategi mengajar dan motivasi membaca dalam pengajaran membaca.

**Kata Kunci:** *Number Heads Together (NHT), Reading, Motivation.*

## BACKGROUND

People may see the increasing need for learning English in Indonesia nowadays because of its widespread use in various fields in facing the globalization such as education and information. Related with those fields we can see the proof of it through a number of international seminars, talk shows, and workshops held throughout the world, certainly the speakers will use English in their topic. Hence, audiences are required to be able to listen to and understand an English speech or presentation in order to gain information. In other way, most of business organizations require their employees to pass some certain English proficiency tests, such as General English Proficiency Test (GEPT), Test of English for International Communication (TOEIC), and Test of English as a Foreign Language (TOEFL), etc. Based on this trend, learning English has been the current rage in Indonesia. More and more people enroll in continuing and extension education to further English ability and upgrade their edges. Government also support this English needs by making the English subject as the compulsory one in school's curriculum.

In Junior High School, the students' reading skill is crucial. Reading is one of language skills which should be developed in the teaching-learning process in Junior High School besides listening, speaking, and writing. Among the four skills, reading takes the most portions in national examination of Junior High School. It is in line with Permendiknas No. 78 year 2008 about the standard competence of national examination for Junior High School that contains reading as the main core tested.

In accordance with the Standard of Competence and the syllabus, teaching reading to Junior High School student of grade VII is directed to help them understand meaning of functional written texts and simple essays in the form of descriptive, narrative, recount, procedures, and report text related to surrounding environment. The students are expected to be able to understand the text by identifying generic structure, word meaning, main idea, explicit and implicit information and others skills.

In fact, the students still have many problems and difficulties in improving their reading ability. The difficulties are related to the understanding of: (1) the general idea of the text; (2) main idea of the text; (3) stated and implied information of the text; (4) certain word reference; (5) the meaning of the words; and (6) the text organization. The phenomenon of the difficulties of reading has also been experienced by the English teachers of SMPN I Tulung. It is due to the fact that their students in the eighth grade of SMPN 1 Tulung still have low English achievement. In addition, their reading test result is not good and they tend to be lazy to read

the reading text. Many students said to their teacher that they have difficulties to comprehend and to deduce the meaning of the text. Others students said that they do not like to read and lazy to read the text. In other words, they have a little motivation to read.

Motivation is one of the internal factors considered very important in teaching and learning process. Motivation is one of the factors that influence the learning process. According to Suryabrata (2002: 233), there are two factors that influence the learning process. They are external factors and internal factors. External factors can be classified into two groups: social and non-social factors. Social factors can come from the students themselves and non- social factors can be the place or location, the weather, and time when the learning process happens. Internal factors can also be classified into two groups. They are physiological factors and psychological factors. The physiological factors include the function of certain organs that students have. The psychological factors can be the students' motivation to read and interest.

Motivation is assumed as a great role in determining the success of learning process to reach the goal of learning and the students' activeness. It means that the students with low motivation or unmotivated students probably will face difficulties in learning process while students with high motivation or highly motivated students can reach the learning objectives easily. High motivation students tend to participate actively in learning process. They often ask questions and like to share ideas with their friends, This condition is also relevant with Ngalm Purwanto (1990 : 120) about the high and low motivation.

Moreover, environment of the school and teaching strategy as external factors that used by the teachers also influence the success of the learning of English reading. The classes in SMP N 1 Tulung are not comfort enough, the numbers of books in the library are still under the average and technology hasn't played well in that school. Then, teaching strategy is also one factor that creates a tense classroom. Many teachers in SMP N 1 Tulung still use the expository teaching strategy in a classroom. Expository teaching strategy is also known as direct instruction, as it is stated by Roy Killen (1998) in Sanjaya (2009, 177). According to Borrich (1996, 244), expository teaching strategy is a teacher centered strategy in which teachers are the major information providers. This strategy is focused on providing verbal explanation by the teacher to large group of students in order to make them understand the material optimally. In this strategy, students are generally concerned with improving their own grade, and goals are individualistic rather than group wide. The students have a little chance to use the language. In teaching reading, expository teaching strategy is quite passive and tense since the teacher just asks the students to translate the reading text and do the worksheet in the textbook. Sanjaya (2009, 191) also stated that the weaknesses of expository strategy are: 1) the students tend to be

passive; 2) the students tend to be bored; 3) it only works well for the students who have good listening skill.

While expository teaching is a teacher-centered strategy in which teachers are the major information provider, Numbered Heads Together (NHT) offers a strategy which makes the students as a center of the teaching learning process rather than the teacher-centered (Kagan, 1994). NHT is under cooperative learning strategy that holds each student accountable for learning the material. Unlike expository teaching that focused on reading translation and tasks, NHT allows students to be actively involved in reading discussion, fostering positive interdependence among groups, and developing communicative skills ([www.Kaganonline.com/Articles/Index.html](http://www.Kaganonline.com/Articles/Index.html)). The students can elaborate their knowledge to solve the reading problems within the group. In addition, the numbering system in NHT makes the students having responsibility for their own in reading review or activities since in NHT students are placed in groups and each person is given a number (from one to the maximum number in each group). They have the same chance to be called by the teacher to participate in reading activity. NHT is effective because all students in groups are held equally responsible and have motivation to support one's another learning. Then, it is possible to create a good or high learning motivation to every student and create a good social interaction to against the student's character differences. One study (Maheady, Mallette, Harper, & Sacca, 1991) compared the effects of Numbered Heads Together to direct instruction strategy. The study stated that students always performed better when Numbered Heads Together was used and on-task rates were approximately twice as high using this strategy. This strategy emphasizes the corporation, work team or social interaction in order to construct the knowledge and concepts in learning reading.

After considering the reading problems, the weaknesses of expository teaching strategy and the benefit of NHT, the writer focuses on the two teaching strategies, expository teaching and NHT strategy to be research variables in this study. It is derived for some reasons. First, both teaching strategies are applicable to be used in Junior High School level. Second, both of them share different perspective and principles in teaching procedures. In order to investigate the effects of teaching strategies, expository and NHT teaching strategy, the writer adopts an experimental research. It is used to know NHT teaching will be put as experimental variable and expository teaching strategy is as control variable. Meanwhile, reading ability is placed as a dependent variable. Then, the writer also considers students' learning motivation as simple effect or moderator variable (high or low) to know whether NHT and expository teaching strategy is suitable for students who have high motivation or low motivation.

This study applied to answer the following questions: (1) Why do the students get difficulties in learning reading?; (2) Does the students' ability influence the students in learning reading?; (3) Does the students' learning motivation influence the students in learning reading?; (4) Do the environment and school's facilities affect the students in learning reading?; (5) Does the inappropriate teaching and learning strategy cause problems for the students in learning reading?; (6) Does NHT work best in teaching reading so that students are able to improve their reading ability?; and (7) Does expository teaching work best in teaching reading so that students are able to improve their reading ability?

## **METHODOLOGY OF RESEARCH**

To answer the problems of the study, the researcher applied one of the experimental studies, which was a factorial design study. Through experimentation, cause and effect relationship can be isolated. Because of its ability to identify causation, the experimental approach has come to represent the prototype of the scientific method for solving problems. Christensen, (1977:35).

The population of the research was eight classes of all eighth grade students of SMPN 1 Tulung Kecamatan Tulung, Klaten Regency in 2009-2010 academic year. The sample was taken by using cluster random sampling: two out of six classes, VIII E for experimental and VIII F was for control class which had similar ability or starting point from the mean score of their final result in semester 1. Furthermore, each class was divided into two groups, students who had high motivation and those who had low motivation. One of the two classes was taught by using NHT Strategy, and learning and the other class was taught by using Expository Teaching strategy. Therefore, there were four groups (1) students having high motivation who were taught by using numbered heads together teaching strategy (2) students having high motivation who were taught by using expository teaching strategy (3) students having low motivation who were taught by using numbered heads together teaching strategy; and (4) students having low motivation who were taught by using expository teaching strategy.

To obtain the data, the writer used the questionnaires and the reading test. The questionnaire is used to classify students into two groups, students with high motivation and those with low motivation. The researchers employed median to classify the sample. The students who had greater score than median were classified into high motivation students and the rest or the students who had fewer score than median were classified into low motivation students. The questionnaire consists of statements about students' motivation. There were four alternatives that could be chosen in each item. A *Likert* scale including four points scale instead

of five points, in which the interval between each point on the scale was assumed to be equal was used here.

The questionnaire was tried out before treatment and it was conducted in the other class, VII B, which were not in neither the experiment nor the control one, in order to find out the validity and reliability of the questionnaire. Based on the calculation, there were forty-four items were valid and reliable. The valid items were numbers 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 32, 33, 34, 35, 37, 38, 41, 43, 45, 46, 47, 48, 49, 50. All forty-four items were used to get the data including the process and the result of the reliability of the motivation questionnaire.

The other test used to obtain the data was a reading test. The reading test was tried out in order to find out the validity and the reliability. The tryout was conducted in the other class, which were not in neither the experiment nor the control one, in order to find out the validity and reliability of the reading test. The result of reading test was there were forty-five items considered valid and reliable. They were question number: 1, 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 14, 15, 17, 18, 19, 20, 21, 22, 23, 23, 24, 25, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 49, 50. These forty-five items were used to obtain the data. The reading test was administered after treatment. The treatment was conducted for eight times of meeting.

The technique used in analyzing the data was descriptive analysis and inferential analysis. Descriptive analysis was used to know the mean, median, mode, and standard deviation of the scores of the reading test. Inferential analysis used was ANOVA 2x2. An ANOVA was used to find out if there was a significant difference between two group means. However, the ANOVA analysis simply indicated there is a difference between two or more group means, but it does not tell what means there is a significant difference between. Then, a post hoc test needed to be conducted. The Tuckey Test is a post hoc test designed to perform a pairwise comparison of the means to see where the significant difference was. This test was conducted after the writer found the effect in the ANOVA problem.

## FINDINGS AND INTERPRETATIONS

### Findings

The result answers of the problems: (1) Was there any difference on reading ability between students who are taught with NHT strategy and those who were taught with expository teaching strategy?; (2) Was there any difference in reading abilities between students with high and low motivation in learning reading?; and (3) Was there any interaction between teaching strategies and motivation in terms of students' reading ability? were as follows:

Table 1. Multifactor Analysis of Variance

Source of variance	SS	df	MS	F <sub>o</sub>	F <sub>t(0,5)</sub>
Between columns (teaching strategy) =A	241.513	1	241.513	33.4487	3.97
Between rows = B (motivation)	702.113	1	702.113	97.2402	
Columns by rows (interaction) = AB	567.112	1	567.112	78.5431	
Between groups	1510.738	3	503. 579		
Within groups	548.75	76	7.2204		
Total	3370.23	79			

Based on Table 1 above,  $F_{oA}$  between columns (33.4487) was higher than  $F_{t(.05)}$  (3.97). It means the difference between columns was significant. It could be concluded that teaching reading using NHT to the eighth grade students at SMP Negeri 1 Tulung was significantly different from the one using Expository strategy. The mean score of the students taught using NHT (25.8) was higher than the one that taught using Expository (22.4). It means that teaching reading using NHT to the eight grade students of SMP Negeri 1 Tulung was more effective than using Expository strategy.

$F_{oB}$  between rows (97.2402) was higher than  $F_{t(.05)}$  (3.97). Furthermore, the difference between rows was significant. It could be concluded that students having high learning motivation was significantly different from those having low learning motivation. The mean score of the students having high learning motivation (27.1) was higher than those of having low

learning motivation (21.1). It means that reading ability of the students having high learning motivation was better than those having low learning motivation.

Furthermore, in order to find out the interaction effect between teaching strategies and motivation in terms of students' reading ability, the data showed that  $F_0$  interaction (78.5431) was higher than  $F_{t(0.05)}$  (3.97). It could be concluded that there was an interaction between teaching strategy and motivation.

After using ANOVA test, the researcher analyzed the data using Tuckey test. NHT compared with expository strategy for students having high motivation

$$\begin{aligned} \text{Between column}_{(HM)} q &= \frac{\bar{X}c_1r_1 - \bar{X}c_2r_1}{\sqrt{\frac{\text{Error variance}}{n}}} \\ &= \frac{31.5 - 22.7}{\sqrt{\frac{7.2204}{20}}} \\ &= \frac{8.8}{0.6008} \\ &= 14.6459 \end{aligned}$$

Because between column  $q_0$  (14,6459) was higher than  $q_{(0.05)} = 2.95$ , so Numbered Heads Together strategy differed significantly from Expository strategy for teaching reading for the students having high motivation. The mean score of the students having high motivation who were taught by using Numbered Heads Together strategy (31.5) was higher than those who were taught by using Expository strategy (22.7). In brief, Numbered Heads Together (NHT) strategy was more effective than Expository strategy for teaching reading for students with high motivation.

Data for NHT compared with expository strategy for students having low motivation were as follows:

$$\begin{aligned} \text{Between column}_{(LM)} q &= \frac{\bar{X}c_1r_2 - \bar{X}c_2r_2}{\sqrt{\frac{\text{Error variance}}{n}}} \text{ or } q = \frac{\bar{X}c_2r_2 - \bar{X}c_1r_2}{\sqrt{\frac{\text{Error variance}}{n}}} \\ &= \frac{20.25 - 22.1}{\sqrt{\frac{7.2204}{20}}} \end{aligned}$$

$$\begin{aligned}
&= \frac{22.1 - 20.25}{\sqrt{\frac{7.2204}{20}}} \\
&= \frac{1.85}{0.6008} \\
&= 3.079
\end{aligned}$$

Because between columns  $(LM) q_0$  (3.079) was higher than  $q_{t(0,05)} = 2.95$ . It means, Expository strategy differed significantly from Numbered Head Together strategy for teaching reading for the students with low motivation. The mean score of the students having low motivation who were taught by using Expository strategy (21.175) was higher than those who were taught by using Numbered Heads Together strategy (20.25). It could be concluded that Expository strategy was more effective than numbered heads together strategy for teaching reading for students with low motivation.

## INTERPRETATIONS

There was a significant difference on the effect between teaching reading using Numbered Heads Together (NHT) strategy and teaching reading using Expository strategy. Teaching reading using NHT to the eighth grade students of SMP Negeri 1 Tulung was more effective than the one of those having Expository strategy. NHT as one of many strategies in cooperative learning builds students' accountability within groups. It is good in processing information, communication, developing thinking, review of material and checking prior knowledge. It is also stated in Maheady, Mallette, Harper, and Sacca (1991, p. 2) that students who were taught by NHT always performed better than students who were not. They also added that NHT's characteristic creates a good positive interdependence, equal participation, individual accountability and simultaneous interaction. They are motivated to be ready when their numbers are being called by the teacher. They will be more active, cooperative, discipline, serious but not tense. It is in line with the theory in Lie (2008, p. 59) that cover NHT as a strategy which motivates the students to improve their spirit to study and their social interaction within group. It can be seen from NHT's numbering system and when the students put their heads together before answering the teacher's question. Meanwhile Expository teaching strategy makes the students depend on the teacher's explanation and translation almost of the time in reading class. The students tend to be passive and have no courage to share their ideas

to his or her friends. It is obvious that they are not active and do not develop their knowledge well. It is in line with Sanjaya (2009: 191) that explained about Expository teaching strategy which only depend on the teacher's competence such as their preparation, confidence, knowledge, enthusiasm, motivation and also their classroom management. He also added that expository has a one-way communication style that makes the limited chance to the teacher to control the students' understanding for the material given.

There was a significant difference in reading ability between students with high motivation and those with low motivation. Reading ability of the students having high learning motivation was better than the one of those having low learning motivation. Sardiman (1992, p. 75) states that learning motivation has specific roles in promoting learning enthusiasm, joy, and interest. Highly motivated students are usually active, curious, performing hard effort to gain the goal, enthusiastic, and courageous are to take risk for their learning. Curiosity makes them challenged to find more learning resources to satisfy their needs. Courage makes them brave to express ideas and to practice which means more chance for them for learning. Natawidjaya and Moesa (1992:52) determine the roles the roles of learning motivation as follows: (1): motivation determines learning reinforcement; (2) motivation determines the goal of learning; (3) motivation determines the types of control toward learning stimuli; and (4) motivation determines learning seriousness. Low motivated students do not often perform hard effort to learn more. They are not actively involved in the learning activities. They do not have enough courage to take risk to enrich their knowledge. They prefer listening to the teacher to having effort to do anything themselves.

There was an interaction between teaching strategies and motivation. The teaching strategies that used by the teacher in the class gave a big influence for the success of the teaching and learning process. Good teaching strategies in the class challenge students to perform a better learning and increase students' motivation. Students are more motivated to learn when they taught using challenging and interesting teaching strategies. NHT is one of the challenging strategies that automatically force the students to be actively engaged in the classroom since it has a good structure that appears in how it builds students' knowledge around individual responses (Kagan, 1994: 1). The student has a chance to develop individual accountability and also his or her social relationship unintentionally. When it is applied in the classroom activities, the high motivated students will be more motivated to learn. They feel energetic and ready every time his or her number is being called to participate in reading activities and the result will be better learning achievement. It is in line with Harmer (1991: 5-6) that suggests some factors that affecting intrinsic motivation in language learning. One of

them is strategy or method of teaching that used by the teacher. Good teaching strategy will give effect on students' intrinsic motivation. Meanwhile, expository strategy is more suitable for low motivated students. They are difficult to elaborate their ideas, thoughts and feeling. They tend to be passive and usually get the knowledge only from their teacher. They lack of awareness, courage and lazy to join the learning activity. Moreover, some low motivated students tend to be shy and quiet on his or her seat and do not have good social interaction with his/her friends in group. Based on Ross and Kyle research (1987) in Sanjaya (2009: 180) also stated that expository strategy is more effective to be applied to low achieving students and low motivated students.

## **CONCLUSION, IMPLICATION, AND SUGGESTION**

### **Conclusions**

Based on the results of the analysis and interpretation, several conclusions can be drawn. First, in general, Numbered Heads Together (NHT) strategy is more effective than Expository strategy to teach reading for the eighth grade students of SMPN 1 Tulung in 2009/2010 academic year. Second, reading ability of the students having high learning motivation is better than those having low learning motivation. Third, there was an interaction between teaching strategy and learning motivation in teaching reading for the eighth grade students of SMPN 1 Tulung in 2009/2010 academic year. Fourth, Numbered Heads Together was more effective than Expository strategy for teaching reading for students with high motivation. And, fifth, Expository strategy was more effective than Numbered Heads Together for teaching reading for students with low motivation.

### **Implications**

Since Numbered Heads Together was more effective than Expository strategy for teaching reading; the use of Numbered Heads Together is recommended in reading class. This strategy helps the student to improve their disciplinary, corporation and social interaction, learning awareness, and motivation. The students with high motivation who were taught by using Numbered Heads Together had the highest score among others. It means that Numbered Heads Together is well and suitably used for high motivated students. For low motivated students, Expository teaching is more effective than Numbered Heads Together strategy. Due to the fact that each class has students with high and low motivation, Numbered Heads Together can be used with Expository to complement one another. NHT can be initiated with any of several kinds of strategies in order to make the learning process more meaningful.

## Suggestions

Based on the conclusions and implication above, it can be suggested that NHT strategy can be used as one alternative in teaching reading to the students. The following suggestions are offered to the following:

1. The Teachers
  - a. Teachers can use Numbered Heads Together and learning to teach reading to improve student's reading skill.
  - b. Teachers should have better steps in motivating students to involve actively in the teaching learning process especially for students having low motivation who tend to be passively engaged in the English class.
2. The students
  - a. Students must be active and involve thoroughly in the teaching learning process in order to improve their reading skills and English achievement.
  - b. For low motivated students, they should encourage themselves and realize the importance of active involvement in the teaching learning process.
3. Other Researchers
  - a. Other researches can make this research as a reference to continue some related research in different condition and characteristic.
  - b. They are also able to create a better study after they know the weaknesses of this research.

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