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Improving the Students' Collaborative Skill by using Numbered Heads Together Method

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Abstract

The problem in this research is the most students in class VIIB of SMPN 1 Sungguminasa have difficulty collaborating in the classroom. The aim of this research is to improve students' collaboration skills using the Numbered Heads Together (NHT) method. The approach used in this research is a qualitative approach. The type of research is Classroom Action Research (CAR). The focus of this research is the implementation of the Cooperative Learning model of Numbered Heads Together. The data collection techniques used are questionnaires, observations, and documentation. The results obtained show that students' collaboration skills initially had a moderate level with an average questionnaire score of 90.04. Then there was an improvement in cycle 1, as seen from the observation results with an average score of 10.51, categorized as sufficient. Subsequently, there was a significant improvement in cycle 2, as seen from the observation results with an average score of 13.63, categorized as good. In addition, there was also an improvement in students' learning outcomes in cycles 1 and 2, with an average score of 77.31 in cycle 1, categorized as good, and an average score of 82.68 in cycle 2, categorized as very good. Therefore, it can be concluded that the use of the Cooperative Learning model of Numbered Heads Together (NHT) is able to improve the collaboration skills of students who initially had difficulty working together and being selective in choosing friends, and they became able to work together and learn from each other effectively.

Keywords: Cooperative Learning, Numbered Heads Together, Collaborative Skills, Learning Outcomes

Introduction

Ahmad Yani (2018:42) states that the skills recommended to be mastered by students in the 21st century consist of both soft skills and hard skills. Included in soft skills are creativity and innovation, critical thinking and problem-solving, communication, and collaboration. Someone who possesses communication competence can be assured of understanding various communication processes in various contexts, both verbal and nonverbal, in terms of knowledge, attitudes, and skills. The practice of applying these skills should start in the classroom, where there is interaction between teachers and students and among students.

The teaching process becomes meaningful when the teacher can create a learning environment that activates students to engage in learning. There are many methods that can be used to make students active participants in the teaching and learning process, and one of them is the Number Heads Together (NHT) method. The NHT method can be defined as the teacher's effort to involve students in the teaching and learning process. Teaching and learning activities using the NHT method have an impact on students' learning outcomes. This participation is manifested in three stages of the learning process: program planning, program implementation, and program evaluation (Maman: 2016; Bruhn: 2010; Hunter: 2016).

The NHT method is one of the methods in cooperative learning. Arends stated that the cooperative learning model is developed based on the theory of cooperative constructivist learning. This is evident in one of Vygotsky's theories that emphasize sociocultural aspects. In Vygotsky's learning theory, higher mental functions typically emerge through conversation or collaboration among individuals. The implications of Vygotsky's theory shape the structure of cooperative classrooms. Another goal of cooperative learning is to create situations where individuals can achieve success driven by the functions and roles of their groups to accomplish three primary learning objectives: academic competence, acceptance of individual differences, and the development of social skills (Maman et al., 2016).

According to Idris Apandi (2018:12), the learning activities serve as a strategic means to enhance students' communication and collaboration skills. Group-based or cooperative learning trains students to collaborate and work together. Collaboration fosters a sense of togetherness, ownership, responsibility, and mutual concern among the members. To facilitate students in improving these skills, it is necessary to choose a teaching model with techniques that align with the characteristics of the subject matter, the students, and the teacher's abilities. In line with the research mentioned above, a study conducted by Maman et al. (2016) states that the Numbered Heads Together (NHT) method can enhance students' reading comprehension competence and their abilities in cooperation, creativity, participation, and responsibility.

In classroom teaching, there are numerous models and methods available for teachers to use. In her research, Riskayanti (2021) stated that "Teaching with the lecture method alone cannot develop students' collaboration skills." Therefore, there is a need for a teaching model that can enhance students' collaboration. Meanwhile, based on previous research conducted by Rahayu et al. (2019), it was shown that the Project Based Learning model can improve students' collaboration skills in the topic of ecosystems using Zoom. This is also in line with the research conducted by Akbar (2022), which stated that the use of the cooperative learning model with the jigsaw technique can enhance the collaboration and communication skills of seventh-grade students in the concept of the organization of

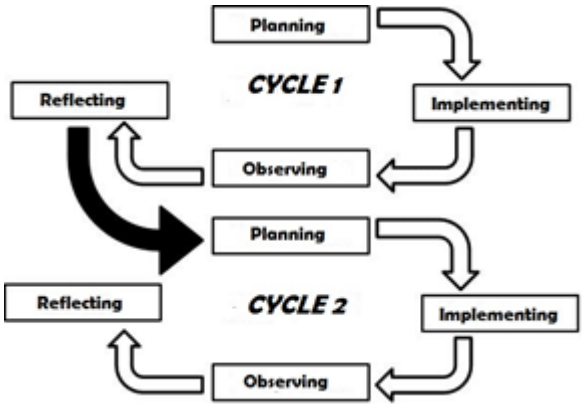
life systems.

Based on the observations conducted during the Field Experience 2 in cycles 1 and 2 at SMPN 1 Sungguminasa, it was observed that the students faced challenges in collaboration skills where they tended to form groups with specific individuals. This became a significant issue for the students when the teacher aimed to implement cooperative learning in the classroom. This difficulty hindered the students from effective collaboration, mutual support, and sometimes led to them waiting for answers from their peers when given tasks. Based on the aforementioned background, the researcher conducted a study with the title "Improving the Students' Collaborative Skill by Using Numbered Heads Together at SMPN 1 Sungguminasa Class VII B" as an effort to improve students' collaboration skills in sociology learning.

Research Methods

The type of research that the researcher will use in this study is the classroom action research. The sample for this research consists of 41 students from class VII B of SMPN 1 Sungguminasa for the academic year 2022-2023. This research was conducted at SMPN 1 Sungguminasa from February 20 to May 31, 2023.

The research design is conducted using a classroom action research design consisting of two cycles. Classroom action research is carried out through four stages within one cycle, which are planning, action, observation, and reflection. Each cycle is implemented in a single teaching session with a time allocation of 3 sessions, each lasting 40 minutes. This classroom action research model is based on the Kemmis and McTaggart model, as presented in the following diagram:



Picture 1. CAR Cycle

In the first cycle, there are four stages: planning, implementation (treatment), observation, and reflection. In the planning stage, the research identifies the curriculum used in the school where the study takes place and prepares the teaching materials. In the implementation stage, the teaching activities are carried out using the NHT method by dividing the students into several groups consisting of 6-7 students in each group. The third stage is observation, where the students are observed using an observation sheet. The final stage is reflection, where there is an opportunity to analyze the results of the action. If it is found that the intervention did not solve the problem adequately, the next step in this stage is to discuss the next activities with the teacher to carry out the second cycle of action

research as in the subsequent cycle.

In Cycle II, observation activities are conducted using measurement tools in the form of questionnaires and documentation during the learning process. The steps or actions taken are carefully planned by the researcher and then discussed with the School Principal, mentor teachers, and classroom teachers to serve as guidelines for implementing the actions. The researcher provides collaboration skills questionnaires to the students to fill out, and the researcher also completes an observation sheet to monitor changes in students' collaboration skills during the learning process. The researcher observes the students' learning activities using the Cooperative Learning model, specifically the Numbered Heads Together (NHT) approach.

In this stage, the teacher implements the Cooperative Learning model, specifically the Numbered Heads Together (NHT) approach, in accordance with the prepared lesson plan. During the teaching and learning activities, the teacher endeavors to deliver the social studies (IPS) content using the Cooperative Learning model, specifically the Numbered Heads Together (NHT) approach, which is carried out in a single teaching session.

In this research, the instrument used is a questionnaire consisting of 30 statements with 4 response options, which are analyzed using a Likert scale.

Research Results and Discussion

Results

This classroom action research was conducted with students from class VII B at SMPN 1 Sungguminasa, from February 20 to May 31, 2023. The implementation follows the principles of Classroom Action Research (PTK), which consists of four stages: planning, action implementation, observation, and reflection. The research data is categorized as qualitative data.

The research data consists of the collaboration results of the students, obtained through observations using collaboration skills questionnaires in both Cycle 1 and Cycle 2. Additionally, other supporting data includes documentation of the teacher's teaching activities and the students' learning activities during the application of the Cooperative Learning model, specifically the Numbered Heads Together (NHT) approach.

Observation Stage Cycle I

1. Description of the Results of the Collaboration Skills Questionnaire in Cycle I

The collaboration skills questionnaire was administered to the students at the beginning of the learning process with the aim of assessing the students' initial collaboration skills before implementing the Cooperative Learning model, specifically the Numbered Heads Together (NHT) approach. The results from the student questionnaire are as follows:

Table 1. Result of Students' Collaborative Skill

N	Valid	41
	Missing	0
Mean		90.0488
Std. Deviation		7.91186
Variance		62.598
Minimum		75.00
Maximum		101.00
Sum		3692.00

Based on the questionnaire results above, out of 41 students, the lowest score was 75, the highest score was 101, and the average score was 90.04, which falls into the moderate category. Therefore, it can be concluded that the initial collaboration skills of the seventh-grade students at SMPN 1 Sungguminasa, based on the student questionnaires, are at a moderate level.

2. Description of the Results of Student Collaboration Skills Observation in Cycle I

Based on observations during the learning process in Cycle I, in terms of assessing the individual collaboration skills of students during the learning process, it was observed that:

Table 2. Result of Observation

N	Valid	41
	Missing	0
Mean		10.5122
Std. Deviation		3.22585
Variance		10.406
Minimum		3.00
Maximum		15.00
Sum		431.00

Based on the table above, which shows the results of observations of students' collaboration skills, out of 41 students, the lowest score was 3, the highest score was 15, and the average score obtained was 10.51, categorized as "Enough" Therefore, based on the researcher's observations, the collaboration skills of students in Cycle I, Class VII B SMPN 1 Sungguminasa, fall within the "Enough" category.

3. Result of Students' Learning Activities

Student learning activity results are assessed to determine the students' learning outcomes at the end of Cycle 1, which is evaluated at the end of the learning process. The results of student learning activities are as follows:

Table 3. Students' Learning Outcomes

N	Valid	41
	Missing	0
Mean		77.3171
Std. Deviation		8.66729
Variance		75.122
Minimum		60.00
Maximum		90.00
Sum		3170.00

Based on the learning results above, it can be observed that out of 41 students, the lowest score was 60, the highest score was 90, and the average score was 77.31, which falls into the "Good" category. Therefore, it can be concluded that the student learning outcomes from the learning process in Cycle 1, using the Cooperative Learning model, specifically the Numbered Heads Together (NHT) approach, in Class VIIB at SMPN 1 Sungguminasa, are considered "Good."

Observation Cycle Stage 2

1. Description of the Results of Student Collaboration Skills Observation in Cycle I

Based on observations during the learning process in Cycle I, regarding the assessment of students' individual collaboration skills during the learning process, the results are as follows:

Table 4. Student Observation Results

Statistics

Hasil Observasi 2

N	Valid	41
	Missing	0
Mean		13.6341
Std. Deviation		1.21976
Variance		1.488
Minimum		11.00
Maximum		15.00
Sum		559.00

Based on the table above, which shows the results of observations of students' collaboration skills, out of 41 students, the lowest score was 11, the highest score was 15, and the average score obtained was 13.63, categorized as "Good." Therefore, based on the researcher's observations, the collaboration skills of students in Cycle I, Class VII B SMPN 1 Sungguminasa, fall within the "Good" category.

2. Results of Students' Learning Activities

Student learning activity results are assessed to determine the students' learning outcomes at the end of Cycle 1, which is evaluated at the end of the learning process. The results of student learning activities are as follows:

Table 5. Students' Learning Results

Statistics

Hasil Belajar 2

N	Valid	41
	Missing	0
Mean		82.6829
Std. Deviation		8.95109
Variance		80.122
Minimum		70.00
Maximum		100.00
Sum		3390.00

This research was conducted using the *Project Based Learning learning* model in cycle I and Cycle II, where in Cycle I students began to be actively involved in the learning process both theory and practice in sociology subjects on the subject of social research methods. Cycle I shows an average percentage of student activeness of 75.26%, which means that there are still several indicators that still need to be improved. The cycle continues and runs better and optimally, this is an effort so that there are improvements from the results of the reflection in cycle I. The average percentage of student activeness in cycle II was 84.02%. The increase in student activeness by using the *project-based learning* model is in line with the theory of Gagne and Briggs, and Paul D. Dierich Martinis Yamin (2007) which says that to increase activeness one of them is by bringing up activity, student participation in learning activities and activities to bring up activeness in learning can be done with several things, one of which is by practice and what students do is conduct social research.

Discussion

From this research, it was found that the implementation of the Cooperative Learning model, specifically the Numbered Heads Together (NHT) approach, in Class VII B at SMPN 1 Sungguminasa can enhance the collaborative abilities of the students. This is evident in the clear improvement in the observations of students' collaboration skills in each cycle. This finding is consistent with the research conducted by Nurhamidah and Oktavian Putri (2022), which found differences in collaboration skills between the experimental and control groups, where the experimental group used the NHT teaching method and the control group used conventional teaching methods. The results showed an improvement in collaboration skills for students who received NHT-based instruction.

Furthermore, implementing the Cooperative Learning model, specifically the Numbered Heads Together (NHT) approach, also improved student learning outcomes. This is evident from the evaluation results, where students' performance improved from Cycle 1, which was categorized as "Good," to Cycle 2, which was categorized as "Excellent." This aligns with the research conducted by Purnamayanti and Tegeh (2020), which showed a significant impact on the experimental group taught using Numbered Heads Together and Talking Stick techniques in a lesson study setting compared to the control group taught by a regular teacher in terms of student learning outcomes. In conclusion, the constructivist theory combined with cooperative learning techniques like

Numbered Heads Together and Talking Stick within a lesson study setting effectively enhances the thematic learning outcomes of elementary school students in Class IVA.

From the obtained results, it can be concluded that the use of the Cooperative Learning model, specifically the Numbered Heads Together (NHT) approach, is effective in enhancing the collaborative skills and learning outcomes of students in the classroom. According to Devi, V. P., Wahyudi, W., & Indarini, E. (2018), the research results showed an improvement in collaboration skills. In the pre-cycle, the average score was 61.18, indicating a moderate level of collaboration skills. In Cycle I, the average score was 73.64, still indicating a moderate level. However, in Cycle II, it increased to 86.06, indicating a high level of collaboration skills.

The learning outcomes for Theme 8, which included subjects like Bahasa Indonesia, IPS, and PPKn, improved as well. In the pre-cycle, the average score was 64, with a mastery percentage of 36.7%. In Cycle I, the average score was 75.9, with a mastery percentage of 70%. In Cycle II, it further improved to 82.73, with a mastery percentage of 96.7%. In conclusion, the implementation of the Numbered Heads Together (NHT) method combined with puzzle activities can enhance students' collaboration skills and learning outcomes.

In general, the results of Cycle II have met the expected research criteria for success, although there are still some limitations. Therefore, the research can be considered successful, and further cycles may not be necessary due to limited time constraints. Hence, the collaboration skills of Class VII B students at SMPN 1 Sungguminasa improved through the application of the Cooperative Learning model, specifically the Numbered Heads Together (NHT) approach.

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Conclusion

Based on the questionnaire results, observations, and student learning outcomes in Cycle I and Cycle II, the use of the Cooperative Learning model, specifically the Numbered Heads Together (NHT) approach, is effective in enhancing students' collaboration skills. This is evident from the improvement in students' collaboration skills. Initially, they had a moderate level of collaboration skills with an average questionnaire score of 90.04. Then, there was an improvement in Cycle 1, as observed with an average score of 10.51, which was categorized as "Fair." There was a significant improvement in Cycle 2, as observed with an average score of 13.63, categorized as "Good." Furthermore, there was also an enhancement in student learning outcomes in both Cycle 1 and Cycle 2, with an average score of 77.31 categorized as "Good" in Cycle 1 and an average score of 82.68 categorized as "Excellent" in Cycle 2. In conclusion, the use of the Cooperative Learning model, specifically the Numbered Heads Together (NHT) approach, was able to improve the collaboration skills of students who initially had difficulties working together and being

selective about their peers, enabling them to collaborate effectively and learn from each other.

Advice

Based on the observed polite behavior of the students in this Classroom Action Research (PTK) conducted with Grade VII B students at SMPN 1 Sungguminasa, several suggestions are proposed:

1. It is recommended for teachers to consider using the Cooperative Learning model, specifically the Numbered Heads Together (NHT) approach, as a reference for improving students' collaboration skills.
2. Classroom teachers are encouraged to master various teaching models and instructional media to make the learning process more engaging and appealing to students.
3. For other educators who wish to implement teaching using the Cooperative Learning model, such as the Numbered Heads Together (NHT) approach, they can conduct similar research on different subjects or themes.

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