



Numbered Heads Together based on Contextual Teaching and Learning to Improve Students' Reading Comprehension

Artha Novela Purba¹, Flora², Muhammad Sukirlan³

¹Student of Master of English Education, University of Lampung, Indonesia

²Professor of English Education, University of Lampung, Indonesia

³Lecturer of English Education, University of Lampung, Indonesia

ABSTRACT: This research aims to find out the significance difference in the reading comprehension of students taught through original NHT and through modified NHT based on CTL. This is a quasi-experimental research design that conducts a quantitative method. The subjects of this research are two classes of SMPN 30 Bandar Lampung in. Furthermore, the researcher collected the data using reading test in form of multiple choices. Then, the researcher analyzed using independent sample t-test. The finding shows that there is a significant difference between experimental and control class with the significant level 0.015. Hence, this suggests that teaching reading using modified NHT based on CTL can improve students reading comprehension achievement.

KEYWORDS: Cooperative Learning, Contextual Teaching and Learning, Numbered Heads Together, Reading comprehension achievement.

INTRODUCTION

As one of the language skills, reading has an important role for L2 students. Learners who develop their reading skills have greater access to a wide range of written resources. Books provide a wealth of information, knowledge, entertainment, and problem-solving opportunities for students. Students will benefit greatly by being able to read the text in any form. According to Grabe (2009), many university students make advantage of their L2 reading abilities to further their education, get a dream career, travel the world, broaden their perspectives, learn about different cultures, and improve their interpersonal and professional relationships. Students enhance their knowledge in terms of ideas, personality, and experience while also learning new things by reading. Nevertheless, students in school still have low interest in reading which results to their low reading comprehension.

Thus, the methods, techniques, and teaching media that is chosen and used by the teacher will influence the success of teaching learning process and students achievement. Numbered heads together as one of teaching technique can be used in the class. The techniques are believed to help students to overcome their difficulties in reading, create a positive atmosphere in the class, and build a good interaction for both the teachers and students. However, as every technique, NHT also has weaknesses. One of which is due to random calling, there is a possibility that the numbers that have been called will be recalled again by the teacher and that the teacher may choose not to call on some group members, which could result in idle students or freeloaders in the group (Listiadi, et al. (2019) & Widyaningtyas et al (2018)).

In consideration of disadvantage, the researcher would like to modify the numbered head together in its steps by using contextual teaching and learning. Components in contextual teaching and learning are believed to help students in improving their reading comprehension. The aim of this research is to intently find out the significant difference in the reading comprehension achievement of the students who are taught through the original numbered heads together and those who are taught through numbered heads together based on contextual teaching and learning..

LITERATURE REVIEW

Reading comprehension, as described by Snow (2002), involves engaging with written language in order to both extract and construct meaning. Reading is an essential part of both education and training, and it is important to take into account the many contexts in which the reader is expected to extract and carry out meaning from the text. Maman and Rajab (2016) used Numbered Heads Together



to help students enhance their reading comprehension skills. Through the research, they discovered that implementing the technique can improve students' reading comprehension competency.

According to Kagan and Kagan (2009), numbered heads together is a type of cooperative learning. It indicates that students use the NHT technique to communicate and collaborate as a team or group. There are steps of NHT, those are:

- a. Students number off.
- b. Teacher poses a problem and gives think time.
- c. Students privately write their answers.
- d. Students stand up and “put their heads together,” showing answers, discussing, and teaching each other.
- e. Students sit down when everyone knows the answer or has something to share.
- f. Teacher calls a number. Students with that number answer simultaneously
- g. Classmates applaud students who responded.

Those steps suggested by Kagan (2009) is hoped to improve learning process. However there is still problem faced by teacher in implementing the technique. Thus, the researcher tried to use Contextual Teaching and Learning in using Numbered Heads Together.

Contextual Teaching and Learning is a teaching approach that aims to assist students see meaning in academic subjects in the context of their daily lives, that is, their personal, social, and cultural conditions (Jhonson: 2002). A task relating to a real-life problem or situation can be used by the teacher during the learning process. Contextual teaching and learning consists of some principles that must be conducted as the part of its application. There are seven components of contextual teaching and learning that are useful to gain success in applying it (Haryanto and Arty: 2019). Those are:

- a. **Constructivism**
Constructivism is a theory that emphasizes how learners build their own knowledge.
- b. **Inquiry**
The component demonstrates how learning is carried out by including the process of discovery, which involves critical thinking.
- c. **Questioning**
Students ask because they are curious about something they do not understand. They are eager to learn the solution to their problem.
- d. **Learning Community**
Contextual teaching and learning is done in groups since the goal is for students to share and discuss without the intimacy of others.
- e. **Simulation**
A model is an example. The modeling component implies that the teacher provides students with examples when they encounter obstacles in real life.
- f. **Reflection**
Refers to how learners think about what they have learnt and what they have done in the past.
- g. **Authentic Materials**
It is critical for the teacher to conduct assessments in order to determine whether or not the students have learned the subject. The assessment is done in an authentic form to avoid students copying and pasting from their classmates' work.

The researcher adds those components of contextual teaching and learning to the steps of numbered heads together. The modification is elaborated in the procedures below:

Table 1. The difference between original NHT and modified NHT

<i>The original NHT</i>	<i>The modified NHT</i>
a. Students number off.	a. Teacher activates students' schemata relating to the material of vocabularies related (Constructivism)
b. Teacher poses a problem and gives think time.	
c. Students privately write their answers.	



- d. Students stand up and “put their heads together,” showing answers, discussing, and teaching each other.
- e. Students sit down when everyone knows the answer or has something to share.
- f. Teacher calls a number. Students with that number answer simultaneously
- g. Applaud students who responded.
- b. **Teacher show them a text with a problem and show how to answer the problem based on the text (Modeling)**
- c. Students number off
- d. Teacher poses a problem related to **real life problem or situation**, and then gives questions of 5 aspects of reading from the text and gives think time.
- e. Students privately write their answers.
- f. **Students find the support of the answer of their solutions.** (Inquiry)
- g. Students “put their heads together,” (Learning Community)
- h. **Students share and discuss the answer in the group. They ask each other questions to make sure of the answer given.** (Questioning)
- i. Students choose the best answer for their group.
- j. **Teacher calls a number. Students with that number answer in front of the class.** (Authentic Assessment)
- k. **Students revised draft and do the final checking and review the material with the teacher.** (Reflection)

By using Numbered Heads Together along with Contextual Teaching and Learning, it is hoped that all students will participate in the group by presenting each of their own solution based on the real life problem they have.

METHODS

This current research is a quasi-experimental design and it conducts a quantitative method. It aims to find out whether there is a significant difference in students’ reading comprehension achievement between the students who were taught through original numbered heads together and those who were taught through modified numbered heads together based on contextual teaching and learning. Subjects of this research were two classes of SMPN 30 Bandar Lampung. Each of the classes consists of 32 students. To know students’ reading achievement, the researcher used a reading test in the form of multiple choices. The text included in text was recount text. It was calculated through Independent Samples T-Test with Statistical Package for Social Sciences (SPSS) version 26.

FINDINGS AND DISCUSSIONS

The research question is “*Is there any significant difference between the students who were taught through original numbered heads together and those who were taught through modified numbered heads together based on contextual teaching and learning?*” The researcher calculated the data in both classes. Through the computation, the result shows that there is a significant difference in students’ reading comprehension achievement between the students who were taught through original numbered heads together and those who were taught through modified numbered heads together.

Table 2. Significant Difference of Students’ Post-test Score

Group Statistics					
	Group	N	Mean	Std. Deviation	Std. Error Mean
Posttest	Experimental Class (NHT with CTL)	32	79.3750	7.48655	1.32345
	Control Class (NHT)	32	74.4375	8.23814	1.45631



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
Posttest	Equal variances assumed	.775	.382	2.509	62	.015	4.93750	1.96783	1.00386	8.87114
	Equal variances not assumed			2.509	61.441	.015	4.93750	1.96783	1.00315	8.87185

Based on the result obtained in table 2, it can be seen that the p-value (Sig. 2-tailed) is 0.015. It is lower the 0.05. In other words, there is strong evidence to reject null hypothesis and conclude that there is a significant difference between the experimental class and control class. Experimental class got a higher mean score than the control class. This suggests that the students taught through Numbered Heads Together technique based on Contextual Teaching and Learning had better reading achievement than those who are taught through Numbered Heads Together technique.

Further, to get more convincing results, the researcher analyzed the gain scores of Table 3 using statistical calculation in SPSS 26. An independent sample T-test was used to see whether there is a significant difference of both classes.

Table 3. Comparison of Gain Scores

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
Gain Score	Equal variances assumed	4.469	.039	4.911	62	.000	6.34375	1.29173	3.76162	8.92588

The table shows that the p-value (Sig. 2-tailed) is 0.000. It is also lower than 0.05. This also confirms that there is a significant difference between students' gain scores in both experimental and control class. It indicates that Numbered Heads Together based on Contextual Teaching and Learning had a more positive effect of students' reading comprehension achievement.

By looking at the result in experimental class, it can be seen that this modified technique affects students' reading achievement. The result of this research shows that there is significant difference between control and experimental class. Experimental class had a better score than the students in control class. Contextual Teaching and Learning improves reading comprehension by promoting authentic engagement, active construction of meaning, application of reading strategies, development of critical thinking skills, collaboration and communication, and the transfer of skills. By connecting reading materials to real-world contexts, CTL makes the learning experience more meaningful and relevant for students, resulting in deeper comprehension and improved reading skills.

It is in line with the research done by some researchers. Aziz and Dewi (2019) found that Contextual Teaching and Learning (CTL) had an influence on teaching grammar to 7th grade junior high school students. Hasani (2016) discovered the impact of a contextual learning model and critical thinking ability on university students' argumentative writing skills. Furthermore, Syahputri and Mariyati's (2019) research reveals that using Contextual Teaching and Learning (CTL) improves students' reading comprehension achievement significantly.



Numbered Heads Together has certain gaps that are effectively filled by the seven components of Contextual Teaching and Learning. Specifically in modeling, inquiry, and questioning that help students to be more active in learning process. Teachers guide students' perspectives and interests by having them participate in meaningful activities (Selvianiresa and Prabawanto: 2017). The modeling given to students made them sure what they were going to do with the text and the question. For the inquiry component, students were asked to find the support of solution to the answer written by them. This step made them engaged in discussion and it was to proven that the knowledge they got was also a result of their own discovering. As Hudson and Whisler (2008) say that the process of inquiry forces students to think critically and helps them internalize fundamental concepts. Moreover, in questioning component, it helps students learn more and develop in their ability to solve problems. Inquiry and learning components can both benefit from questioning. (Haryanto and Arty: 2019). Thus, through the questioning component students can obtain knowledge from their friends, it can develop students' response and it trains them to observe other students' point of view in answering question.

In conclusion, Numbered Heads Together based on Contextual Teaching and Learning has more advantages on students' reading comprehension than conventional Numbered Heads Together. Learning experiences arranged with students' need have been proven in improving their reading comprehension achievement. By maximizing the learning activities, especially in group activities, students are more interested in doing the task given by the teacher. It is in line with research done by Indrayadi et al (2020), they aimed to investigate the effect of Contextual Teaching and Learning (CTL) approach on developing English second semester students' eight reading motivation dimension. The results show that CTL was effective to develop students' reading motivation. It suggests that Contextual Teaching and Learning has a positive effect for both teacher and students.

CONCLUSION AND SUGGESTION

The students had learned through the learning process with original NHT and modified NHT. The modified technique shows a positive impact in improving students' reading comprehension achievement. Numbered Heads Together is an appropriate technique to improve students' reading comprehension. By combining it with components of Contextual Teaching and Learning, it makes the technique better and easier for students to understand the material delivered by teacher. Furthermore, it increases students' participation at every stage of learning process.

Since this study was conducted only at one school, its findings should not be generalized to other similar institutions. Thus, it is recommended that similar studies be conducted by other researchers. They may use various real-life problems according to the students' situation. It is also suggested for further researcher to explore other aspects after implementing the technique, such as students' motivation or perception.

REFERENCES

1. Aziz, I. and Dewi, Y. 2019. *The Implementation of Contextual Teaching and Learning on English Grammar Competence*. Alsun: Journal of Arabic and English Language, 2(2), 67-95.
2. Grabe, W. 2009. *Reading a Second Language: Moving from Theory to Practice*. New York: Cambridge University Press.
3. Haryanto, P and Arty, I. 2019. *The Application of Contextual Teaching and Learning in Natural Science to Improve Student's HOTS and Self-efficacy*. Journal of Physics: Conference Series.
4. Hasani, A. 2016. *Enhancing Argumentative Writing Skill through Contextual Teaching and Learning*. Educational Research Review, 11, 1573-1578.
5. Hudson, C. and Whisler, V.R. 2008. *Contextual Teaching and Learning for Practitioners*. Journal on Systemics, Cybernetics and Informatics, 6, 54-58.
6. Johnson, E.B. 2002. *Contextual Teaching and Learning: What It Is and Why It Is Here to Stay*. Corwin Press, Inc., Thousands Oaks.
7. Kagan, S. and Kagan, M. 2009. *Kagan Cooperative Learning*. San Clemente, California: Kagan Publishing.
8. Listiadi, A., Sulistyowati, R., and Canda Sakti, N. 2019. *Improving Learning Quality Through NHT Cooperation Model in Indonesian Vocational Schools*. KnE Social Sciences, 3(11), 884-902.
9. Maman, M, and Rajab A.A. 2016. *The Implementation of Cooperative Learning Model Number Heads Together (NHT) in Improving the Students' Ability in Reading Comprehension*. International Journal of Evaluation and Research in Education (IJERE) 5, no. 2 (2016): 174-80.



10. Selvianiresa, D., and Prabawanto, S. 2017. *Contextual Teaching and Learning Approach of Mathematics in Primary Schools*. Journal of Physics: Conference Series, 895.
11. Snow, C. 2002. *Reading for Understanding (Towards an R&D Program in Reading Comprehension)*. Santa Monica: RAND.
12. Syahputri, D. and Mariyati, P. 2019. *Improving Students' Achievement in Reading Comprehension by Applying Contextual Teaching and Learning (CTL)*. Budapest International Research and Critics in Linguistics and Education (BirLE) Journal Volume 2, No 3, August 2019, Page: 58-69
13. Widyaningtyas, H., Winarni, R., and Murwaningsih, T. 2018. *Developing Students' Responsibility Through Numbered Head Together Model In Social studies Learning At Elementary School*. International Journal of Indonesian Education and Teaching, 2(2), 112–119.

Cite this Article: Artha Novela Purba, Flora, Muhammad Sukirlan (2023). Numbered Heads Together based on Contextual Teaching and Learning to Improve Students' Reading Comprehension. International Journal of Current Science Research and Review, 6(7), 5065-5070