Students' Perception on Individual Learning versus Cooperative Learning Using Numbered Heads Together (NHT) Method in English Classroom

Tiara Sonita
Universitas Internasional Batam
1961018.tiara@uib.edu
Desty Febria
Universitas Internasional Batam
desty@uib.ac.id
Corresponding email: tiarasonita25@gmail.com

Abstract

In this era, teachers need to choose the proper method in teaching and vice versa; students' participation in the classroom should be one of biggest concern for the teachers. With the right method, learning activities can be more effective to the students and will also improve their participation. This study intends to see the students' perception on the use of individual learning and Numbered Heads Together (NHT) as one of cooperative learning method. The methodology that being used is quantitative research. The research design is comparative descriptive. The researchers will observe the students' behavior during the implementation in individual learning and cooperative learning, then give out the questionnaire containing self-assessment regarding both types of learning that they have already experienced. The results showed that there are pros and cons from the self-assessment about the students' preferences for each individual and group work activities. There are also advantages and disadvantages from individual and cooperative learning. The disadvantage is no doubt making the student uncomfortable and don't like to work in group. Further research is suggested to take action to the disadvantage of cooperative learning method.

Keywords: Classroom; cooperative learning; individual learning; Numbered Heads Together; students

Introduction

English language is crucial to be mastered because English is an international language. Khasawneh (2022) and Almousah (2020) stated that English language has been used for broad of the electronic organization lately in the field of public correspondence. This spread thusly has added to working on the utilization of English as a worldwide. This is one of the reasons why English language is mandatory to be taught in Indonesia's schools.

English subject is mandatory from elementary to senior high school level. However, there are some difficulties faced by both teachers and students, one of

them is students' participation. Students' participation in classroom has always been a concern for any teacher. This participation in the classroom is mainly affected by motivation. Chiang & Lee (2016) state that student's learning motivation can be stimulated by learning model (as cited in Mustami & Safitri (2018)). Lestari (2019) and Anggareni & Wulanjani (2017) point out that the use of technology takes an important role in teaching and learning process on this era of 21st century of learning. In other words, teacher need to be selective for the learning model in order to improve students' motivation. If this condition is fulfilled, students' participation in classroom will aligned with the motivation.

According to Lee (2005), participation means students speaking in the class, which consists of asking questions, making comments and joining in-group activities (as cited in Ghalley & Rai (2019)). If students are being active in the class, teacher can measure up their current ability about the lesson. Students' participations are also needed to keep track on their progress from previous meeting. According to Silalahi & Hutauruk (2020), Improvements from teacher is needed, such as innovating in learning, especially using the strategies and learning models in order to improve comprehension and efforts to raise awareness among the students. Ghalley & Rai (2019) found that some researchers proved that students who participate also show improvement in their communication skills group interactions and functioning in a democratic society. Ghalley & Rai (2019) also state that class participation helps students to make deep and meaning connections that are very important for learning. Wora et al. (2017) state that several learning models have been developed for improving students' activeness and achievement and cooperative learning being one of them.

Naibaho & Ambrosia (2019) stated that the students' perception of language learning is the process of recording their understanding and view on teaching and learning that they have experienced or will experience. Students' perception is important to educators or teacher for designing a good and proper learning objectives and activities in the class. In other words, students' perception is one of the keys in teachers' need analysis.

Naibaho & Ambrosia (2019) also added that the recorded views of students are purely objective in nature as a trained educator, so the student's perspective is

considered in defining educational goal, designing educational processes and tools, and managing tests will be done. In other words, teachers would need students' view in learning aspects as a prediction to designing the proper objective, materials and tools, and also could be a reflection on the upcoming tests. Without the perception from the students themselves, the teachers couldn't improve their teaching aspects and the students might be uncomfortable since it's not appropriate with their preferences.

Cooperative learning is a group of students' relationship that requires individual accountability, positive interdependence, interpersonal, face-to-face promotive interaction, skills, and processing which called the five basic elements of cooperative learning (Wang, 2020). According to Mustami & Safitri (2018), cooperative learning model is one of learning models that has been developed and confirmed to improve students' performance due to its design to facilitate students' cooperation and dependence on each other in completing a task or purpose. Similarly, Sukmawati et al. (2020) stated that the cooperative learning model is designed to prepare students to have an orientation to work in team. With cooperative learning model, students are encouraged to work with their peers more. According to Felder & Brent (2007), weak students who working individually are likely to give up when they get stuck; working cooperatively, they keep going, while strong students often find gaps in their own understanding while faced with the task of elaborating and clarifying material to weaker students and fill those gaps in. Besides, they can get to know each other while working together in a group.

According to Cottel & Millis (1992), there are two potential disadvantages to the traditional group work; the "hitchhikers" and "workhorses". However, those are discouraged by the two characteristics; positive interdependence, and individual accountability (as cited in Wora et al. (2017)). Even so, Wora et al. (2017) state that cooperative learning is still considered effective in achieving educational goals. According to Mustami & Safitri (2018), cooperative learning is designed to facilitate student collaboration and interdependence in accomplishing tasks or goals. Therefore, the students can be more active to both teachers and peers in the class. Students that engaged in high-level interactions will likely enhance their thinking and

Sonita & Febria

Students' Perception on Individual Learning versus Cooperative Learning Using Numbered Heads Together (NHT) Method in English Classroom

learning, as well as in advanced groupwork skills, the training that teachers implement is likely to take time (Alansari & Rubie-Davies, 2021).

The cooperative learning method chosen within this intervention was the Numbered Heads Together (NHT) approach. This approach requires the students to work in group to share any ideas and find out appropriate answer to a problem or a question is. According to McMillen et al. (2016), the NHT approach is designed to create more active responses from the students while teaching. The students work together, they quite literally "put their heads together" in order to solve the problem and also ensure that everyone in the group can answer the question (Pardede & Herman, 2020). Widyaningtyas et al. (2018) also state that NHT learning model is expected to help students understand the material concepts of the natural and artificial environment and decrease the burden of those.

NHT approach is able to improve students' learning motivation and cooperation among their peers, since NHT approach requires every individual to be active and participate in the classroom's activities. With NHT approach, students are encouraged to comprehend the materials since all the members have the equal responsibilities for the task. According to Rahayu & Suningsih (2018) and Mursalin et al. (2018), NHT learning model is the learning focused on the learning ability of students to construct the meaning of the concepts for themselves. Students also able to improve their performance in the classroom by being enthusiast to ask their peers who is more capable answering certain question. Therefore, they can learn from each other. Fitriyani & Supriatna (2020) claims that students are learned to respect the opinions of others and exchange ideas with NHT so that they have a positive impact on the learning process.

There is very limited previous studies that talk about similar topic, however there is one similar study by Lin (2019) about students' attitudes towards learning English vocabulary through collaborative group work (GW) versus individual work (IW) while performing vocabulary-focused tasks following reading comprehension. The results showed that the students' show positive attitude toward IW over GW during the study period, but the actual vocabulary learning was improved by by GW.

In this paper, researchers planned to use compare between individual learning and cooperative learning in form of NHT in order to gather students'

Sonita & Febria

Students' Perception on Individual Learning versus Cooperative Learning Using Numbered Heads Together (NHT) Method in English Classroom

perception. With that being said, this paper will serve self-assessment about the comparison of individual activities and cooperative learning (group work) activities from the students during individual and NHT implementation in the classroom.

Research Methodology

This study used quantitative method. Quantitative research is a research strategy that emphasizes quantification in the collection and analysis of data that have deductive approach between theory and research, has incorporated the practices and norms of the natural scientific model and positivism in particular and embodies a view of social reality as an external, objective reality (Bryman, 2012). The research design is comparative descriptive. The research was conducted from January 17th 2022 until April 27th 2022 at tenth grade of SMA Kartini Batam. The researchers will compare the results from the questionnaire and elaborate the conclusions to each comparison.

Population and Sample

The participants of this study are students from 10 IPS 2 from SMA Kartini Batam. The researchers choose SMA Kartini Batam because the researchers had the experience of teaching during internship in there, and choosing10 IPS 2 since the class is the one who seems responsive to the teachers.

Data Collection

The research first would observe the classroom that the researchers is responsible to teach of. When the observation finished, the researchers concluded that the class that being observed (X IPS 2) is not always active during the teaching-learning activities. There are 24 students in the class but sometimes, only 2-3 students who always answering and interacting to the teacher in the classroom. Of course, the quiet classroom doesn't make it good when we are teaching any subjects in there. Therefore, the researchers decided to take the students' perception about individual teaching and cooperative learning to hear their opinion about both teaching method. The researchers would use a questionnaire for the data collection support. In the first meeting of a new lesson, the researchers would teach using individual learning. In the next meeting, the researchers would teach using NHT method, where the students are first given a quiz by kahoot, then forming a group to answer the exercise. There are two exercises, the first one would be discussed

Sonita & Febria

Students' Perception on Individual Learning versus Cooperative Learning Using Numbered Heads Together (NHT) Method in English Classroom

together after the groups are finished. The second one would be the "quicky" answers, the first groups who have their representative raised their hands first will get a bonus point and will answer the question.

Data Analysis

The questionnaire will contain close-ended questions and one open-ended question. The questions will mainly ask about self-assessment of how the students feel about their participation with and without working in groups. Therefore, there will be 2 sections in the questionnaire.

The data from the questionnaire will be collected and the answers will be compared between 2 sections. Next, the researchers will measure the difference between those using percentage counts. Lastly, the researchers will also be reporting the summarized questionnaire.

Findings and Discussion

Findings

There are 12 respondents from total 24 students in the class. The range of their age is 15-19 years old (the majority is 16). They asked to fill the questionnaire which will compare their answers about individual and group work activities in the class. These are the result from the comparisons of the questions in the questionnaire.

Individual VS Group Work in Learning Activities

In the first comparison, students are given a statement "I feel that learning activities that are done individually are boring" on individual section and "I feel that learning activities that are done in groups are boring" on group work section. On individual section, the majority of students (33,3%) are agree with the statement, while each of 25% students strongly disagree and disagree with the statement. There are each of 8,3% students who choose neutral and strongly agree with the statement. On the other hand, on group work activities section, 33,3% students are disagree with the statement. 25% of them also strongly disagree while the rest of the students (each 16,7%) answered neutral and agree and 8,3% of the students is strongly agree with the statement. If we compared both of the percentages count, we could see that the students more likely agree that individual activities are boring

and disagree that group work activities are boring. These mean that the students found individual activities more boring than group work activities.

In the second comparison, students are given a statement "I feel that individual learning activities make me less active in class" on individual section and "I feel that learning activities carried out in groups make me less active in class" on group work section. On individual section, 50% of the students disagree with the statement, while 33,3% strongly disagree with the statement. However, each 8,3% of the students are neutral and strongly agree with the statement. By contrast, on group work section, 33,3% students answered neutral with the statement, while 25% of them strongly disagree. Each of 16,7% of the students answered disagree and strongly agree and the rest (8,3%) answered agree with the statement. We can conclude that students are being flexible with both activities. They can be active in both individual and group work activities.

Table 1: The Activities that Considered making the Students More Active in the Class

Section	Statement 3	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Individual	I feel more active when studying individually than in groups	8,3%	8,3%	41,7%	33,3%	8,3%
Group Work	I feel more active when studying in groups than individually	8,3%	25%	41,7%	0%	25%

In the third comparison, students are given a statement whether individual activities are making them more active in the class or not, and vice versa. On individual section, majority of the students (41,7%) answered neutral with the

statement, while 33,3% of them answered agree with the statement. Rest of the students with 8,3% on each categories answered strongly disagree, disagree and strongly agree with the statement. Group work section turns out have similar answers where the majority of the students (41,7%) answered neutral with the statement. Each 25% of the students answered disagree and strongly agree with the statement, while the rest 8,3% of the students answered strongly disagree. Surprisingly, no one answered agree. We can conclude that the students also feel flexible with their participation in the class with both individual and group work activities.

Table 2: The Method that making the Students Confidence to Answer in the Class

Section	Statement 4	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Individual	I feel more active when studying individually than in groups	8,3%	33,3%	25%	8,3%	25%
Group Work	I feel more active when studying in groups than individually	0%	50%	16,7%	16,7%	16,7%

In the next comparison, students are given a statement about which activities is making them confidence to answer questions during learning activities. On individual section, 33,3% of the students answered disagree with the statement while each 25% of the students answered neutral and strongly agree. The rest of them (each of 8,3%) answered strongly disagree and agree with the statement. On group work section, 50% of the students answered disagree with the statement, while the rest of them on each of 16,7% answered neutral, agree, and strongly agree with the statement. No one answered strongly disagree. In this comparison, we can conclude that the students are also flexible with the teaching method. Whether its individual or group work activities, they can adapt to it and be confidence to answer during teaching learning activities.

In fifth comparison, students are given a statement "I can get to know my friends better when I study individually" on individual section and "I can get to know my friends better when I study in groups" on group work section. On individual

Sonita & Febria

Students' Perception on Individual Learning versus Cooperative Learning Using Numbered Heads Together (NHT) Method in English Classroom

section, 41,7% of the students answered neutral with the statement, while the rest of them on each of 16,7% answered disagree, agree, and strongly agree with the statement. Only 8,3% of them answered strongly disagree with the statement. On group work section, half of the students answered strongly agree while 25% of them answered agree with the statement. 16,7% of the students answered disagree and 8,3% answered neutral. No one answered strongly disagree in this section. In this comparison, we can conclude that the students agreed that group work activities are helps them to get to know their classmates more than individual activities.

Aside from these comparisons, researcher also asked each of individual and group work section one open-ended question to the students. The question is "do you prefer learning by individual activities? Please elaborate your reason." Same question given from group work section. Their answers from individual section are presented below.

Student 1

"Yes, through studying individually, all tasks can be managed more easily because there is no need to wait for other members, so they can be done by ourselves with the time that we have determined ourselves."

Student 2

"I actually don't mind when studying individually or in groups, but I prefer to study INDIVIDUALLY because I feel that individual learning is more effective. It's not because I feel better than my friends, but by studying individually I feel like having higher curiosity and build my interest in learning. Then again, there are definitely pluses-minus of individual and group learning."

Student 3

"Yes, I prefer to study individually because when I study individually, I am more focused and can give all 100% of my ability and not be distracted."

Student 4

"Not really, I think individual learning has both positive and negative sides. The positive is we can focus more while the negative is we become less socialize to others."

On the other hand, these are the result from group work section;

Student 1

"Yes, because we can find out more about things that we may not understand, with group learning it makes us even more enthusiastic to try it and more freely ask our friends who we may not understand."

Student 2

"Yes, because studying together is fun. Besides, group study is very useful for learning how to respect fellow friends if they have different opinions."

Student 3

"Honestly I prefer to study individually but I have no problem studying in groups because by studying in groups we can exchange ideas and share opinions with others."

Student 4

"No, when studying in groups, my friends leave a lot of work to me, that's what makes me hate group study."

Benefits of Group Work

The students also given two additional statements about two benefits from group works activities. The first statement is "I can help my group members when studying in groups" and the second one is "I feel helped by my group members when studying in groups". These are the results of both statements;

Table 3: The Benefit of Group Work Activities to Help Groupmates

Additional Statement 1	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I can help my group members when studying in groups	0%	16,7%	50%	16,7%	16,7%

From the table above, we can see that majority of the students (50%) are neutral with the statement while each of 16,7% answered disagree, agree, and strongly agree with the statement. No one answered strongly disagree. We can conclude that the students are not really sure if they can help their groupmates during group work activities.

Students' Perception on Individual Learning versus Cooperative Learning Using Numbered Heads Together (NHT) Method in English Classroom

Table 4: The Benefit of Group Work Activities which being Helped by Groupmates

Additional Statement 2	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I feel helped by my group members when studying in groups	8,3%	16,7%	33,3%	16,7%	25%

On additional statement 2, 33,3% of the students answered neutral on the statement while 25% of them answered strongly agree. Each 16,7% answered disagree and agree with the statement, meanwhile 8,3% answered strongly disagree. We can conclude that on this second additional statement, the students also not sure if they're being helped by their groupmates.

Discussion

From the findings, researchers noticed that students are surprisingly being neutral with both learning activities. It has been shown in all 4 tables above where they are being flexible with their behaviors in terms of being active in the class. Same goes to their confidence when try to answer the questions in the class. The result from table 3 and 4 also shown that they are not sure of helping their groupmates and being helped by their groupmates. However, from the first comparison, the students agreed that individual activities are considered more boring than group work activities. This result is relevant to previous studies (Chiang & Lee, 2016) that stated student's learning motivation can be stimulated by learning model. It indicates that the students are more motivated in learning with cooperative learning (as cited in Mustami & Safitri (2018).

Similar case found in fifth comparison where the students agreed that group work activities help them better to get to know their classmates than individual learning. This suggests that cooperative learning is more appropriate for the students to socialize with each other so that they can get along. This finding also relevant to previous studies (Pardede & Herman, 2020) that stated the students work together and "put their heads together" in order to solve the problem and also ensure that everyone in the group can answer the question. This concept of

NHT makes the student interact more than their usual portion of interaction when in individual learning in order to solve the problem together.

Some of the students' opinions also has been taken to get further into their perspectives. On individual section, student 1, student 2, and student 3 stated that they prefer to learn with individual activities because of some reasons, such as able to manage all the tasks easily, have a high curiosity and build the interest in learning, doesn't get distracted by other students. However, students 4 feels that she/he don't really like to learn with individual activities. Even so, she/he stated that there will always be advantages and disadvantages on both individual and group work activities. From these statements, researchers can conclude that students who prefer individual activities are those who don't really suitable working with groups and believe that they can be more focused on when learning by themselves alone.

On the other hand, on group work section, student 1 and student 2 stated that they prefer to learn with group work activities because they consider that they can find out about new things together, and it's making them feel enthusiastic. They also stated that they could learn to respect their classmates if there are different opinions and could exchange their opinions to one another. However, student 3 and student 4 have opposite opinions with their friends. Student 3 state that she/he prefer to study individually but have no problem to adapt in group works activities considering that she/he can exchange ideas and opinions with others. Student 4 state that she/he doesn't like to be studying in groups because her/his classmates leave the group works to her/him alone, and that's the reason why she/he hates group works activities.

From this section, we can see some significant pros and cons from the students about group work activities. From the statements above, the students mostly love to work together with their friends in the classroom due to the escalation of interactions when solving a problem and/or answers from the teacher. They also reveal that the reason they prefer group work activities is because they can learn about new things while exchanging any ideas/opinions to their groupmates. This finding is relevant with previous studies from Mustami & Safitri (2018) that claims cooperative learning is designed to facilitate student collaboration and interdependence in accomplishing tasks or goals. However, one of the contras is giving the researchers some concerns due to the groupmates that piling up all of the

group work to one member only. It is understandable that the impact of this behaviour is making the students don't like being in group work activities.

Conclusion and Suggestion

Based on the findings, there are several points that can be highlighted as the conclusion in this study. First, the recent studies found that the NHT implementation is effective to improve student's activeness and participation in the class, even their skills. However, the researchers found that the students can also adapt with individual learning aside from cooperative learning (NHT) Some disadvantages from cooperative learning such as giving a group work only to one member in the group makes the students feels uncomfortable and don't like to work in groups anymore.

This study suggested to have further evaluation from the advantages and disadvantages from both teaching methods in order to make the students comfortable during the teaching-learning activities.

References

Alansari, M., & Rubie-Davies, C. M. (2021). Enablers and barriers to successful implementation of cooperative learning through professional development. *Education Sciences*, *11*(7). https://doi.org/10.3390/educsci11070312

Almousah, M. H. A. (2020). The obstacles to teaching English for the secondary stage in the Education Directorate in the Aqaba Governorate from the viewpoint of the subject teachers: معوقات تدريس مبحث اللغة الإنجليزية للمرحلة الثانوية في مديرية التربية والتعليم في محافظة العقبة من. https://doi.org/10.26389/ajsrp.b230120 .محافظة العقبة من، 21(4, 68–82

Anggareni, C. W., & Wulanjani, A. N. (2017). The roles of ted talks and vlog in speaking class: students' perspectives. *Jurnal TRANSFORMASI*, *13*(1), 47–52.
Bryman, A. (2012). *Social Research Methods 4th Edition*. OUP Oxford.

Felder, R. M., & Brent, R. (2007). *Cooperative learning in technical courses: procedures, pit falls, and payoffs peer ratings in cooperative learning teams account ing for individual effort in cooperative learning teams cooperative learning *. 970*, 34–53. https://bit.ly/322hN3E

Fitriyani, Y., & Supriatna, N. (2020). Effect of effectiveness of application used cooperative learning model type numbered head together (NHT), Teams Games Tournament (TGT) and Course Review Horay (CRH) against Increased critical thinking skill of students. *The 2nd International Conference on Elementary Education*, *2*(1), 955–968.

Sonita & Febria

Students' Perception on Individual Learning versus Cooperative Learning Using Numbered Heads Together (NHT) Method in English Classroom

http://proceedings.upi.edu/index.php/icee/article/view/707/623

Ghalley, L. R., & Rai, B. M. (2019). Factors influencing classroom participation: A Case Study of Bhutanese Higher Secondary Student. *Asian Journal of Education and Social Studies*, *January*, 1–14. https://doi.org/10.9734/ajess/2019/v4i330118

Khasawneh, M. A. S. (2022). The relationship of curriculum, teaching methods, assessment methods, and school and home environment with learning difficulties in English language from the students' perspectives. *Journal of Innovation in Educational and Cultural Research*, *3*(1), 20–29. https://doi.org/10.46843/jiecr.v3i1.45

Lestari, N. (2019). Improving the speaking skill by vlog (video blog) as Learning media: The EFL students perspective. *International Journal of Academic Research in Business and Social Sciences*, *9*(1), 915–925. https://doi.org/10.6007/ijarbss/v9-i1/5490

Lin, S.-F. (2019). Students' attitudes towards learning english vocabulary through collaborative group work versus individual work. *Journal of Education and Learning*, *8*(4), 93. https://doi.org/10.5539/jel.v8n4p93

Mursalin, M., Nuraini, N. L. S., Purnomo, H., Damayanti, N. W., Kristanti, D., Rohim, A., Widyastuti, R., Wulandari, Y. O., Saleh, H., Mayangsari, S. N., Fonna, M., Rohantizani, R., Muhammad, I., Nufus, H., Sulastri, R., Amalia, R., Nuraina, N., & Muliana, M. (2018). The development of algebra teaching materials to foster students' creative thinking skills in higher education. *Journal of Physics: Conference Series*, *1088*. https://doi.org/10.1088/1742-6596/1088/1/012101

Mustami, M. K., & Safitri, D. (2018). The effects of numbered heads together-Assurance Relevance Interest Assessment Satisfaction on students' motivation. *International Journal of Instruction*, *11*(3), 123–134. https://doi.org/10.12973/iji.2018.1139a

Naibaho, L., & Ambrosia, Y. (2019). Students' perception on guessing game use in learning vocabulary at SMPK Ignatius Slamet Riyadi. *EED Collegiate Forum 2015-2018*, *October*, 230–246.

Pardede, H., & Herman, H. (2020). The Effect of Numbered Heads Together Method to the students' ability in writing recount text. *Cetta: Jurnal Ilmu Pendidikan*, *3*(2), 291–303. https://doi.org/10.37329/cetta.v3i2.455

Rahayu, S., & Suningsih, A. (2018). The Effects of Type Learning Model Numbered Head Together And Think Pair Share. *International Journal of Trends in Mathematics Education Research*, *1*(1), 19. https://doi.org/10.33122/ijtmer.v1i1.27

Silalahi, T. F., & Hutauruk, A. F. (2020). The Application of Cooperative Learning Model during Online Learning in the Pandemic Period. *Budapest International Research and Critics Institute (BIRCI-Journal): Humanities and Social Sciences*, *3*(3), 1683–1691. https://doi.org/10.33258/birci.v3i3.1100

Sukmawati, R. A., Pramita, M., Purba, H. S., & Utami, B. (2020). The use of blended cooperative learning model in introduction to digital systems learning. *Indonesian Journal on Learning and Advanced Education (IJOLAE)*, *2*(2), 75–81. https://doi.org/10.23917/ijolae.v2i2.9263

Wang, G. (2020). On the application of cooperative learning in college English Teaching. *International Education Studies*, *13*(6), 62. https://doi.org/10.5539/ies.v13n6p62

Widyaningtyas, H., Winarni, R., & Murwaningsih, T. (2018). Teachers' obstacles in implementing numbered head together in social science learning. *International Journal of Evaluation and Research in Education (IJERE)*, *7*(1), 25. https://doi.org/10.11591/ijere.v7i1.11625

Wora, V. M., Hadisaputro, R., & Pambudi, S. N. A. (2017). Student improvement by applying the Numbered Heads Together (NHT) approach to basic subjects of vocational competence in a vocational high school in Indonesia. *Discourse and Communication for Sustainable Education*, *8*(2), 94–102. https://doi.org/10.1515/dcse-2017-0018