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IMPLEMENTATION OF THE NUMBERED HEAD TOGETHER MODEL TO IMPROVE STUDENT ACTIVENESS AND LEARNING OUTCOMES

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Abstract

The main problem in this study is the low level of student activity and learning outcomes. The purpose of this study is to determine the extent to which the increase in student activity and learning outcomes of class XI at SMKN 6 Medan through the application of the Numbered Heads Together (NHT) model.This study uses a classroom action research (CAR) method which is carried out in two cycles. The subjects of this study were 35 class XI AKL 2 students, while the object of the study was the application of the Numbered Heads Together learning model. Data collection techniques used in this study include observation and test administration. Based on the cycle I observation sheet, there were 13 students (37.14%) included in the active and very active categories, but had not achieved the success indicators. In cycle II, the number of students in the category increased to 33 people (94.28%) and had met the success criteria of ≥75%. The results of the learning test data analysis showed that the average pre-test score was 77.02 with 12 students (34.28%) completing it. In the post-test of cycle I, the average score increased to 85.31 with 30 students (85.71%) completing it. In the post-test of cycle II, the average score increased to 89.34 with 35 students (100%) achieving completion by meeting the success indicator ≥85%. Based on this analysis, it can be concluded that the application of the Numbered Heads Together learning model is effective in increasing the activeness and learning outcomes of class XI students at SMKN 6 Medan.

Keywords: Learning Activeness, Learning Outcomes, Numbered Heads Together

Abstract

Masalah utama dalam penelitian ini adalah rendahnya tingkat aktivitas siswa dan hasil belajar. Tujuan penelitian ini adalah untuk menentukan sejauh mana peningkatan aktivitas siswa dan hasil belajar kelas XI di SMKN 6 Medan melalui penerapan model Numbered Heads Together (NHT). Penelitian ini menggunakan metode penelitian tindakan kelas (CAR) yang dilakukan dalam dua siklus. Subjek penelitian ini adalah 35 siswa kelas XI AKL 2, sedangkan objek penelitian adalah penerapan model pembelajaran Numbered Heads Together. Teknik pengumpulan data yang digunakan dalam penelitian ini meliputi observasi dan administrasi tes. Berdasarkan lembar observasi siklus I, terdapat 13 siswa (37,14%) yang termasuk dalam kategori aktif dan sangat aktif, namun belum mencapai indikator keberhasilan. Pada siklus II, jumlah siswa dalam kategori tersebut meningkat menjadi 33 orang (94,28%) dan telah memenuhi kriteria keberhasilan ≥75%. Hasil analisis data ujian pembelajaran menunjukkan bahwa rata-rata skor pra-ujian adalah 77,02 dengan 12 siswa (34,28%) yang mengerjakannya. Pada post-test siklus I, rata-rata skor meningkat menjadi 85,31 dengan 30 siswa (85,71%) yang menyelesaikannya. Pada post-test siklus II, rata-rata skor meningkat menjadi 89,34 dengan 35 siswa (100%) yang mencapai penyelesaian dengan memenuhi indikator keberhasilan ≥85%. Berdasarkan analisis ini, dapat disimpulkan bahwa penerapan model pembelajaran Numbered Heads Together efektif dalam meningkatkan keaktifan dan hasil belajar siswa kelas XI di SMKN 6 Medan.

***Kata kunci**: Keaktifan Belajar, Hasil Belajar, Numbered Heads Together*

INTRODUCTION

Education is a process that aims to develop students' potential optimally. (Widiani, 2021). One of the challenges in education is how to improve student engagement and learning outcomes. Cooperative learning models, particularly *Numbered Heads Together (NHT),* have proven effective in creating positive social interactions among students and improving their learning outcomes. This model is designed to actively involve all group members, so that each student takes responsibility for their group's learning (Manafe et al., 2022).

During the learning process, teachers as instructors also hold a major role and responsibility in improving student success. One of the measures used to measure student activity and learning outcomes is that they are two things that are interrelated and mutually supportive in achieving effective learning success. Learning is said to have successfully achieved its goals if most or all students are actively involved in the learning process, both physically and mentally (Diana et al., 2023). Student activity in participating in the learning process can produce various beneficial things including the opportunity to develop self-potential through learning, establishing good cooperation between students, the opportunity to gain direct learning experience and the development of students' abilities. According to Naziah et al. (Vivi Muliandari, 2019) learning activity is an activity carried out by students during the learning process that includes emotional abilities, emphasizes student creativity, achieves critical students, improves students' cognitive abilities and has an understanding of the concepts of the material in the learning process.

Learning outcomes are behavioral changes resulting from educational efforts, involving abilities in the cognitive, affective, and psychomotor domains (Nurwadani et al., 2021) . Learning outcomes are changes that occur in the behavior of an individual or group of individuals as a result of the learning process. Behavioral changes occur due to the assignment of learning materials during the teaching and learning process. This achievement is based on established teaching objectives. These results can include changes in student behavior and perceptions, expressed in grades.

Based on the results of initial observations at SMK Negeri 6 Medan in class XI AKL, information was obtained that activeness and learning outcomes became a problem during the learning process (Hastuti et al., 2019). The low level of student learning activity during learning can be seen from the low level of student involvement during the learning process, such as students paying less attention and listening to the lessons delivered by the teacher, when the teacher asks students verbally but the students are silent and cannot provide answers to questions asked by the teacher, when students do assignments or do tests given by the teacher, some students do not do the assignments given by the teacher, there are also students who do assignments but the assignments are not collected on time (Erfan et al., 2020).

Based on the results of interviews conducted with accounting subject teachers at SMK Negeri 6 Medan, it shows that student activity and learning outcomes have not reached the optimal level of completion, as seen from the number of students who received 2 daily test scores below the minimum completion criteria or KKM 85 in accordance with the provisions of SMK Negeri 6 Medan, this is caused because learning is still centered on the teacher (*Teacher Center Learning)* and students are not active in learning due to the lack of learning models applied such as the problem based learning model, this learning model is centered on students

where in the class each student has different abilities so that students who are less confident or have lower skills feel less enthusiastic about being actively involved in the class (Aprilia et al., 2018).

Table 1. Recapitulation of UH Based on the Minimum Competency (KKM) Score of Students in the Financial Accounting Subject of Class XI AKL 2, State Vocational School 6 Medan

Class	Information	Minimum Competency (KKM)	Number of students	Students who have completed		Students who do not complete	
				Amount	%	Amount	%
XI AKL	UH 1	85	35	11	31.4%	24	68.5%
	UH 2			10	28.5%	25	71.4%

Based on the table, it can be seen that the percentage of students' daily test results, which are carried out twice a month, namely in the first and last week of the month, is still relatively low and meets the KKM value during UH 1 and UH 2, experiencing a decline. Where the percentage of students who passed UH 1 was 11 students (31.4%) and in UH 2 was 10 students (28.5%). This can occur due to a lack of student activity in the learning process, which affects the grades obtained by students (Wilanda & Iman, 2018).

Seeing this situation, there are several factors that the author suspects are the cause of low student activity which has an impact on test scores, one of which is the learning model used so far has not been effective because long lectures can cause boredom among students. Low student participation in the learning process can be influenced by various factors related to the individual character of students, some of the main causes that can affect the level of student activity, which has an impact on their test scores include, low interest or lack of understanding of the material, lack of self-confidence in students, unsupportive learning environment, and low involvement in learning (Amalia et al., 2021).

If the material is delivered in an uninteresting manner or is not accompanied by varied teaching techniques, students tend to lose interest and focus, negatively impacting their understanding of the material. Long lectures can lead to boredom among students. If the material is delivered in an uninteresting manner or is not accompanied by varied teaching techniques, students tend to lose interest and focus, negatively impacting their understanding of the material (Hanafiah et al., 2021). The lecture method usually does not encourage students to think creatively or critically. They rely more on memory than on understanding and applying concepts. During the teaching and learning process, some students have difficulty understanding the material presented by the teacher and lack student activeness in the learning process. When the teacher gives tests in the form of questions or problems, they cannot answer them properly. Students do not take the initiative to ask questions or express their opinions. Instead, they simply accept what the teacher says. To overcome this problem, teachers are expected to be able to choose, master, and use models that are appropriate to accounting lessons, situations, conditions, and students' learning environments, so that through the application of these models they can create active learning by inviting students to be directly

involved in the learning process so that they can increase student activity and learning outcomes (Saeputri et al., 2019).

A learning model that can increase student engagement is needed. One such model is *the Numbered Heads Together (NHT) learning model* . *The Numbered Heads Together (NHT) model* encourages interaction between students, which is crucial for understanding the concept of inventory records. Inventory records involve various methods and calculations that can be complex for students. By implementing the NHT model, students can share explanations and discuss how to calculate inventory values based on existing transaction data. This discussion helps strengthen their understanding of important accounting concepts. Students can work in groups to discuss various aspects of the material, such as stock management and inventory recording methods (Yulinda et al., 2018). This discussion allows them to share ideas and deepen their understanding. Each student is responsible for understanding the material given to their group. In this learning model, students work together in groups to solve problems or questions given by the teacher. For example, the teacher can provide inventory transaction data and ask each group to calculate inventory values using a specific method (Simamora & Donda, 2019). Through discussion, students are encouraged to hone their analytical skills, which are crucial in accounting. In the inventory card material, students can practice recognizing inventory transactions, determining appropriate valuation methods, and preparing inventory reports collaboratively (Intan Aulia Hilma Subhan Adi Santoso, 2022). This process helps them understand inventory recording and reporting in a more practical way. Within the inventory card material, students can also discuss how to record, calculate, or manage inventory using question cards or similar media (Nourhasanah & Aslam, 2022). This learning style can be one way to increase student engagement in learning and can also increase students' sense of responsibility towards their group (Aan, 2019).

Based on the background of the problem that has been explained, it is hoped that the application of the *Numbered Head Together learning model* can increase the activeness and learning outcomes of students' financial accounting, so that learning objectives can be achieved.

Therefore, the author is interested in conducting research with the title "Implementation of the Numbered Head Together Learning Model to Increase Student Activity and Learning Outcomes at SMKN 6 Medan"

RESEARCH METHODS

This research was conducted in class XI AKL SMK Negeri 6 Medan, with the address at Jl. Jambi No. 23D, Pandau Hilir, Medan Perjuangan District, Medan City, North Sumatra Province with postal code 20233. The subjects in this study were 34 students of class XI AKL SMK Negeri 6 Medan in the 2024/2025 academic year. The object of this research is the application of the Number Head Together (NHT) learning model to increase learning activity and outcomes. (Allathifah et al., 2019).

This type of research is classroom action research conducted in four sequential action cycles. This research aims to improve the activeness and learning outcomes of class XI AKL students at SMK Negeri 6 Medan by implementing the Number Head Together (NHT) model. Haerullah & Hasan (2021, p. 6) state that classroom action research is a reflective study

conducted to increase the rationality of an action in carrying out tasks, deepen understanding of the actions taken, and improve existing conditions in learning practices. According to Arikunto (2014: 16) classroom action research includes four cycle stages, namely: "(1) Planning, (2) Implementation, (3) Observation and (4) Reflection". Of these four stages, the following is a description of the classroom action research model cycle (Febrianti, 2019).

Data analysis is one of the most crucial stages in this research. All data obtained will be collected, then processed and analyzed to provide an overview of the direction, goals, and objectives of the research. In this study, two types of data were used: quantitative and qualitative.

Quantitative data is data obtained in the form of numbers and can be calculated Misbahuddin and Hasan (Na'im & Oktiningrum, 2019) Quantitative data is used to test hypothesis 1, namely the activeness of learning accounting increases if the Numbered Heads Together learning model is applied to class XI AKL students of SMKN 6 Medan, if the learning outcomes of cycle I are higher or experience an increase in cycle II, then the hypothesis is accepted. With the note that "the learning outcomes of cycle I and cycle II meet the minimum completeness criteria or KKM $\geq$ 85.

Qualitative data is informative data. Data in the form of sentences that provide descriptions of student expressions about the level of student success in accounting subjects (cognitive), student attitudes (effective), and student activity that can be analyzed qualitatively. From the results of the observation sheet of student learning activity obtained, an analysis was carried out to calculate the percentage of student activity levels during the teaching and learning process, then categorized into very active classifications (28–32), quite active (18–22), less active (13–17), inactive (8–12) (Fajriyati et al., 2019).

RESULTS AND DISCUSSION

Description of Research Results

This research was conducted at SMK Negeri 6 Medan located at Jl. Jambi No. 23D, Pandau Hilir, Medan Perjuangan District, Medan City, North Sumatra Province, with postal code 20233. This research was conducted in the even semester of the 2024/2025 academic year by implementing the Numbered Head Together (NHT) learning model to improve the activeness and learning outcomes of accounting students of class XI AKL 2 at SMK Negeri 6 Medan. This type of research is Classroom Action Research (CAR) which consists of 2 cycles. The first cycle was conducted in 2 meetings and the second cycle was conducted in 2 meetings. Each cycle consists of 4 stages, namely planning, implementation, observation, and reflection.

For student activity, the data collection instrument uses an observation sheet, while learning outcomes use a test instrument in three instruments, namely: pre-test, post-test I, and post-test II. The observation stage of student learning activity is carried out simultaneously while learning activities are taking place.

The indicators of learning activity that we want to achieve in this learning are:

1. Students participate in carrying out their learning tasks
2. Students want to be involved in problem solving in learning activities

3. Students want to ask friends or teachers if they don't understand the material or encounter difficulties.
4. Students are willing to try to find information that may be needed to solve the problems they are facing.
5. Students conduct group discussions according to the teacher's instructions.
6. Students are able to assess their own abilities and the results they obtain.
7. Students practice solving questions or problems
8. The opportunity to use/apply what he has learned in completing the tasks/problems he faces.

Each indicator is measured with a score criteria range of 1–4. Furthermore, the total score of each student from the eight indicators of learning activity will be categorized into 5 categories, namely: inactive, less active, quite active, active, and very active. Students are declared active per individual, if they obtain a score of ≥ 32. The success indicator in learning activity is considered to have been met if, ≥ 75% of students collectively from the total students are classified as "Active". Furthermore, learning outcomes are declared to have passed if the student's individual score on the cognitive test exceeds the Minimum Completion Criteria (KKM) or a score of ≥ 85. Classical completeness in student learning outcomes is considered to have been met if, ≥ 85% of students collectively from the total students are classified as "Complete".

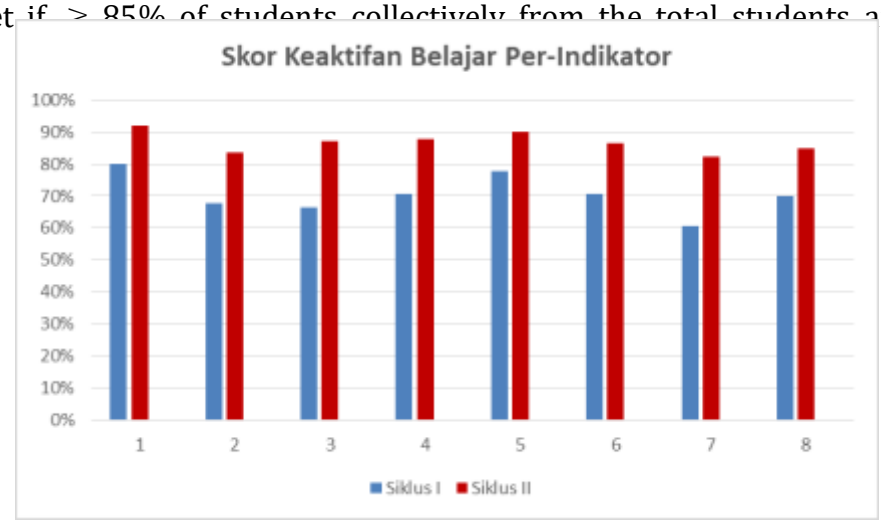

Figure 1. Recapitulation of Activity Scores per Indicator

Overall, learning activity increased after the implementation of the Numbered Heads Together model. Students were considered active if they obtained a score of ≥32. Based on observations of student learning activity, there was an increase between cycles I and II. Researchers observed student learning activity during the learning process and assigned scores according to the scoring criteria (Suprianta et al., 2021).

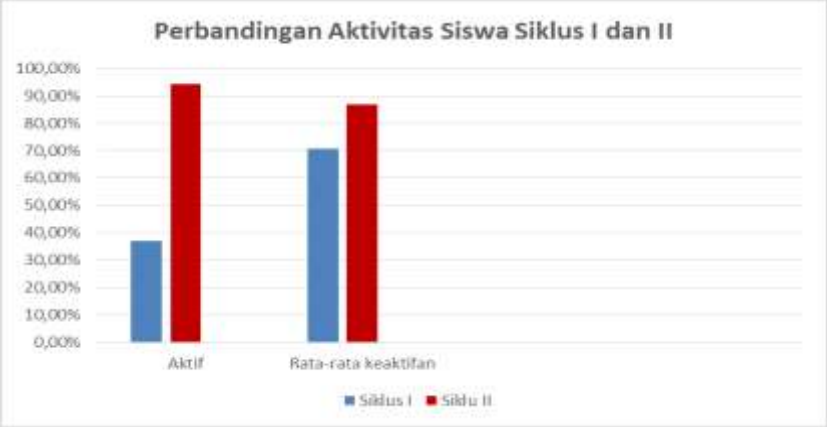

Figure 2. Comparison of the Percentage of Student Learning Activity in Cycles I and II

Discussion

Student learning activity

From the researcher's point of view and the data obtained on the observation sheet, student learning activity after *the Numbered Heads Together model was implemented* increased from cycle I to cycle II, as described below:

Carrying out his study assignments

In cycle I, observations were made during the implementation of the NHT model which illustrated that students had not fully carried out their learning tasks well, including 1) students did not note down important points in the presentation material including: Abdullah, Dea Amelia, Juwita Dufi, Tiara, and Zidan where the 5 students did not fully pay attention to the material and recorded the presentation material in front of the class; 2) students had not carried out their learning activities including: Chalila, Juwita Tara Diva, Muhammad Aziz Ramadhan where the four students were not carrying out their learning activities, where they were playing around in the classroom while the learning process was taking place; 3) students had not read and studied the material in the handbook provided by the school including: Abdullah, Muhammad Aziz Ramadhan, and Zidan where, when the teacher was pointing at these three students in turn, they did not know and did not understand what was being studied that day, so that when they were pointed at by the teacher to re-explain the material that had been explained, they could not explain it; 4) students seemed to rarely ask questions; and it is difficult to express their ideas, thoughts, and thoughts. Many students often ask questions in front of the class on their own initiative, but they are willing to ask and express their ideas, thoughts, and thoughts after being pointed out by the teacher. However, students have paid attention to the subject matter when the teacher makes a presentation and the conditions in the teaching and learning activities are running conducively (Sakban & Wahyudin, 2019) .

Therefore, in cycle II the teacher attempted to take corrective action towards student learning activity based on the weaknesses in cycle I including: the teacher conducted a presentation with an emphasis on intonation, expression and clear articulation; the teacher gave a mark or underline to mark the main topic of the material discussed; and provided motivation so that students would be more active in following the lesson. In the end, the

learning process in cycle II has shown a significant change in activity regarding the context of "carrying out learning tasks" with the indications 1) when the teacher explained almost all students had paid close attention to the teacher's explanation, this was seen where all students remained focused forward when the teacher explained the material; 2) many students openly asked questions to the teacher when they found material that was difficult to understand where when students did not understand the material explained by the teacher the students immediately asked the teacher, for example Rahel asked: What is the difference between the periodic system and the perpetual system? Then the teacher gave the other students the opportunity to give their answers, then one of the students named Rindiyani raised her hand to answer her friend's question, where the answer was that in the periodic inventory recording system, it was only done at the end of the period, while in the perpetual system, every purchase and sales transaction was recorded directly. After Rindiyani answered the question, the teacher concluded and explained the answer to the student's question again, and also the teacher gave an award in the form of applause to both students who were willing to ask or answer questions; 3) then while the teacher explained the lesson material, students were seen making quotes or notes of important points regarding the inventory recording system; 4) in the discussion session, many students were seen searching for information by opening and reading accounting handbooks; and 5) students have actively answered questions, expressed ideas and asked questions where some of these students include: Nesiraspita, Sabryna, Rindiyani, Rahel, and Windy are more active in the learning process and participate in learning by answering teacher questions, providing ideas, and asking the teacher. This is in line with (Vivi Muliandari, 2019) that student activity is realized through efforts to develop better by listening, speaking, and expressing opinions. Therefore, the score obtained in cycle I was 112 or with a percentage of 80%, then increased in cycle II by 129 or with a percentage of 92.14%.

Implement problem solving

In cycle I during the implementation of the NHT model, it was shown that students had not fully implemented problem solving properly, including 1) students had not presented ideal answers to fundamental questions (clear, complete, and relevant answers), including: Abdullah, Asyila Aulia, Chalila, Dwi, Juwita Dufi, and Muhammad Aziz, these students were not able to provide ideal answers because they had not mastered the material enough so that the students did not know what answers they wanted to convey; 2) students had not mastered how the recording system in the periodic and perpetual systems in merchandise inventory accounting. For example, the perpetual system, an inventory recording method where every transaction that affects inventory is recorded directly and continuously in real time in the inventory account, while the periodic system, an inventory recording method where purchases and sales of merchandise do not directly affect the inventory account. Inventory will be calculated and adjusted at the end of the accounting period through a physical count (Gracia & Anugraheni, 2021) . However, students have tried to dare to ask questions and express their opinions even though they have not fully mastered the material (Agustina et al., 2020) .

Therefore, in cycle II the teacher attempted to take corrective action on problem-solving activities based on the weaknesses in cycle I, including: the teacher explained each stage in

problem-solving to all students, the teacher gave awards or praise to students who dared to give their answers even though they were not completely correct, the teacher made it a habit for each student to ask or give comments during the learning process by pointing out students who were less active so that they would get used to expressing their opinions. In the end, the learning process in cycle II had shown a significant change in activeness regarding the context of "implementing problem-solving" with indications of 1) almost all students felt comfortable and more open to speaking and expressing their opinions; 2) almost all students who were praised felt happier because they were appreciated, which encouraged them to speak more often and convey their opinions, ideas, and thoughts; 3) students were able to differentiate between the perpetual system and the periodic system; 4) students were skilled at pouring creative ideas into explanatory ideas from a series of concept map flows. Therefore, the score obtained in cycle I was 95 or 67.85%, then increased in cycle II to 117 or 83.57%. In this case, students are encouraged to think creatively, systematically, logically, analytically, and carefully in solving problems encountered in the learning process. (Murwanto, 2020) .

Ask students or teachers about valued issues

In cycle I during the implementation of the NHT model, the researcher asked the reasons why students did not want to ask questions, including 1) students were confused in arranging and simplifying abstract ideas in their minds, including; Juwita Dufi, Abdullah, Chalila, and Zidan, this was due to the lack of student participation in learning, so that these students were confused and did not even know how to arrange and then express an idea in their minds; 2) some students were afraid that the questions submitted were not relevant to the topic being discussed, including: Nesiraspita, Sabryna, Rahel, Rindiyani, and Mawar, this was due to students' hesitation to ask questions because they had asked questions and then the questions were not relevant to the topic or material being discussed, so that a fear arose to ask; 3) some students felt embarrassed when they became the center of attention in class. However, students have paid attention to the subject matter when the teacher made a presentation. Therefore, in cycle II the teacher attempted to take corrective action on the questioning activity based on the weaknesses in cycle I including: the teacher exemplifies how to ask good questions to students, while explaining the material the teacher gives directions so that students who do not understand do not need to be shy or embarrassed to ask directly. In the end, the learning process in cycle II has shown a significant change in activeness regarding the context of "asking teachers and friends" with indications of 1) students being proactive and critical in asking questions; 2) students being more open and no longer shy in conveying their questions; 3) students starting to be skilled in composing questions with a clear and easy-to-understand format. Therefore, the score obtained in cycle I was 93 or with a percentage of 66.42%, then increased in cycle II by 122 or with a percentage of 87.14%. By asking questions, students can dig up information from their conversation partners and provide the freedom to exchange opinions and views with their friends. Furthermore (Kistian, 2018) stated that questioning skills play an important role in shaping students' learning experiences, so that teachers can determine students' success in mastering new knowledge if they are able to guide and direct students to ask questions.

Looking for information related to problem solving

In cycle I during the implementation of the NHT model, it was shown that students had not actively participated in gathering information, including 1) some students tended to ignore information searches due to the lack of willingness to read and student literacy; 2) some students answered discussion questions only by relying on understanding and theoretical concepts in percentage material without any initiative to look for other sources, including: Asyilla, Desi Maria, Windi, Rahel, and Siti. These students often answered discussion questions only by relying on material presented in front of the class without looking for references from other sources such as textbooks or so on, this had been done repeatedly by these students, however, besides that, these students were willing to express their opinions in front of the class even though they only relied on one reference for presentation material; 3) some students completely relied only on the direction and lesson material given by the teacher, including relying on material presented in front of the class without looking for information from other sources. Therefore, in cycle II the teacher attempted to take corrective action on information gathering activities based on weaknesses in cycle I including; The teacher provides additional references in the form of E-books, the teacher gives students the freedom to access Smartphones as an alternative source of additional information for students to increase their knowledge, the teacher determines that the sources of information or literature studies that may be used in learning are only scientific sources, namely; physical books, e-books, articles, scientific journals, etc. In the end, the learning process in cycle II has shown a significant change in activeness regarding the context of "collecting information" with indications of 1) students through their own initiative have carried out litarization activities on digital and printed information sources; 2) students search for information from various credible sources; and 3) students are more focused on comprehensive literature studies, relevant to the topics discussed. Therefore, the score obtained in cycle I was 99 or with a percentage of 70.71%, then increased in cycle II by 123 or with a percentage of 87.85%. Furthermore, Tello (Pardede & Herman, 2020) stated that success in problem solving can be achieved if students are able to make decisions regarding information from the given problem, as well as choose appropriate and correct strategies to help the problem-solving process, so that students can formulate solutions according to the formulas or studies put forward in the theoretical concept.

Conduct group discussions according to teacher instructions

In cycle I during the implementation of the NHT model, it was seen that students had not fully carried out discussion activities according to the teacher's instructions, including 1) some students had not developed ideal answers to fundamental questions in the worksheet, including: Syafiah, Juwita Dufi, Putri, Chantia, and Desi, this was due to the lack of reference sources as additional references owned by students so that there were less than ideal answers to questions about the merchandise inventory system given; 2) students were not fully skilled in making mind maps including: not being able to identify main ideas and mark supporting ideas, sometimes there was a misunderstanding of the difference between periodic and perpetual systems; 3) some students had not been active in asking questions, objections, and suggestions during group presentations, including: Juwita, Jessica, Mawar, Chalila, Khairani, and

Syafiah, this was because students were still shy or even afraid to actively provide their participation during the learning process. For example, the teacher asked about what account is used to record purchase returns? These students were embarrassed to express their opinions so the teacher assessed that these students were not active during the group presentation learning process. Nevertheless, the students had tried to muster the courage to express their opinions, although they were not yet fully articulated. Therefore, in Cycle II, the teacher attempted corrective action by re-explaining the discussion steps, starting with answering fundamental questions. In the end, the learning process in cycle II has shown a significant change in activeness regarding the context of "carrying out group discussions according to teacher instructions" with an indication that 10 students have carried out the investigation stage to find information or studies relevant to problem solving 2) the concept map presented by each group has described the recording of the periodic and perpetual systems (how to calculate the recording of the perpetual and periodic systems). Therefore, the score obtained in cycle I was 109 or with a percentage of 77.85%, then increased in cycle II by 126 or with a percentage of 90%. In line with the description above (Suandi, 2022) states that through discussions on a learning material that involves students to discuss and find alternatives to a problematic topic that encourages students to be able to play an active role, generate creativity, foster critical and democratic thinking, train emotional stability and make joint decisions. Thus, discussions can be used as a forum for exchanging ideas, developing ideas and honing thinking skills (Riadin & Jailani, 2019) .

Able to assess one's own abilities and the results obtained

In cycle I during the implementation of the NHT model, it was shown that students were not yet able to assess their own abilities and the results obtained included 1) some students were hesitant in collecting their work results including: Abdullah, Chyntia, Desi, Jessica, Muhammad Aziz, and Siti there were some students who were hesitant in collecting their work results due to a lack of confidence in the answers they obtained because they had not yet mastered the material they had studied; 2) some students in each group were not yet able to re-explain the answers they had made themselves including Abdullah, Desi Maria, Chantia, Muhammad Aziz this happened due to a lack of focus when the teacher was explaining in front of the class, and a lack of communication between groups to work together so that each group had weaknesses when re-explaining an answer in front of the class; 3) students only resigned themselves to receiving criticism and objections from other groups without any further arguments to defend their answers. This was due to the lack of cooperation among group members and no reinforcement within the group (mutual disregard for their group, making it easy for other groups to criticize without reason. Therefore, in cycle II, the teacher attempted to take corrective action on self-assessment activities based on the weaknesses in cycle I, including: the teacher provided reflection at the end of the lesson by explaining important points on the topic of the merchandise inventory recording system so that students could evaluate and reflect on their learning progress, skills, and knowledge; the teacher motivated students to develop their own learning goals; and guided students to examine their own learning experiences, thoughts, feelings, and actions. In the end, the learning process in cycle II

showed a significant change in activity regarding the context of "self-assessing abilities" with the following indications: 1) students had full confidence in the accuracy and validity of the answers presented; 2) students were able to re-present the results of their work by rote; 3) some students added elaboration to their work; 4) Students were able to put forward more logical arguments to refute the group that refuted their work. Therefore, the score obtained in cycle I was 99 or with a percentage of 70.71%, then increased in cycle II to 121 or with a percentage of 86.42%. This is in line with the concept of self-assessment by Andrade and Du (Kusumawati, 2022) who stated that self -*assessment* refers to a formative assessment process during which students reflect on and evaluate the quality of student assignments, assess the extent to which students reflect the objectives explicitly stated in the criteria, identify strengths and weaknesses in student assignments, and subsequently revise these assignments. In this section, self-assessment can influence positive attitudes and perceptions towards learning, as well as broaden students' knowledge by reviewing the material that has been learned to be used as material for correction or improvement in evaluation activities.

Train yourself in doing questions

In cycle I during the implementation of the NHT model has not shown optimal conditions in training themselves to work on questions including 1) only some students read and carefully examine the questions including: Nesiraspita, Windy, Sabryna, and Theresia this is because these students pay attention and note important points when the teacher explains the material on the inventory recording system in front of the class, so that when working on the questions these students do not find difficulties; 2) some students are able to compile answers or solutions to problem solving only dominated by a few people including: Nesiraspita, Windy, Christin, Sabryna, Claresta, and Putri this is because students often practice working on questions about the inventory recording system when appointed by the teacher besides these students also have a high willingness without having to be appointed by the teacher to train themselves. Therefore, in cycle II the teacher attempted to take corrective action on the activity of working on questions based on the weaknesses in cycle I including: the teacher instructed that in the group discussion process, authority and responsibility be distributed evenly to each member and the teacher determined that each change of tutoring would be rotated so that each student would have their own tasks and each member would understand the entire process of solving questions from the initial stage to the end. Ultimately, the learning process in cycle II has shown a significant change in activeness regarding the context of "training oneself to work on questions" with indications of 1) students have read and examined each question carefully; 2) students have been able to recognize and classify a question or problem into a specific sub-topic; and 3) almost all students have taken an important role in completing group assignments. Therefore, the score obtained in cycle I was 85 or with a percentage of 60.71%, then increased in cycle II by 115 or with 82.14%. Furthermore, Hamalik (Setiawati et al., 2020) that learning requires intense practice. The intensity of the practice questions is the number of repetitions that students do in working on the practice questions, so that students understand the lesson material better with maximum results.

Applying the learning material obtained in completing assignments

In cycle I during the implementation of the NHT model, it was shown that students were not yet able to apply what they had learned in completing the assignments, including 1) some students did not pay attention to the teacher's explanation when the presentation took place even though theoretical understanding of the inventory recording system would be a provision for students in compiling quality answers; 2) some students were not yet able to realize theoretical concepts, arguments, ideas and concepts that had been learned into an alternative choice in solving inventory recording system questions, including; Muhammad Aziz, Zidan, Saskia, Juwita, and Dea. This was due to the lack of student initiative to review the material that had been learned so that when the teacher appointed them to give their opinions on the material, they were not yet able to express their opinions. In addition, there were some of them who had the back seats, namely Abdullah, Aziz, and Zidan, so they were less focused on looking forward when the teacher explained the material; 3) sometimes students were ambiguous in understanding the concept of the merchandise inventory recording system, it was still difficult to distinguish between the periodic system and the perpetual system; 4) Some students do not understand the difference between inventory recording time in perpetual and periodic systems, so that sometimes teachers still find errors in their answers, where the perpetual system records every transaction and is available at any time, while the periodic system records only at the end of the period (for example, the end of the month/year) and is not available until a physical count is carried out. Therefore, in cycle II, the teacher seeks corrective actions including: the teacher optimizes the role in guiding small groups so that students exclusively receive full guidance in asking questions, expressing ideas and receiving suggestions for improvement. Ultimately, the learning process in cycle II has shown a significant change in activeness regarding the context of "applying what they have learned in completing assignments" with indications of 1) students have begun to understand the topic of inventory recording systems theoretically; 2) students are able to identify the core elements in complex transactions such as: debit or credit side, time span, transaction class (expense, income), adjusted nominal value and approach in the inventory recording system; 3) students have been able to understand how to compile a flow chart of the inventory recording system in perpetual and periodic systems. Therefore, the score obtained in cycle I was 98, or 70%, then increased in cycle II to 119, or 85%. This is in line with the opinion (Rizky & Samosir, 2020) that conceptual understanding skills are not only focused on improving memory or knowledge, but also encourage students to be able to apply one or more concepts. In this section, students have represented knowledge and understanding that is used in new ways and applied to solve more complex problems.

Discussion of Research Results

Classroom Action Research (CAR) was conducted at SMK Negeri 6 Medan in the even semester of the 2024/2025 academic year, consisting of two cycles. Each cycle consisted of four stages: planning, action, observation, and reflection. This research was conducted through collaboration between subject teachers and researchers in applying *the Numbered Heads Together model* to the material on recording merchandise inventory.

At the beginning of the first cycle, the researcher distributed *a pre-test* to students to determine their initial abilities before the intervention. Then, at the end of each cycle, a *post-test was administered* to determine students' level of understanding of the material after the intervention. The following will discuss the procedures for each cycle in implementing *the Numbered Heads Together learning model* in the classroom

CONCLUSION

Based on the research results and discussion, the following conclusions can be drawn:

1. Learning activity increased after *the Numbered Heads Together model was applied* to class XI AKL 2 students of SMK Negeri 6 Medan on the material on recording merchandise inventory, with 94.92% of students being active and having achieved success indicators ≥ 75%.
2. Learning outcomes increased after *the Numbered Heads Together model was implemented* in class XI AKL 2 students of SMK Negeri 6 Medan on the material on recording merchandise inventory, with 30 students completing and achieving the success indicator ≥ 85.

Suggestion

Based on these conclusions, the researcher makes several suggestions, including:

1. Teachers and researchers can further apply *the Numbered Heads Together model* to other schools, in different grades, in accounting subjects. This can generalize the effectiveness of the NHT model for accounting learning contexts at the vocational high school level.
2. Based on the shortcomings of *the Numbered Heads Together model* , it is hoped that teachers and future researchers can implement a strategy by asking students to come to the front of the class in pairs, in order to increase students' self-confidence and reduce their shyness in expressing their opinions.
3. For future researchers, it is hoped that they will use video media as a tool to monitor and evaluate student activity during the learning process, to be able to determine new strategies in subsequent meetings.

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