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Teachers' Obstacles in Implementing Numbered Head Together in Social Science Learning

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ABSTRACT

This study is aimed at describing teachers' obstacles in applying Numbered Head Together learning model in social science learning. The type of research is qualitative descriptive. The subject of the research is the third-grade teacher of elementary school in Sukoharjo Sub-district. The findings of the research were analyzed using interactive analysis of Miles and Huberman and were presented through descriptive narrative technique. The results reveal several obstacles that were experienced by the teachers. First, the time is limited. Second, the classroom atmosphere is noisy due to large number of students. Third, the number of students in total is not even. Fourth, the students interfere each other. Fifth, not all of the students work in the group. Sixth, the students are not actively responding. Seventh, the students are lack of confidence in the presentation.

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1. INTRODUCTION

The learning model can be defined as a pattern to develop the curriculum, to organize the material, and to give instruction to the teacher during the learning process. The learning model is a form of learning that is typically presented by the teacher depicted from beginning to end. The purpose of applying the learning model is making the students have the enthusiasm during the learning. It will also affect the maximum learning outcomes. The selection of learning models applied by the teacher should be adjusted to the students' characters and needs. Each model has different main objectives, principles, and pressures. As choosing a learning model should be appropriate, the teachers need to pay attention to the students' condition, the nature of teaching materials, the availability of media facilities, and the condition of the teachers themselves. The teachers must understand the learning model in order to make the learning process run effectively. One of the main objectives of the teaching and learning process is achievement in the form of a score because it is the only measurement tool that can be observed. Teachers use various teaching methods, such as lectures, discussions, and demonstrations [1]. Various knowledge and skills must also be equipped with the teachers' ability in managing the learning so that learning materials can be delivered properly and achieve the learning objectives [2]. Various knowledge and skills must be assisted by the teachers in order to deliver the material well and to achieve the expected goals. The implementation of the right learning model will provide stimulus for students during the learning process. The important objectives in applying classroom learning models are training students to work in groups, completing authentic tasks provided by teachers, and guiding the students who experience obstacles [3].

The learning model containing the discussion activities to solve the problem is Numbered Head Together [4]. The method is often used by teachers to keep the students active in the discussion and come to

the front of the class. NHT model can be one of the group models that share the reasons and consider the right answers to solve a problem. The syntax of the NHT learning model is numbering, asking questions, thinking together, and answering questions [5]. The numbering syntax is the main thing in NHT model in which the teacher divides the students into groups and assigns them having different numbers based on the number of students in the group. The syntax in asking the question: the teacher asks questions individually for students or to be discussed with the group, questions can vary from general to specific that has the different difficulty level according to the material. The syntax of thinking together is the stage when each student discusses with the group to decide which answer is correct and ensures each group to know the answers. Answering questions is a session when the teacher randomly selects a certain number and then the student whose number is assigned presents the result of the group discussion in front of the class. In this session, the student is no longer allowed to discuss with the group members, this rule is done tomake the student responsible and more motivated to participate actively during group discussions.

The concept of the NHT model refers to group learning activities where each member has a task with different member numbers. The process of each student in the group will be numbered and the teacher will assign the tasks to the group before taking the number to report the results. Conditions created when applying the NHT model allow the student to get the same opportunity to support his group to be the best. The NHT learning model basically emphasizes cooperation between group members in discussion activities. Presentation activities are carried out in turn by the representative of each group that is randomly assigned to the identity number mentioned by the teacher. The teacher gives feedback on the results of the discussions by involving the students to respond. The groups that successfully complete the task with more correct answers than any other group will be rewarded by the teacher. NHT is a learning model that has a goal to improve the students' activities in the learning process, to train students' leadership skills in making decisions, and to provide opportunities for students to interact in learning different backgrounds.

NHT learning model is expected to help students understand the material concepts of the natural and artificial environment. In addition, it also decreases the burden of the natural and artificial environment that is required to be understood by students. The implementation of NHT learning model in social science learning is expected to make the learning atmosphere of the third-grade students to be fun because this activity encourages the students to participate actively. Students are trained to master the material independently during group discussion activities. It is aimed at making the students ready to come up with their answers. The students are directed to help each other among the group members if other students experience the difficulties. The students will have the learning experience that is obtained directly in order to understand in-depth material. NHT learning model is aimed at making the students participate in learning process and have the interest of competition. They will compete to be the best among other students.

The advantages of the NHT model when it being applied are: a) all of the students become ready; b) the students discuss seriously; c) the smarter students can teach others. The advantages of applying the NHT model can be shown from the previous research results. Based on the empirical facts, the research results show that the application of NHT model can influence the students' learning achievement of Mathematics to be better than conventional learning model [6]. In addition, there are other research findings that show the application of NHT model in science subjects is better than direct learning model [7]. Therefore, the research conducting NHT learning model in social science learning is expected to give an optimal effect on learning outcomes.

In addition to the advantages possessed, the NHT model also has weaknesses when it is applied, namely: a) there is the possibility of the numbers that have been mentioned will be called back by the teacher; b) several group members are possibly not called by the teacher [8]. According Shoimin the weaknesses of the NHT model that is applied are: (a) it is not very applicable in large numbers because it takes a long time, b) the possibility that several group members are not called by the teacher due to the limited time allotment [9]. The description of the weakness of the NHT model is the obstacles experienced by researchers when conducting the research. Some weaknesses that constrain teachers in applying the NHT model need to be analyzed for the improvement in the application of NHT in the learning process. Therefore, the research was conducted to find out the obstacles faced by teachers when applying the NHT learning model on the third-grade social science learning. The purpose of this study is describing teachers' obstacles in applying Numbered Head Together learning model in social science learning.

2. RESEARCH METHOD

The type of this research is descriptive qualitative which is aimed at describing the teachers' obstacles in applying NHT model on social science learning. The research was conducted at Elementary School located in Sukoharjo District. The sampling technique was purposive sampling that represents the population of the elementary school in Sukoharjo Sub-district which was divided into two accreditation

category of A and B. The elementary schools were chosen based on the representative criteria of the population. The Elementary Schools that were used in this research were Jetis 01 and Gayam 05. The subject of research is the teachers of the third-grade of the elementary school in Jetis 01 and Gayam 05. The data validity test used triangulation technique. The methods were observation and interview. The researchers checked the validity of data by checking the observation data and the interviews results about teachers' obstacles in applying the NHT model on the third-grade of social science learning. The observation is a method of observing the learning process of social science of natural and artificial environment by applying the NHT learning model observed by the researcher. The interview is a method used to obtain data by conducting question and answer process orally between researcher as an interviewer and the teacher of third-grade of Jetis 01 and Gayam 05 as the informant. Interview activity was done at the last meeting after teacher applied NHT learning model. Interviews were conducted individually with each teacher of third-grade in each school and were interviewed directly by the researcher in-depth, free, clear and without any interference from others. Interviews were recorded by researchers. The observation and interview instruments are tailored to the four syntacts of the NHT learning model which consist of numbering, asking questions, thinking together, and answering. The data analysis techniques for the observations and interviews used interactive analysis of Miles and Huberman model through three steps namely: data reduction, data display, and conclusion. The results of data analysis of research findings were presented using qualitative descriptive with narrative text to describe the obstacles in applying NHT model in social science learning.

3. RESULTS AND ANALYSIS

Based on the results of observation and interview the learning process by applying the model Numbered Head Together (NHT) on third-grade social science subjects can be shown in Table 1.

Table 1. Implementation of Model NHT on the Learning of Social Science in the Third-Grade

NHT Sintax	Teachers' obstacles		Syntax skills	
	Gayam 05	Jetis 01	Gayam 05	Jetis 01
Numbering	The atmosphere of the class is noisy because of the large number of students	The number of students is not even	65%	70%
Asking Question	-	-	85%	85%
Thinking Together	Students interfere with each other, the class is not conducive, the number of students is too large, not all students want to discuss	Not all students work group, which actually happens is the division of tasks in each group	65%	75%
Answering Question	Time is limited, students are not actively responding, students lack confidence at presentation	Time is limited, only some students are willing to respond	70%	75%

The research activity was done when the third-grade teacher applied the Numbered Head Together (NHT) model on the subjects of social science to teach nature and artificial in the third-grade of Elementary school. The material was made differently in which it had a gradual level of difficulty in each meeting. In the first meeting, the teaching material was about understanding the definition and the characteristics of the natural and artificial environment at home and school. The second meeting material was about classifying the types of natural and artificial environments at home and school. The third meeting material was about the benefits of the natural and artificial environment at home and school. The fourth meeting material was about maintaining or destroying the natural and artificial environment at home and school. The material on the fifth meeting was formulating new ideas in the maintenance of natural and artificial environment at home and school. Learning process was begun by the information from the teacher about the material that need to be learned. Each meeting had the different material. The teacher divided the students into groups by assigning tasks to the material. Each student in a group was given a number that belongs to another group. The teacher gave the problem to the group and the students should discuss those problems to be solved. The next stage was the presentation activities represented by students who were randomly chosen by the teacher; meanwhile, other students should pay attention. The teacher appointed several students to present the results of the group discussion in front of the class. The teacher responded to the either correct or wrong answers.

The results of observations and interviews can be seen in Table 1 on the implementation of the NHT model in the social science learning in third-grade which. It was adapted to the NHT model syntax, namely: numbering, asking questions, thinking together, and answering. An overview of the observation results is shown in the syntax skill column, while the interview results are shown in the teacher's obstacles column. Based on the syntax of numbering on the NHT model, the result of observation at Jetis 01 was 75% which was supported by the interviews results. The interview showed that the obstacles on the elementary school is

the total number of the students that was not even. It resulted in the total number of students in each group become different. The observation result in syntax skill at Gayam 05 was 70% which was supported by the interview results. The large number of students made the class tends to be noisy. It always occurs when teachers divided the students into several groups. However, some students wanted to be in the same group with their close friend. The syntax skill in Jetis 01 is 75% supported by the interview result. The obstacle on the elementary school is caused by the number of students who is not even.

Based on observations and interviews of numbering syntax, the application of NHT model has not been done maximally because there were still some obstacles. Therefore, there must be solution to overcome. One of the solutions to overcome this obstacle is applying a random method of counting, for example, if the teacher wants to divide the class into 5 groups, each student counts one to five according to their seats. The students mentioning the same number gathered into one group. By doing this activity, the students are allowed to interact with other students and not allowed to choose specific friends. In addition, teachers can divide groups based on the students' level of ability, for example, the students having higher ability than other students are divided earlier and appointed as the group leader. Meanwhile, the other students can be chosen randomly. Classroom conditions also need to be considered to make the classroom conducive while the students moved their seats.

Based on the syntax of questioning, the observations from Gayam 05 and Jetis 01 were both 90%. It was supported by the results of interviews from both elementary school. The teachers were skillful. They did not experience significant obstacles when providing questions or tasks for students according to subject matter. Research conducted by Gardiner yields that tt shows that the ability and willingness of teachers to teach using their creativity is strongly influenced by the knowledge [10]. Louws reported that the research about the teacher's quality show that the differences in teaching skills are closely related to teaching experience [11]. The advice that can be given to the teacher is to remain consistent in providing questions or assignments to students both for individuals and groups. Questions or tasks assigned to students are adjusted to the subject matter and varying degrees of difficulty at each meeting. Teachers can take advantage of the environment as learning medium that can be viewed and analyzed by students directly. Fatimah reported that the students can gain knowledge from different sources. They can learn from their teachers, classmates, and the environment [12].

Based on the syntax of thinking together, the result of observation of syntactic skill of Gayam 05 was 65% which was reinforced by the result of the interview. It showed that the obstacles on the elementary school arose because the number of students was too large. Therefore, the class atmosphere was not conducive during the discussion. As a result, some students became interfere with each other and not participate in discussion, the result of observation of the syntax skill Jetis 01 was 70% which was reinforced by the interview result showing the obstacles on the elementary school. Not all of the students can cooperate in the discussion well. There were some groups that divide the task to be done by themselves and did not share the answers with the fellow group members. The students' interaction could run well by giving them opportunities to work and discuss [13]. Based on the results of observation and interview, syntax of thinking that was done in the application of NHT model has not been done optimally due to some obstacles that need the solution. The solution for the students that tend not to work can be overcome by an early learning. The teacher emphasized that the application of the NHT model shaped the learning atmosphere into a discussion group in order to complete the tasks. In the end, the answers to the group discussion results will be presented by students that were chosen randomly by the teacher. At that time, the students were no longer allowed to discuss with members of the group. These conditions made the students responsible and more motivated to work in groups to understand each answer of the given task. The solutions for the students who did not participate in the discussion were the teacher that can walk around and supervise each group so that the discussion process can take place effectively. The obstacles from students who are rowdy during the discussion process indicate that the students are too active and are less busy in doing the task. The teachers can provide direction to the group in order to maximize the assignment. In addition, the teachers adjust the assignment of the number of tasks depends on the students' ability which is not too easy and difficult. Teachers can create a competitive learning by giving rewards for groups that successfully answer the questions correctly more than any other group. This condition can motivate each group to compete to be the best.

Based on the answer syntax, the result of observation of the skill of Gayam 05 elementary school was 70% which is reinforced by the interview result. It showed that the obstacle on the elementary school occurred because the student was less confident. The students whose number was appointed as the representatives of the group were less confident and they took time to build their self-confidence. Other impacts of time are truncated and fewer students feel confident when presenting in front of the class. As a result, their delivery of presentation was not loud and clear. The result of observation of the syntax skill of Jetis 01 is 75% was reinforced by the interview. It showed that the obstacle in applying NHT model was

limited by the time allotment. Therefore, only some students have the chance to present the discussion result in front of the class or respond the other students' answers. Based on the results of observations and interviews, the application of NHT model has not been done optimally because there are still some obstacles. Therefore, there must be a solution to overcome. The solution that can be implemented is using a way to require each group to have one question for the other group's representative. The obstacles for the students who lack confidence is when being appointed to represent the results of group discussions in the classroom. Research conducted by Novitasari & Abdullah yields that the teachers can build a spirit of confidence through clapping or singing encouragement from other groups so that students become confident and dare to appear in front of the class [14]. A workable solution to overcome the limited time obstacles from early teacher learning should optimize time as effectively as possible, for example in every syntax of the NHT model the teacher gives the duration of time that the student must adhere to.

Teachers are required to be always creative and innovative in teaching, in addition to applying varied learning models on each subject matter [15]. Learning process that have the purpose of having comprehension of new information in social principle of learning, in which students withing learning groups of members with diverse abilities can do learning activities to understand new information [16]. Seitova reported that it is important that teachers have an understanding of how students learn and practices [17]. If the application of learning model experience obstacles, teachers need to analyze and find the right solutions, so that student achievement can be achieved optimally according to the learning objectives. Munawaroh reported that in addition, teachers can choose a learning model that can support teaching and learning activities to be managed effectively [18]. Agustin reported that the NHT model aims to enhance students' active learning activities, train students' leadership skills in making decisions, and improve student motivation [19]. NHT model can be interpreted as the attempt conducted by teachers to engage students in teaching and learning process. Teaching and learning activity with the implementation of NHT method affecting the students' outcome in the teaching and learning process [20]. At the time of implementation, some obstacles were observed during observation and interviews indicating that of the four syntactic NHT models, there are three syntaxes that are not optimal in their implementation. Several obstacles have been analyzed and found solutions to overcome these obstacles. The purpose of the solution has been presented so that in the future NHT learning model can be applied maximally by the teacher either for different classes or other subjects.

4. CONCLUSION

The application of the Numbered Head Together (NHT) model has benefits to be applied in social science subjects, natural and artificial environment materials in the third-grade of Elementary School. The benefits are encouraging the spirit of students to be active and enthusiastic during the learning process although the NHT model is a model of group learning. It also makes each group member responsible for the task of the group. Meanwhile, the group is to increase the cooperation from each member of the group to work together. The NHT model is aimed to enhance students' active learning activities, to train students' leadership skills in making decisions, and to provide opportunities for students to interact with different students' backgrounds. Based on observations and interviews, some syntactic models of NHT have obstacles when it is applied, such as syntax numbering, thinking together, and answering questions. Obstacles of numbering syntax include the number of students is not even, the number of students is too large, and students is noisy. The solution to overcome these obstacles is using random methods of counting for each student to count the number of seats. Therefore, the students who mention the same number gathered into one group. This way is fair because it allows the students to interact with other students and not select certain friends. The obstacles of syntax to think together, among others are the students who do not want to discuss and interfere each other, and the class is not conducive. The solutions to overcome these obstacles, they are: the teachers need to be active and walk around during the discussion process, the division of tasks is adjusted to the ability of students, and the teacher gives the rewards so that the students are encouraged to compete to be the best. The constraint in answering questions is limited time, inactive students in responding, lack confidence students during presentations. The solution to overcome these obstacles is to set time limits for each syntax of the NHT model, requiring a group to ask questions to group representatives when presentations in front of the class and give encouragement in the form of applause or chanting to spur the confidence of students who are still low. Several obstacles have been analyzed and found. In the future, NHT learning model can be applied maximally by the teachers both for the different class level or other subject.

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