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The Influence of the Cooperative Learning Model Type Numbered Heads Together (NHT) on Students Collaboration and Communication Skills in PPKN Learning in Grade VIII at SMP Negeri 8 Sungai Penuh

Febriza Laila Husna[1], Maria Montessori[2]
[1] Universitas Negeri Padang, Padang, Indonesia ; febrizalaila3@gmail.com
[2] Universitas Negeri Padang, Padang, Indonesia ; mariamontessori@fis.unp.ac.id

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ABSTRACT

This research seeks to examine the impact of the Numbered Heads Together (NHT) cooperative learning approach on students collaboration and communication skills in Pancasila and Civic Education (PPKn) learning in Grade VIII at SMP Negeri 8 Sungai Penuh. Starting from the issue of low collaboration and communication skills among students, this research employs a posttest-only control group design with a 2x2 design, where the experimental class applies the Numbered Heads Together (NHT) model, while the control class uses the discussion method. Data were collected through observation for collaboration skills and a communication skills assessment rubric based on group presentations. Data analysis was conducted using an independent sample t-test. The results show that the Numbered Heads Together model significantly improves students collaboration and communication skills compared to the discussion method. The findings indicate that: (1) collaboration skills in the experimental class reached 82.3% (very high category), while the control class scored 76.59% (high category). (2) The t-test results for collaboration skills show $t_{count} = 2.352 > t_{table} = 1.670$ with a significance of 0.022 < 0.05, leading to the rejection of H0 and acceptance of Ha. (3) The t-test results for communication skills show $t_{count} = 2.597 > t_{table} = 1.670$ with a significance of 0.001 < 0.05, also leading to the rejection of H_0 and acceptance of H_a. Students in the experimental class were more active in discussions, task-sharing, and expressing opinions confidently and systematically. This model enhances student engagement in learning as well as collaboration and communication skills. These findings prove that the cooperative learning model type Numbered Heads Together (NHT) is more effective than the discussion method, and its implementation is recommended to create a more interactive and participatory learning environment.

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Corresponding Author:
Febriza Laila Husna
Unviersitas Negeri Padang, Padang, Indonesia ; febrizalaila3@gmail.com

1. INTRODUCTION

The Indonesian education curriculum has undergone many changes and updates. Curriculum changes are made to meet the basic needs of students in order to create visionary learners who can adapt to the developments of the times (Kemendikbudristek, 2022). The Merdeka Curriculum

implemented in Indonesia emphasizes the importance of character and competency development through a more contextual and participatory approach (Mulyasa, 2023). n the context of Pancasila and Civic Education (PPKn), active communication and student involvement are key to achieving learning objectives, namely shaping intelligent and responsible citizens (Hasanah et al., 2021)

The learning process must align with the applicable curriculum. The curriculum not only serves as a reference for learning objectives but also provides guidance on relevant learning experiences for students (Bakhrudin et al., 2021). Therefore, the learning model implemented by teachers plays a crucial role in the successful implementation of the curriculum. One learning model considered relevant in supporting the learning objectives of Civic Education (PPKn) is the model of NHT (Wiratman, 2023).

Menurut Wulandari et al., (2023:7) The cooperative learning model of the Numbered Heads Together (NHT) type is an effective approach to enhancing students collaboration and communication skills in PPKn (Civics Education) learning. This model not only encourages students to work together in groups but also promotes the sharing of diverse ideas, insights, and perspectives, allowing them to collectively solve problems and engage in meaningful discussions. By actively participating in this collaborative process, students develop a deeper understanding of the material, as well as the ability to articulate their thoughts more clearly and persuasively. Furthermore, this approach fosters a highly interactive and participatory learning environment, where every student has the opportunity to contribute and learn from their peers. The teacher plays a crucial role in guiding students, helping them think critically, ask insightful questions, and work through challenges together. By enabling this educational process, educators establish a vibrant learning environment that strengthens not only scholastic achievement but also nurtures crucial skills for the 21st century including collaboration, effective communication, problem resolution, and analytical thinking all fundamental for students future success in our ever-evolving world. This methodology extends beyond merely covering PPKn content and provides students with practical abilities to effectively address real-world challenges (Hetharion, 2023).

The Numbered Heads Together (NHT) learning model is closely linked to the development of students collaboration and communication skills. In its implementation, this model involves group discussions that encourage students to work together in completing tasks or solving problems. This collaboration trains students to understand each members role, share responsibilities, and appreciate individual contributions (Ramlah, 2021). Moreover, the Numbered Heads Together (NHT) model also strengthens students communication skills through the process of discussion and the sequential delivery of ideas (Yandi et al., 2023). In communication, students are trained to express their opinions clearly, engage in active listening, and understand the perspectives of other group members (Yustika et al., 2019). Thus, the Numbered Heads Together (NHT) model is not only relevant to PPKn learning, which requires student engagement, but also supports the development of collaboration and communication skills as essential competencies for facing 21st-century challenges Pardoan et al., (2022).

The PPKn subject aims to shape citizens who not only understand their rights and responsibilities but can also collaborate in addressing various civic issues. Throughout the learning journey, students are expected to actively seek information from various sources, consider different perspectives, and solve problems collectively to achieve optimal learning outcomes (Kharomah et al, 2023). Therefore, implementing effective learning models such as Numbered Heads Together (NHT) is a crucial strategy to support these objectives. By actively involving students Throughout the learning journey, the Numbered Heads Together (NHT) model can create a dynamic and interactive learning environment while fostering students character development as responsible citizens (Asep et al., 2023).

However, field observations conducted by the researcher during the initial study revealed that collaboration skills among eighth-grade students at SMP Negeri 8 Sungai Penuh posed a significant challenge in the learning process. Students often struggled to work effectively in groups, such as dividing tasks and contributing equally. Only a few students actively participated, while others remained passive and merely waited for the results. Additionally, students found it difficult to

appreciate differing opinions within their groups, as each believed their perspective was the most correct. This situation led some students to become disengaged, merely following along without actively contributing to group activities. Furthermore, differences in understanding how to collaborate sometimes resulted in conflicts or misunderstandings, ultimately hindering the achievement of learning objectives.

The initial observation results indicate that the collaboration skills of eighth-grade students were relatively low, with an average of 37.52%, while 62.48% of students had not demonstrated optimal collaboration. Students still faced difficulties in taking responsibility, adapting, and respecting differing opinions within their groups. Similarly, communication skills were also low, reaching only 37.53%, while 62.47% of students exhibited weak communication skills that had not been effectively developed. These findings highlight the need to enhance collaboration and communication skills through improved teaching methods to foster active student participation in learning..

Based on the conditions mentioned above, to address these issues, it is essential for teachers to implement more interactive and engaging learning strategies, such as the cooperative learning model of NHT. This model is believed to have a significant impact on students collaboration and communication skills after its application, as it encourages them to work in groups, share ideas, communicate more actively, and take collective responsibility in overcoming these challenges.

According to Hutapea et al., (2023:163) The Numbered Head Together (NHT) cooperative learning model is a highly effective strategy in which students are grouped into small teams, with each member assigned a unique number. In this model, when the teacher poses a question to the class, students engage in meaningful discussions within their respective groups to come up with the most accurate answer. After a set amount of time for discussion, the teacher randomly selects one of the numbers, and the student corresponding to that number is expected to present the groups answer to the entire class. This approach not only encourages active participation from all students, but also fosters a sense of accountability, as each member is aware that they may be called upon to represent the groups collective response. By ensuring that every student is involved in the conversation, the NHT model promotes both individual learning and collaborative problem-solving. It enhances students understanding of the material, encourages critical thinking, and helps build confidence in their ability to communicate their ideas clearly. This model is particularly effective in creating a dynamic and engaging classroom environment where students are motivated to stay actively involved throughout the learning journey and are more likely to retain the knowledge being taught.

The ongoing research into teaching methods has shown that students learn better when they work together in groups. One particular teaching method called Numbered Head Together (NHT) has caught our attention, though its not perfect teachers at junior high schools have noticed some difficulties when using it in Civics classes, especially when trying to help students work together and communicate better. We decided to take a closer look at SMP Negeri 8 Sungai Penuh, specifically focusing on their eighth-grade students, to see if this NHT method really makes a difference in how well students work together and express their ideas. We're particularly interested in how NHT's step-by-step approach gets every student involved in class, helps shy students participate more, and makes students feel more responsible when they're working in groups. The goal is to create a classroom where students take the lead in their own learning rather than just passively listening to teachers.

The significance of this study lies in its potential to offer valuable empirical evidence regarding the effectiveness of the Numbered Head Together (NHT) cooperative learning model in enhancing students collaboration and communication skills. By focusing on these key areas, the research aims to contribute to the ongoing discourse on the effectiveness of teaching methodologies in improving student outcomes. The findings of this study are expected to provide actionable insights for educators and policymakers, guiding them in the adoption and implementation of more interactive and participatory learning strategies. These strategies are designed to foster greater student engagement, improve critical thinking skills, and enhance the overall effectiveness of Civics (PPKn) learning. This is

particularly relevant for the context of junior secondary education in Indonesia, where modern, student-centered approaches are increasingly being emphasized.

2. METHODS

This study employs a quantitative research approach with a quasi-experimental design, specifically the Posttest Only Control Group Design. This design is chosen because it allows the researcher to assess the effect of a treatment or intervention without the need for a pre-test before the intervention is applied, which is commonly used in experimental research when examining the impact of certain factors or method (Sugiyono, 2019). The primary aim of this study is to investigate how the implementation of the Numbered Head Together (NHT) cooperative learning model affects students collaboration and communication skills in the context of Civic Education (PPKn) learning at SMP Negeri 8 Sungai Penuh.

Eighth-grade students from SMP Negeri 8 Sungai Penuh were selected as the research subjects through purposive sampling. Two classes are included in the sample: Class VIII-F as the experimental group, by which the Numbered Head Together (NHT) cooperative learning model is applied, and Class VIII-G as the control group, by which the traditional discussion method is used. Each class is comprised of 32 students. Across four meetings for each group, the research was carried out, where the NHT model was used to teach the experimental group, while discussions were participated in by the control group as their primary learning method.

The data collection instruments in this study included an observation sheet designed to assess students collaboration skills using an assessment rubric, as well as a presentation assessment rubric used to measure students communication skills during the classroom discussions. In addition to these tools, documentation methods were employed to collect supporting data relevant to the learning process, such as photographs or written records of classroom activities and materials.

The research findings went through two types of analysis: basic descriptive statistics and more complex statistical testing, giving us a thorough understanding of our results. The descriptive statistical analysis was performed using Microsoft Excel, by which the systematic presentation of data related to students skills based on observations and measurements was facilitated. The trends and patterns within the collected data were interpreted more clearly through this step. Additionally, the inferential statistical analysis was carried out using SPSS version 30. The inferential analysis process was conducted through several key statistical tests: the normality test was performed using the Kolmogorov-Smirnov method, by which the normal distribution of data was determined; the homogeneity test was implemented using Levene's Test, through which the equality of variance between the experimental and control groups was assessed; and the Independent Sample t-Test was utilized, by which the research hypothesis was tested and the statistical significance between the compared groups was evaluated. Through this multi-step analytical approach, the validity and reliability of the results were ensured, by which a solid foundation for drawing meaningful conclusions was provided.

3. FINDINGS AND DISCUSSION

This section presents the research findings on the effect of the Numbered Head Together (NHT) cooperative learning model on students collaboration and communication skills. The data obtained were meticulously analyzed using various statistical methods to assess the extent of the impact of the applied learning model on students performance. These analyses aimed to provide clear, measurable insights into how the NHT model influenced the students ability to work collaboratively and communicate effectively with their peers. The research results are presented through both descriptive and inferential analyses to offer a comprehensive overview of the outcomes, highlighting both the observed trends and the statistical significance of the findings. Descriptive analysis provides a summary of the general patterns and behavior observed in the data, while inferential analysis allows

for drawing conclusions about the broader impact of the learning model across the population studied. To ensure clarity and precision in understanding the results, the findings are organized and displayed in the following table, which presents a detailed breakdown of the data and supports the conclusions drawn in this research:

3.1 Observation Results of Collaboration in the Experimental Class

This observation was conducted to assess the implementation of the Numbered Heads Together (NHT) cooperative learning model in the experimental class. The assessment was carried out by an observer using an observation sheet during the learning process over four sessions. The observation results are presented in the table below:

Table 1. Percentage of Student Observation Data on Collaboration Skills in the Experimental Class

No	Assessment Aspects	Meeting				Average	Category
		1	2	3	4		
1	Proposing ideas or contributions in discussions.	78,5%	80,2%	82,3%	83.7%	81,2%	Very High
2	Engaging in every group activity.	75.8%	78.6%	80.9%	85.9%	80,3%	High
3	Completing tasks on time.	79.2%	81.3%	83.0%	82.5%	81.5%	Very High
4	Fulfilling assigned roles within the group.	77.9%	79.8%	81.5%	80%	79.8%	High
5	Accepting others opinions or ideas.	80.1%	83.2%	85.3%	86.8%	83.9%	Very High
6	Adapting to changes in group situations.	78.6%	80.5%	82.7%	82.5%	81.1%	Very High
7	Collaborating effectively to achieve group goals.	77.5%	79.7%	81.9%	80.6%	79.9%	High
8	Distributing tasks fairly among group members based on their abilities.	81.3%	84.0%	86.1%	86.2%	84.4%	Very High
0	Listening attentively to others opinions.	79.7%	81.8%	83.5%	83.1%	82.0%	Very High
10	Respecting the turn to speak without interrupting.	78.0%	83.2%	88.5%	95%	86.2%	Very High
	Overall Average			**82,3% (Very High)**			

Based on the observations conducted by the observer over four sessions, the implementation of the The implementation of the cooperative learning model Numbered Head Together (NHT) in the experimental class revealed that students collaboration skills were categorized as very high, with an overall average percentage of 82.3%. This finding suggests that the students in the experimental class demonstrated a strong ability to collaborate effectively during the learning process. The observation data indicates that the Numbered Head Together (NHT) model significantly influenced the students collaboration skills, as most students fell into the very high category, showing a clear positive impact on their ability to work together. The results point to the effectiveness of the NHT model in promoting a collaborative learning environment that fosters active participation and teamwork among students.

3.2 Observation Results of Collaboration in the Control Class

This observation was conducted to evaluate the implementation of the discussion method in the control class and to analyze its impact on students learning experiences. The assessment was systematically carried out by the observer using a structured observation sheet during the learning

process over four sessions. The collected observation data and findings are summarized and presented in the table below:

Table 2. Percentage of Student Collaboration Skills Observation Data in the Control Class

No	Assessment Aspects	Meeting				Average	Category
		1	2	3	4		
1	Proposing ideas or contributions in discussions	72%%	78%%	80%%	83%	78.3%	High
2	Engaging in every group activity.	74%%	79%%	82%%	83.6%	79.9%	High
3	Completing tasks on time..	69%%	75%%	78%%	78.6%	75.2%	High
4	Fulfilling assigned roles in the group	76%%	82%%	84%%	85%	81.8%	Very High
5	Accepting others opinions or ideas.	71%%	76%%	79%%	81.8%	76.9%	High
6	Adapting to changes in group situations	68%%	73%%	76%%	77.4%	73.6%	High
7	Collaborating effectively to achieve group goals	70%%	75%%	78%%	81.2%	76.1%	High
8	Distributing tasks fairly among group members according to their abilities	72%%	77%%	80%%	82.4%	77.9%	High
9	Listening attentively to others opinions	66%%	72%%	74%%	75.6%	71.9%	High
10	Respecting turns to speak without interrupting	68%%	74%%	77%%	78%	74.3%	High
Overall Average		**76,59% (High)**					

Based on the observations conducted over four sessions, the implementation of the discussion method in the control class showed that students collaboration skills were categorized as high, with an overall average of 76.59%. This indicates that, while students collaboration skills using the discussion method were fairly good and fell within the high category, they were still relatively lower compared to the experimental class that applied the Numbered Head Together (NHT) model. The results suggest that, although the discussion method promoted a certain level of collaboration, it did not reach the same level of effectiveness in fostering teamwork and cooperation as the NHT model did. The findings highlight the potential benefits of using cooperative learning models like NHT over traditional methods such as discussions for improving students collaboration skills.

3.3 Normality Test of Collaboration Skills (Y1)

A normality assessment was conducted utilizing SPSS version 30 statistical software to evaluate the distribution pattern of data obtained from student collaboration skill observations. The corresponding findings are presented in the subsequent table:

Table 3. Normality Test of Collaboration Skills

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Kelas	Statistic	df	Sig.	Statistic	df	Sig.
Nilai Siswa	Kelas Eksperimen	.139	32	.118	.941	32	.082
	Kelas Kontrol	.142	32	.101	.963	32	.338

According to the results of the normality test above, the significance value for collaboration skills in the experimental class is 0.118 > 0.05. This suggests that the data on collaboration skills in the

experimental class are normally distributed. Similarly, in the control class, the significance value is 0.101 > 0.05, indicating that the data on collaboration skills in the control class are normally distributed as well.

3.4 Normality Test of Communication Skills (Y2)

Statistical software SPSS version 30 was employed to perform normality testing on the communication assessment data, which was obtained through systematic evaluation of student presentations using predetermined scoring criteria. The analytical results are methodically presented in the table below:

Table 4. Normality Test of Communication Skills

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	KELAS	Statistic	df	Sig.	Statistic	df	Sig.
NILAI	Kelas Eksperimen	.127	32	.200*	.931	32	.042
	Kelas Kontrol	.142	32	.101	.945	32	.105

Based on the results of the normality test above, it can be observed that the significance value for communication skills in the experimental class is 0.200 > 0.05, indicating that the distribution of communication skills data in the experimental class is normal. Similarly, in the control class, the significance value is 0.101 > 0.05, which shows that the communication skills data in the control class follow a normal distribution..

3.5 Homogeneity Test of Collaboration Skills (Y1)

The results of the homogeneity test for students collaboration skills can be seen in the following table:

Table 5. Homogeneity Test of Collaboration Skills

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Nilai Siswa	Based on Mean	2.887	1	62	.094
	Based on Median	2.244	1	62	.139
	Based on Median and with adjusted df	2.244	1	58.939	.139
	Based on trimmed mean	2.921	1	62	.092

Homogeneity or uniformity in the variance between the two groups (experimental class and control class) is indicated by the significance value of 0.094 > 0.05, based on the output of the homogeneity test for collaboration skills. Therefore, a significant difference in variance between the two groups is not shown by the data on students collaboration skills.

3.6 Homogeneity Test of Communication Skills (Y2)

The results of the homogeneity test for communication skills data can be seen in the following table:

Table 6. Homogeneity Test of Communication Skills

Test of Homogeneity of Variances

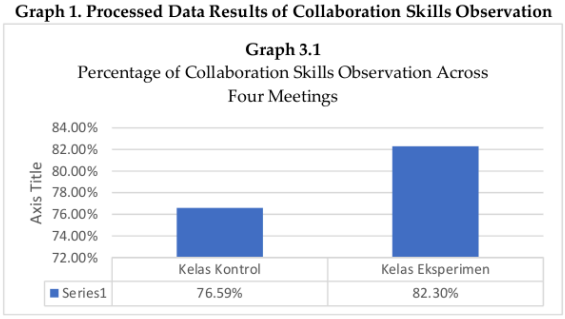
		Levene Statistic	df1	df2	Sig.
NILAI	Based on Mean	.121	1	62	.729
	Based on Median	.123	1	62	.727
	Based on Median and with adjusted df	.123	1	61.765	.727
	Based on trimmed mean	.133	1	62	.717

The homogeneity or absence of significant difference in variance between the two groups (experimental class and control class) is indicated by the significance value of 0.729 > 0.05, based on the output of the communication skills test. Therefore, the homogeneity of the communication skills data is confirmed, and no significant variance difference between the tested groups is shown.

3.7 Data Analysis of Collaboration Skills Observation

Based on the findings obtained from the research data, an increase in students collaboration skills at SMP Negeri 8 Sungai Penuh was observed after the implementation of the Numbered Head Together (NHT) cooperative learning model. This improvement was reflected in the percentage of students demonstrating enhanced collaboration abilities following the application of this learning approach. The positive impact of the NHT model in fostering teamwork and active participation among students is further illustrated in the following graph, which visually represents the progression of their collaboration skills throughout the learning process:

Graph 1. Processed Data Results of Collaboration Skills Observation



Based on the data analysis results, the average percentage of students collaboration skills over the course of four meetings in the experimental class, which applied the cooperative learning model of Numbered Heads Together (NHT), was 75%. In contrast, the control class, which utilized the traditional discussion method, showed an average percentage of 62%. The 13% difference between the two classes highlights the significant impact of the NHT model on enhancing students collaboration skills. This indicates that the NHT model, with its structured group work and collaborative approach, offers a more effective and engaging learning environment for developing students teamwork and communication abilities. The result suggests that using the NHT model can be a valuable strategy for fostering greater collaboration among students, as it encourages active participation and responsibility within the group, leading to more productive and successful learning outcomes.

3.8 Hypothesis Testing of Collaboration Skills (Y1)

A systematic validation process was employed to confirm the measurement tools precision and consistency. Prerequisite analyses, including normality and homogeneity assessments, were conducted to verify the data's alignment with statistical requirements. This hypothesis examination phase serves to address research objectives and determine significant relationships among investigated variables through analytical procedures. The independent sample T-test results, generated through SPSS version 30, are methodically presented in the following table:

Table 7. Hypothesis Testing of Collaboration Skills

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Nilai	Equal variances assumed	.082	.776	1.425	62	.159	1.156	.811	-.465	2.778
	Equal variances not assumed			1.425	61.997	.159	1.156	.811	-.465	2.778

Based on the calculations in Table 7, the t-value (t_{count}) in the t column is 2.352. To determine the effect of the independent variable on the dependent variable, this t-value is compared with the t-table value (t_{table}). From the df column in the equal variances assumed row, the df value is 62 at a 5% significance level, which corresponds to a t-table value of 1.670. Since $t_{count} > t_{table}$ (2.352 > 1.670) and the sig (2-tailed) value for students collaboration skills is 0.022 < 0.05, the null hypothesis (H_0) is rejected, and the alternative hypothesis (H_a) is accepted. Therefore, it can be concluded that the cooperative learning model Numered Head Together (NHT) has a significant influence on students collaboration skills in Civics (PPKn) learning in Grade VIII at SMP Negeri 8 Sungai Penuh".

3.9 Hypothesis Testing for Communication Skills (Y2)

The results of the independent sample T-test conducted using SPSS 30 for students communication skills can be seen in the following table:

Table 8. Hypothesis Testing for Communication Skills

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
NILAI	Equal variances assumed	.121	.729	3.373	62	.001	2.063	.611	.840	3.285
	Equal variances not assumed			3.373	61.528	.001	2.063	.611	.840	3.285

Based on the calculations in Table 4.11, the t-value (t_{count}) is 2.597. This value is compared with the t-table (t_{table}) to determine the effect of the independent variable on the dependent variable. From the equal variances row in the df column, the degree of freedom (df) is 62, and at a 5% significance level, the corresponding t-table value is 1.670. Since $t_{count} > t_{table}$ (2.597 > 1.670) and the significance value (sig. 2-tailed) for students communication skills is 0.001 < 0.05, the null hypothesis (H_0) is rejected, and the alternative hypothesis (H_a) is accepted. Thus, it can be concluded that "There is a significant effect of the cooperative learning model type Numbered Head Together (NHT) on students communication skills in Civics learning (PPKn) for eighth-grade students at SMP Negeri 8 Sungai Penuh."

Discussion

This discussion examines the research findings obtained through data analysis on the effect of the cooperative learning model, Numbered Heads Together (NHT), on students collaboration and communication skills in PPKn learning for eighth-grade students at SMP Negeri 8 Sungai Penuh. The discussion includes the interpretation of research results, connections to relevant theories, and comparisons with previous studies. This study was conducted over one month, with a total population of 218 students. Class VIII F served as the control class, while Class VIII G was designated as the experimental class. The experimental class received treatment using the cooperative learning model, Numbered Heads Together (NHT), while the control class utilized the discussion method.

The results from the observation sheets on collaboration skills during meetings 1, 2, 3, and 4, as assessed by observers, indicate that the implementation of the cooperative learning model, Numbered Heads Together (NHT), in the experimental class demonstrated students collaboration skills at a very high level, with an average score of 82.3%. The indicator of active participation reached 81.2%, responsibility in completing tasks was 81.5%, and flexibility and compromise were 83.9%. The effectiveness of group work and fair task distribution scored 79.9% and 84.4%, respectively. The indicator of respecting others opinions was also very high, with turn-taking reaching 86.2%.

Meanwhile, the implementation of the discussion method in the control class showed students collaboration skills at a high level, with an average score of 76.59%. The indicator of active participation reached 78.3%, responsibility in completing tasks was 75.2%, and flexibility and compromise were 76.9%. The effectiveness of group work and fair task distribution scored 76.1% and 77.9%, respectively. The indicator of respecting others opinions was also high, with turn-taking reaching 74.3%.

Overall, students collaboration skills in the experimental class using the Numbered Heads Together (NHT) model were categorized as very high, whereas in the control class using the discussion method they were categorized as high.

The results of the hypothesis testing indicate that the calculated t-value for collaboration skills was found to be 2.352, while the critical t-table value was determined to be 1.670. Since 2.352 > 1.670 and the obtained significance value was 0.022 > 0.05, it was concluded that (H_0) was rejected, and the (H_a) was accepted. This finding signifies that a significant effect of the Numbered Heads Together (NHT) cooperative learning model on students collaboration skills was observed. Similarly, for communication skills, the calculated t-value was recorded as 2.597, with the same t-table value of 1.670. Since 2.597 > 1.670 and the significance value obtained was 0.001 > 0.05, it was confirmed that (H_0) was rejected and (H_a) was accepted. Through these results, the conclusion was drawn that a significant improvement in students communication skills was achieved through the application of the NHT cooperative learning model. Based on these findings, it was inferred that a substantial and positive impact on both collaboration and communication skills of eighth-grade students at SMP Negeri 8 Sungai Penuh was demonstrated through the use of the Numbered Heads Together (NHT) cooperative learning model. The results suggest that improvements in teamwork, more active participation in discussions, enhanced ability to express ideas clearly, and better peer interaction were experienced by students engaged in this learning approach. Consequently, the NHT model was identified as an effective strategy in fostering not only academic understanding but also essential social skills necessary for students future learning and real-world applications.

The results of this study indicate that the Numbered Head Together (NHT) cooperative learning model has an impact on students collaboration and communication skills in PPKn learning. These findings are consistent with social learning theory, which states that group interactions help students develop a deeper understanding and enhance their social skills.

Furthermore, this study is also relevant to constructivist theory, which emphasizes that knowledge is actively constructed through social interactions and learning experiences in this learning context, students do not merely receive information passively but actively construct their understanding through discussion, cooperation, and idea-sharing with their group members.

According to constructivist theory, effective learning occurs when students are directly engaged in experience-based activities and social interactions, allowing them to construct their own understanding based on their pre-existing cognitive schemas. This learning model supports that principle by providing opportunities for students to collaborate, think critically, express, and respond to opinions in an active and interactive learning environment.

Additionally, Wulandari et al., (2023) It is stated that the Numbered Head Together (NHT) learning model is closely related to the development of students collaboration and communication skills. In its implementation, this model involves structured group discussions that encourage students to work together in solving tasks or problems, fostering an environment where active engagement and cooperation are prioritized. Through these collaborative activities, students are not only able to exchange ideas and perspectives but also learn to negotiate, listen actively, and communicate their thoughts clearly and respectfully. This process of collaboration trains students to understand their roles within the group, helping them recognize the value of both individual and collective contributions. As

they share responsibilities and collaborate toward a common goal, they gain a deeper sense of accountability, empathy, and teamwork. Moreover, the model cultivates an appreciation for each members contributions, reinforcing the importance of diversity of thought and the mutual respect necessary for effective group dynamics. This enhances their interpersonal skills, which are essential for success in both academic and real-world contexts, ensuring that students are better prepared to navigate complex social and professional environments in the future.

This is also supported and aligned with previous research conducted by Anjani et al., (2023) The study found that: 1) Learning through the cooperative learning approach of the NHT demonstrated a significant difference in students critical thinking, collaboration, and mathematical communication skills, both before and after the learning process. The results highlighted that the application of this model effectively facilitated the development of higher-order thinking skills, promoted active participation, and enhanced communication among students, thus contributing to a better understanding of mathematical concepts. 2) Furthermore, the implementation of NHT model in mathematics education was highly effective in improving students critical thinking abilities, collaboration, and mathematical communication skills. This model fostered a more engaging and interactive classroom environment, where students were encouraged to discuss, share ideas, and work together to solve problems, leading to improvements in their cognitive and social learning outcomes.

Furthermore, this study also supports previous research findings, such as those conducted by Siregar et al., (2019), The results of this study demonstrate that the application of the Numbered Head Together (NHT) cooperative learning model had a significant impact on the mathematical communication skills of seventh-grade students during the first semester at MTs Swasta Yaspend Muslim Pematang Tengah in the 2017/2018 academic year. The hypothesis testing results provide strong evidence that there is a meaningful difference between the two groups analyzed in the study. This indicates that students who were taught using the NHT model exhibited better learning outcomes compared to those who were taught using conventional methods. The findings further highlight that the NHT cooperative learning model plays a crucial role in fostering student collaboration, enhancing their ability to articulate mathematical concepts clearly, and improving their overall communication skills. Since (H_0) was rejected and (H_a) was accepted, it can be concluded that the implementation of the NHT learning model effectively supports a more interactive and engaging learning environment. This approach not only encourages students to participate more actively in discussions but also helps them develop confidence in expressing their thoughts and ideas systematically. Consequently, the NHT model can be considered an effective teaching strategy for improving both collaboration and communication skills in the learning process.

In this learning process, each group member contributes to completing assigned tasks, enhancing their ability to communicate ideas effectively, share roles, and support one another in achieving common objectives. This approach nurtures essential skills such as teamwork, leadership qualities, and responsibility fundamental aspects for students academic and personal development. The synergy between these learning models proves to be an effective strategy in building collaborative spirit and enhancing overall learning outcomes. Through this integrated approach, students not only gain deeper understanding of materials but also develop crucial soft skills necessary for facing contemporary challenges, while creating an inclusive learning environment where each student has equal opportunities to contribute and grow.

The findings of this study indicate that of NHT cooperative learning model is more effective than the traditional discussion method in improving students collaboration and communication skills. Several key factors contribute to its success, including the teachers role as a facilitator who guides discussions, provides directions, and ensures active participation from all students. This model creates

a more interactive learning environment, encouraging students to collaborate, share ideas, and communicate effectively with their peers. The structured steps of the NHT model ensure equal participation in both group discussions and presentations, preventing dominance by certain students. As a result, this learning approach helps students build confidence and develop essential teamwork and communication skills in a balanced and engaging way, ultimately fostering a more dynamic and inclusive classroom atmosphere that supports the overall learning process.

However, there are several challenges in implementing this model, as not all students have the same communication skills. Some students still struggle to express their opinions, and those who are accustomed to conventional learning methods require time to adapt to the cooperative learning model of the Numbered Head Together (NHT) type. Additionally, differences in students levels of understanding, collaboration skills, and communication skills can affect the effectiveness of this models implementation.

After receiving treatment, although many students were initially confused, this confusion lasted only briefly. Once the implementation of the model was explained in detail and the teacher acted as a facilitator by moving around and observing students during the collaboration activities, they became enthusiastic and quickly adapted. Initially, when working in groups, they had many unanswered questions, but eventually, they gained clarity as more students dared to ask questions to the teacher. This motivated students to become more engaged in learning and collaboration, which positively impacted their communication. Although some students still faced communication difficulties after the implementation, the majority showed significant improvement, becoming more confident in communication and enhancing their communication skills compared to before.

Based on the discussion above, the research results provide evidence that Hypothesis 1 and Hypothesis 2 have been confirmed in the experimental class after receiving treatment using the cooperative learning model of the Numbered Head Together (NHT) type. This indicates that the application of this learning model has a positive effect on students collaboration and communication skills. It can be concluded that the implementation of the cooperative learning model of the Numbered Head Together (NHT) type contributes significantly to encouraging students to become more active in collaborating, sharing ideas, and improving their communication skills. Therefore, this model presents an effective alternative for teachers seeking to create a more interactive and collaborative learning environment, which can enhance student engagement and active participation. However, it is also crucial to highlight that for the Numbered Head Together (NHT) model to be optimally effective, its application must be appropriately adapted to the specific subject matter, the learning activities, and the fundamental principles underlying the model. This ensures that the model is not only used effectively but also aligns with the intended learning outcomes, allowing for the full potential of collaborative learning to be realized in the classroom.

4. CONCLUSION

Based on the research findings above, it can be concluded that students collaboration and communication skills in PPKn learning for eighth-grade students at SMP Negeri 8 Sungai Penuh were significantly influenced by the implementation of the cooperative learning model of the Numbered Head Together (NHT) type. The research results indicate that learning activities conducted using this model led to increased student engagement in discussions, a more even distribution of tasks, and enhanced confidence among students in expressing their opinions and presenting ideas in a more structured and systematic manner. Additionally, students demonstrated better teamwork, active participation in problem-solving, and a greater ability to listen and respond effectively to their peers arguments, further strengthening their overall learning experience.

However, there are several challenges in implementing this model. Not all students have the same communication skills, so some still struggle to express their opinions. In addition, students who are accustomed to conventional learning methods need time to adapt to the Numbered Head Together (NHT) model. Differences in understanding levels of collaboration and communication skills also affect the effectiveness of this models implementation.

Although some students initially felt confused, this confusion did not last long. After receiving more detailed explanations and with the The educators vital function in orchestrating learning experiences in guiding and observing the collaboration activities, students became more enthusiastic and adapted quickly. Those who were initially hesitant in answering group work results eventually became more confident in asking questions to the teacher, which ultimately boosted their motivation to learn and collaborate. This had a positive impact on students communication skills, which, although some challenges remained, generally showed improvement in confidence and communication abilities compared to before.

This research confirms that the Numbered Head Together (NHT) model is effective in enhancing students collaboration and communication skills. However, for future research, it is recommended that this model be tested in other subjects and that further exploration be conducted on other factors that may influence its effectiveness, such as learning motivation, critical thinking, learning outcomes, teacher involvement, and other aspects of the learning process.

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