

**NUMBERED HEADS TOGETHER TECHNIQUE BASED ON  
CONTEXTUAL TEACHING AND LEARNING TO IMPROVE  
STUDENTS READING COMPREHENSION**

**A THESIS**

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2023**

## ABSTRACT

### NUMBERED HEADS TOGETHER BASED ON CONTEXTUAL TEACHING AND LEARNING TO IMPROVE STUDENTS READING COMPREHENSION

By

**Artha Novela Purba**

This research aims to find out i) whether there is a statistically significant difference of students reading comprehension between students who were taught through Numbered Heads Together and those who were taught through Numbered Heads Together based on Contextual Teaching and Learning, and ii) the students' perceptions of the implementation of Numbered Heads Together based on Contextual Teaching and Learning.

The study employed a quasi-experimental design with two classes, the experimental class and the control class. The subjects of the research were 64 students at the second grade of SMPN 30 Bandar Lampung. The data were collected through pre-test and post-test in the form of reading tests and questionnaire. The data from pre-test and post-test were analyzed using SPSS 26.0 and from questionnaire was analyzed through manual coding and also SPSS.

The analysis of data revealed the mean score of students' pre-test in control class was 66.4 and their post-test was 74.4, thus the gain score was 8. While in experimental class the students' mean score of pre-test was 65 and their post-test was 79.3, therefore the gain score was 14. The results showed there is statistically significant difference of students reading comprehension achievement between students who were taught through Numbered Heads Together and those who were taught through Numbered Heads Together based on Contextual Teaching and Learning with the significant level, 0.05. That is, the students provided with Numbered Heads Together based on Contextual Teaching and Learning had better reading comprehension achievement. Furthermore, the majority of students in experimental class had positive perceptions of the modified technique. This suggests that Numbered Heads Together based on Contextual Teaching and Learning is regarded being more effective to encourage students to be involved in the process of teaching and learning than the original technique.

*Keywords: Numbered Heads Together, Numbered Heads Together based on Contextual Teaching and Learning, Reading comprehension.*

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**A Thesis**

**Submitted in a Partial Fulfillment of  
The Requirements for S-2 Degree**

**in**

**Language and Arts Education Department  
Teacher Training and Education Faculty**



**MASTER IN ENGLISH LANGUAGE TEACHING STUDY PROGRAM  
LANGUAGE AND ARTS EDUCATION DEPARTMENT  
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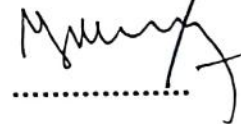

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## LEMBAR PERNYATAAN

Dengan ini saya menyatakan dengan sebenarnya bahwa:

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## **CURRICULUM VITAE**

The writer's name is Artha Novela Purba. She was born on June 20<sup>th</sup>, 1996 in Bandar Lampung. She is the third child of Mr. M Purba and Ms. Lamria Panjaitan and has two brothers, namely Raymond Purba and Ryan Tanaka Purba.

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## **DEDICATION**

With love and appreciation, this thesis is dedicated to:

My beloved father and mother who love, pray, and encourage me everytime.

My older brothers, Raymond Purba and Ryan Tanaka Purba

My friends in Master of English Education 2021



**MOTTO**

Cast all your anxiety on Him because He cares for you.

(1 Peter 5:7)

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In the end, the writer believes that her writing is still far from the perfection. Therefore, constructive input and suggestions are expected to compose better thesis in the future.

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Artha Novela Purba

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## **I. INTRODUCTION**

This chapter explains about the background of the research, the research question, objective of the research, uses of the research, scope of the research, and definition of terms.

### **1.1. Background of The Problem**

As one of the language skills, reading has an important role for L2 students. Students who master reading can read a variety of written materials, including newspapers, magazines, novels, and academic papers. They can gain a lot of information, knowledge, enjoyment, and even problem-solving skills by reading those various books. As a result, the ability to read material in any format will be extremely beneficial to them. In addition, many students, according to Grabe (2009), employ their second language (L2) reading abilities to partake in higher-level academic pursuits, secure profitable employment opportunities, set out on international travel experiences, acquire knowledge from diverse sources, foster intercultural understanding, engage in effective communication with individuals from different backgrounds, or derive enjoyment from their reading..

According to Snow (2002), reading comprehension can be defined as the cognitive process by which individuals extract and construct meaning through active engagement and interaction with written language. Reading is a skill that all students should master. They will enhance their knowledge in terms of ideas, personality, and experience while also learning new things. Mikulecky (2008)



reports that "Reading helps you learn to think in the new language. Reading helps you build a better vocabulary. Reading makes you more comfortable with written English." New words, ideas, and points of view can be encountered, challenging and enhancing previous knowledge. As a result, reading is critical to teaching and learning, and the situations in which the reader is expected to extract and apply meaning from the text should be taken into account.

As a teacher, the writer believes that students in school still have low interest in reading which results to their low reading comprehension. To confirm this belief, looking at Central Connecticut State University report in March 2016 on "World's Most Literate Nations" survey, Indonesia was ranked on the 60th place, out of 61 countries that took part in the survey. In the survey that ranks countries based on the people's reading behavior and supporting resources. This shows that the reading interest and habit of most Indonesians is low if compared to that of other countries.

Students' interest in reading is another factor that can influence reading comprehension achievement. According to research done by Nisaa, et al (2023), shows that there exist a positive correlation between the level of interest in reading and the ability in reading comprehension, and the resulting effect on students' achievements is also positively influenced. Reading interest is the fundamental process for reading engagement and is major contributor, when things go away, to disengagement in reading.

The methods, techniques, and teaching media that are chosen and used by the teacher will influence the success of teaching learning process and students achievement. In the teaching reading activities a good method, media, and strategy are needed in this research. A good method can be an effort he students' reading

ability better. Media and strategy also make the class to be alive during the reading lesson. By developing good method, technique and media students are expected to be able to have an active learning. Active learning can make the students interested in the reading lesson that given to them.

Considering the conditions above, the writer is interested in applying Numbered Heads Together technique. According to Kagan (1989: 13), “Numbered Heads Together can be classified as a form of cooperative learning since its incorporation of team structures, positive interdependence, and individual accountability, which collectively promote cooperative interactions among students.” This technique promotes both, individual and group accountability. Fauzi et al (2020) measured the effect of Numbered Heads Together technique to improve 10<sup>th</sup> grade students reading comprehension. The findings show that the use of Numbered Heads Together increased student participation and active involvement throughout the learning process. The implementation of reading instructional techniques facilitates students in overcoming their reading difficulties, fosters a positive learning environment, and develops a mutually beneficial interaction between teachers and students. Sahardin, et al (2015) also examined the use of Numbered Head Technique and the result shows that Numbered Heads Technique can improve student reading skill.

However, numbered head together (NHT) has some disadvantages, such as: 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) & Yuliani et al (2021)). Considering the opportunities provided, students must provide what they can do to their groups. Due to the presence of these freeloaders, group morale may suffer and students may lose faith

in the use of groups for learning if they don't feel personally responsible for their behavior. Freeloaders in the group also make assessment more difficult since teachers are unable or even impossible to measure how much each member has contributed to the group (Johnson and Johnson, as cited in Jacobs and Seow, 2015).

In consideration of disadvantage, the researcher would like to modify the numbered head together (NHT) in its steps by using Contextual Teaching and Learning Approach. Contextual teaching and learning is defined as a concept that helps teachers and students relate the meaning and real world situations with the subject matter in the right way (Johnson, 2002). It means that during the teaching and learning process, teacher relates the materials with real life situation.

If the reading material is interesting for learners they can easily understand it and can remember it clearly. Teachers should motivate their learners through providing interesting reading materials during their class time. If readers find the reading material monotonous, they will have a lot of problems in concentrating on their comprehension. According to Gilakjani and Sabouri (2016), some factors affect reading comprehension skill, including interest and motivation. Thus, the use of Contextual Teaching and Learning can motivate student to read the text by giving them real life question before reading.

CTL motivates learners to take charge of their own learning. The act of linking concepts to real-life situations facilitates the learning process by enabling learners to effectively apply their existing knowledge with new concepts, thereby facilitating the development of new cognitive frameworks (Goodroe, 2010). It also helps them learn the concept by experiencing and practicing the actions that are straight connected to real-life work (Davtyan, 2014). By implementing CTL

effectively, students can relate their preexisting knowledge with the new concept by experiencing it in the classroom.

Herdiawan, M (2020) also found that using picture strip story based on contextual teaching and learning can improve students' reading comprehension. CTL can give the opportunity for students to learn and help each other through working cooperatively in a picture strip story group process. This suggests that by using the principles of CTL the process of learning is more effective.

In this occasion, the researcher will use problem solving as one of strategies in CTL approach. Dealing with some studies which have been conducted by several researchers above, the writer suggests to modify numbered heads together technique to improve students reading comprehension.

## **1.2 Research Questions**

Based on the background of the problems above, the questions formulated by the researcher are as follows:

1. Is there any significant differences on students' reading comprehension between students who are taught through Numbered Heads Together and Numbered Heads Together technique based on Contextual Teaching and Learning?
2. What are students' perceptions of the implementation of Numbered Heads Together based on Contextual Teaching and Learning?

## **1.3 Objectives of the Research**

Based on the research questions above, the objective of this research is as follows:

1. To find out whether there is any differences on students' reading comprehension between students who are taught through Numbered Heads Together and Numbered Heads Together technique based on Contextual Teaching and Learning.

2. To find out students' perceptions of the implementation of Numbered Heads Together based on Contextual Teaching and Learning.

#### **1.4 Uses of the Research**

This research can hopefully be useful both theoretically and practically.

1. Theoretically

- a. The result of the research is expected to help the students to activate their prior knowledge, monitor their comprehension, and record what they have learned from the process of learning.
- b. The results of the research expect to enrich theories and can be a reference for future studies related to Modified Numbered Heads Together in improving students reading comprehension.

2. Practically

- a. The result of the research can be used as a reference for teacher or students in teaching or learning reading.
- b. The result of the research can be used as reference for those who wants to analyze students problem in reading comprehension.

#### **1.5 Scope of the Research**

This research focused on using Numbered Heads Together technique based on Contextual Teaching and Learning to improve student's reading comprehension and the perspective of the students. The data of reading comprehension achievement are taken from the reading comprehension test. There are two tests in reading comprehension achievement, they are pretest conducted before using Numbered Heads Together technique based on Contextual Teaching and Learning conducted and posttest as the test after it is conducted. Pretest and posttest were objective test in multiple choice forms with four options of each question (a, b, c, and d).

## **1.6 Definition of Terms**

In order to avoid misunderstanding, some terms used in this research are defined as follows:

### **a. Reading Comprehension**

The process in which the readers construct meaning from a text connected to the background knowledge they have to get the clear understanding of the writer's message (Snow, 2002 and Mikulecky, 2008).

### **b. Numbered Heads Together technique**

A technique used in academic settings in which every student was assigned a numerical identifier, and that the entire team of students collaborated in order to generate their most best answer (Kagan, 2009).

### **c. Contextual Teaching and Learning**

Contextual Teaching and Learning is an educational process that aims to help students see meaning in the academic subject with the context of their daily lives, that is, with the context of their personal, social, and cultural circumstances (Jhonson, 2002).

As the study has elaborated the points above; in brief this study already has the strong background in conducting the research. Still, this study needs the review of theories concerning the research topics and conceptual framework underlying the study as the next chapter is presented.

## **II. LITERATURE REVIEW**

This chapter discusses the theories which are used in this research. Those theories are reading, aspects of reading, teaching reading, numbered heads together, steps of numbered heads together, contextual teaching and learning, components of contextual teaching and learning, strategies in contextual teaching and learning, the procedure of numbered heads together based on contextual teaching and learning, students' perception, previous research, theoretical assumption, and hypothesis.

### **2.1 Reading**

As a starting point, students should be taught to acquire receptive abilities such as reading and listening. These receptive abilities will offer the required input for children to absorb the language before moving on to productive skills such as Speaking and Writing. The focus of this research is on the Reading skill, which, if effectively taught, will provide the basis for progressing toward communicative competence.

Reading, according to Sulistiyarini, et al (2019), requires thinking through in order to comprehend the content being read. Reading is the process of recreating the author's intended ideas and information from the printed pattern. It is crucial, in the opinion of the author, because reading is the reader's action of extracting information from printed text using their eyes and brain to comprehend what the author is thinking in their writing. It means that as readers interact with printed

text; their minds are constantly activated in order to extract meaning and information.

Reading is an important subject for students. They can expand their views, broaden their knowledge and personality, and learn new things. Reading, according to Clarke (2014), can be a transforming experience, changing the reader's thinking and learning. It is possible to come across new words, thoughts, and perspectives that both challenge and enhance existing knowledge. As a result, reading is critical to teaching and learning, and it's crucial to consider the circumstances in which the reader must extract and apply meaning from the text.

Reading broadens students' horizons. It can be a goal or a means of achieving other objectives. Engaging in reading activities facilitates the process of acquiring new vocabulary and enhances the retention of previously acquired vocabulary (Goctu, 2016). Reading, as a source of learning, can reinforce previously learned vocabulary and grammar, assist learners in acquiring new vocabulary and grammar, and encourage learners to learn more and continue their language studies through success in language use.

Reading, as a goal in and of itself, can be a source of happiness and understanding of the world. Reading for pleasure can provide learners the language input (Goctu, 2016). Learners' enjoyment of reading can increase as they improve their reading skills and fluency. Readers can go around the world while staying at home by reading. They can broaden their economic, scientific, technological, and cultural understanding, or simply read for enjoyment. Not only that, but the message conveyed by the writer is also received by the readers. Reading can be thought of as a link between the writer and the reader.

Perfetti and Adolf (2012) complete the knowledge of the reading comprehension idea by stating that reading comprehension is widely agreed to be numerous



things rather than just one. At the very least, it is agreed to comprise cognitive processes that act on a variety of types of knowledge in order to accomplish a variety of reading tasks. A crucial insight emerges from the apparent complexity: comprehension occurs as the reader constructs one or more mental representations of a text message.

Reading comprehension is the process of applying appropriate and efficient comprehension strategies to generate meaning from written language by evaluating textual material in light of prior knowledge and experiences (Snow, 2002 and Mikulecky, 2008). The reader integrates their past knowledge with extra information from a text, derives the meaning of words, and connects it to acquire a clear grasp of the written text through the process of building meaning (Pang, et al., 2003). The reader must employ multiple techniques such as predicting, clarifying, and confirming in order to comprehend the meaning that is given or unspoken in the text. The reader uses all of these techniques to negotiate meaning. Reading comprehension, according to the description above, is the process through which readers construct meaning from a text using their prior knowledge to gain a clear understanding of the writer's message.

## **2.2 Aspects of Reading**

There are certain aspects of reading that the reader has to understand. There are five aspects of reading comprehension in which the students can understand a text well, such as determining the main idea, locating references, making inferences, detailed information, and understanding vocabulary (Nuttal,1982, as cited in Adilla and Muljanto, 2020).

### 1. Determining Main Idea

The main idea is a statement telling the author's point about the subject. A key to understanding a paragraph or short collection is to find the main idea. Typically, the main concept is in a paragraph, it is typically the first paragraph but it may be in the middle or the last sentence. And that will make it harder to locate the main concept. The students can get confused to see what a passage's main idea is, and where the main idea is. The example question about the main idea can be: *What is the main idea of the text?*

### 2. Reference

A pronoun is an antecedent of reference. The antecedent may be a word or sentence referred to by a pronoun. The students are required to know in defining context what the pronouns within the sentences are used for, like the pronouns accustomed to represent persons, location or circumstance. The following question is an example:

*"...and **it** has..." (paragraph 3). The bold word refers to...*

### 3. Vocabulary

While reading a passage, the student extends their knowledge of vocabulary, such as by discovering new words' meanings in the dictionary and guessing the meaning from context. Context helps students make a general significance judgment. It means that predicting from the context can help students understand the meaning of a passage without stopping in a dictionary to look up any new word. One of the difficulties readers have with understanding material is that they lack vocabulary. The question consisting of vocabulary aspect can be drawn as follow:

*“She is **tall**.” (paragraph 2). The bold word is the synonym of...*

#### 4. Inference

The students are expected to consider the text while drawing inferences to find the meaning of the claims in the text. To make inferences readers need to practice integrating hints from the text with their context information. It means the hints in the text are going to help students create hypotheses, and draw conclusions and they will be able to answer questions. Example question of making an inference can be: *What is the first paragraph talking about?*

#### 5. Specific Information

The last type of question usually found in the reading test is the question of description or the details. This query has been used to test students' ability to understand the content that is mentioned explicitly in the text. The question of finding supporting detail is as follows: *What are the characteristics of the cat?*

From the types of questions found in reading comprehension, identifying the main idea is focused on the objective of this research. In reading for meaning, the main idea will always come first and deserves the top priority. It happens because the main idea is the essence of the paragraph that the author wants the readers to know and it is the idea that the whole paragraph explains or supports. The writer usually puts this main idea in certain places, such as: in the first sentences of the paragraph, the middle of the paragraph, the last of the paragraph, or just lets the reader infer it from the passage.

### **2.3 Teaching Reading**

The teaching and learning process can be conceptualized as a dynamic process in which knowledge is transferred from teachers to learners (Munna and Kalam, 2021). It is a combination of various things in the class. In the context of education, the role of a teacher involves offering guidance, direction, and encouragement to students (Rajagopalan, 2019) Guidance is provided through encouraging students to participate in activities in order to gain knowledge. By providing facilities such as tasks, the teacher can assist the students in learning knowledge. The teacher allows the students to study independently by assigning these tasks. To ensure that the teaching and learning process runs smoothly, the teacher must create a conducive learning environment for the students. In order to create a positive environment, the teacher must consider about the classroom method or technique that will be employed, as this will impact how she or he manages the class. According to the definition above, teaching reading comprehension is the process of a teacher guiding students to achieve reading comprehension on a material using a certain technique. The teacher is the subject of these activities because the teacher has a responsibility to assist students in learning or acquiring the second language, English, using an appealing technique.

### **2.4 Numbered Heads Together**

Numbered heads together is a type of cooperative learning, according to Kagan (2009), since it involves teams and individual accountability, which leads to cooperative engagement among students. It means that with the NHT technique, students communicate with one another and collaborate as a team or group. He also stated it is called "Numbered Heads" to express the idea that every student was assigned a numerical identifier, and that the entire team of students collaborated in order to generate their best answer. This technique encourages both individual and group accountability. According to Kagan (1989:13), the

heads together stage promotes good attitudes and individual accountability. All team members must be prepared for the steps. As no one knows which number will be called, students will attempt to help one another. This phenomenon encourages better teacher-student and student-student relationships in the classroom.

When students work in a group, they have more opportunity to participate actively in learning activities and the thinking process. Risnaldi (2016) also mentions some positive effects on students as a result of using the Numbered Heads Together technique in learning reading, such as: increased learning enthusiasm, courage in giving opinions, easier in answering difficult questions, more interested in group work, more confident, easier to compromise with friends, not easily bored in learning, can be closer with friends in working, more accustomed in group work. As a result, it can be concluded that Numbered Head Together (NHT) not only provides several benefits, but also has some good effects on students' learning.

## **2.5 Steps of Numbered Heads Together**

Numbered Heads Together is a cooperative learning strategy that holds each student accountable for learning materials. It is developed by Kagan and Kagan. According to him there are some steps of implementing the technique, 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 and Kagan (2009) is hoped to improve learning process. However there are still some problems faced by teacher in implementing the technique. Thus, the researcher tries to use Contextual Teaching and Learning in using Numbered Heads Together.

## **2.6 Contextual Teaching and Learning**

Contextual Teaching and Learning is an educational process that aims to help students see meaning in the academic subject with the context of their daily lives, that is, with the context of their personal, social, and cultural circumstances (Jhonson, 2002). In the process of learning, teacher can use task that is related with real life problem or situation. In addition, Berns and Errickson stated (2001) that, Contextual Teaching and Learning (CTL) is an educational approach that aims to establish a connection between the content of academic subjects and real-world situations. This approach assists teachers in facilitating the integration of subject matter into real-world settings, thus motivating students to establish meaningful associations between acquired knowledge and its practical applications in their roles as family members, citizens, and workers. Consequently, CTL fosters student engagement and encourages them to actively participate in the challenging process of learning. By learning subjects in an integrated, multidisciplinary manner and in appropriate contexts, students are able to use the acquired knowledge and skills in applicable contexts.

Furthermore, according to Sears and Hersh (1998), contextual teaching refers to a pedagogical approach that facilitates learning by encouraging students to apply their academic knowledge and skills in diverse educational settings, both within and outside the conventional classroom. This approach aims to foster problem-solving abilities in students, allowing them to tackle simulated or real-world challenges individually or collaboratively. Based on the previous definitions, can be

concluded that CTL is the way or the concept of teaching that helps teacher and students to relate subject matter to the real life situation and motivate students to connect and apply all aspect of learning into students' role in real life.

## **2.7 Components of Contextual Teaching and Learning**

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 (Selvianiresa and Prabawanto, 2017).

### **a. Constructivism**

From the history of contextual teaching and learning, constructivism is a theory that emphasizes the way how the students construct their own knowledge. It has five steps of learning. They are activating knowledge, acquiring knowledge, understanding knowledge, applying knowledge, and reflecting knowledge.

### **b. Inquiry**

The principle shows how learning is conducted by including the process of discovery that needs critical thinking. In this case, knowledge as the part of learning does not get by considering a number of facts but also from stimulating learning that allows the students to find their own material in the real context.

### **c. Questioning**

Questioning is one of the parts in teaching learning process. The students' ask something because they want to know something that they do not know. They are curious to get the answer of their problem. That's why they ask to the teacher or others.

#### d. Learning Community

Contextual teaching and learning is conducted in group because its purpose is wants the students to have sharing and discussing section without the intimacy of others. The other purpose is the students can help the others who need their help in positive way.

#### e. Modeling

Modeling is derived from the word “model”. Model means example. The component of modeling means the teacher gives example to the students if they find difficulties in real way. For example the English teacher gives the example to pronounce certain words.

#### f. Reflection

Reflection is the ways of thinking about what the students have learned and thinking about what they have done in the past. In this case, the teacher can do about the information that acquired in the action.

#### g. Authentic Materials

It is important to have assessment for the teacher in order to check whether the students have learned the material or not. The assessment is done in authentic form in order to reduce the students do copy paste to the other friends' work.

Those principles should be performed during the learning process. Therefore students can acquire the knowledge well.



## **2.8 Strategies in Contextual Teaching and Learning**

There are some characteristics of contextual teaching and learning that differentiate with the other approaches. Johnson characterizes it into eight important elements.

They are as the followings:

### **a. Making Meaningful Connection**

The students can learn the materials that make sense to them because the materials itself are gained based on their real life context.

### **b. Doing Significant Work**

The students could relate what the materials have gained in the school and also in the various contexts that still exist in real world.

### **c. Self-Regulated Learning**

The purpose of self-regulated learning is to create the students to have learning regularly in order they can get the knowledge as much as possible. It is done because the role of the students in contextual teaching and learning is to find their own material when they are learning.

### **d. Collaborating**

Collaborating is derived from the word “collaborate”. It means that the characteristic of contextual teaching and learning is to do the group discussion, to have sharing session what they have known with the other friends.

### **e. Critical and Creative Thinking**

It stresses on how the students can think critically if they find problem in order to gain the best solution. Besides, they can be creative when there is task that needs creativity.

f. Nurturing the Individual

It stresses that the students still need the help of the other such as from adult people who mostly have more experience than the young. So, the students should respect the adult people.

g. Reaching High Standard

By relating high standard as the characteristics of contextual teaching and learning, it can motivate the students to have more frequency of studying.

h. Using Authentic Assessment

The using of authentic assessment is useful in order to get the meaningful purposes.

## 2.9 The Procedures of Numbered Heads Together Based on Contextual Teaching and Learning.

This research modified Kagan's Numbered Heads Together technique based on Contextual Teaching and Learning to create clear steps for students in order to make the learning process done effectively, especially in making them do the individual task.

Table 2.1 Differences between Numbered Heads Together and Numbered Heads Together Based on Contextual Teaching and Learning

Numbered Heads Together	Numbered Heads Together Based on Contextual Teaching and Learning
a. Students number off. b. Teacher poses a problem and gives think time. c. Students privately write their	a. <b>Teacher activates students' schemata relating to the material of vocabularies related (Constructivism)</b> b. <b>Teacher show them a text with a</b>

<p>answers.</p> <p>d. Students stand up and “put their heads together,” showing answers, discussing, and teaching each other.</p> <p>e. Students sit down when everyone knows the answer or has something to share.</p> <p>f. Teacher calls a number. Students with that number answer simultaneously</p> <p>g. Classmates applaud students who responded.</p>	<p><b>problem and show how to answer the problem based on the text</b> (Modeling)</p> <p>c. Students number off</p> <p>d. Teacher poses a problem related to <b>real life problem or situation</b>, and then gives questions of 5 aspects of reading from the text and gives think time.</p> <p>e. Students privately write their answers.</p> <p>f. <b>Students find the support of the answer of their solutions.</b> (Inquiry)</p> <p>g. Students “put their heads together,” (Learning Community)</p> <p>h. <b>Students share and discuss the answer in the group. They ask each other questions to make sure of the answer given.</b> (Questioning)</p> <p>i. Students choose the best answer for their group.</p> <p>j. <b>Teacher calls a number. Students with that number answer in front of the class.</b> (Authentic Assessment)</p> <p>k. <b>Students revised draft and do the final checking and review the material with the teacher.</b> (Reflection)</p>
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The researcher put the principles of Contextual Teaching and Learning into the step of Numbered Heads Together. For instance, the researcher activates students' schemata relating to the material of vocabularies related. As it is known that word recognition and vocabulary knowledge are the two primary skills that significantly impact the ability to read fluently (Gedik and Akyol, 2022). Reading text contains many vocabularies thus student must enhance their vocabulary knowledge. The researcher also will add modeling principle, in which the teacher show them a text with a problem and show how to answer the problem based on the text. This method of instruction is employed to enable students to initially observe the expected requirements and improve their confidence in actively participating in an entirely new task (Salisu and Ransom, 2014).

In addition, in the classroom, there is an expectation that the student will take on an active role in their own learning (Neuby, 2010). Therefore students are asked to find the support of the answer of their solutions. In addition the students share and discuss the answer in the group. They ask each other questions to make sure of the answer given. Questions may occur spontaneously or in response to stimulation. The presence of questions suggests that students have engaged in critical thinking, demonstrating their efforts to expand upon and establish connections between the presented ideas and their existing knowledge (Musingafi, 2014).

By combining CTL with NHT, teacher will create an enriched learning environment that empowers students to become active participants in their learning. This approach promotes deeper comprehension, critical thinking, and effective problem-solving skills, preparing students for success not only in the classroom but also in their future endeavors. Ultimately, the advantages of using CTL in NHT extend beyond the immediate academic setting, empowering students to become

lifelong learners who can confidently apply their knowledge in various real-world situations.

### **2.10 Students' Perception**

In general, perception consists of the interpretation of a certain condition and environment. According to the Longman Dictionary of Contemporary English, perception can be defined as an individual's cognitive framework and conceptualization of a particular subject, the process of observing and perceiving stimuli through the senses of sight, hearing, etc., and the innate capacity to quickly comprehend and identify information (Ou Qiong, 2017). Then, Perception is a numerous sequence of cognitive processes by which individuals obtain and interpret sensory information (Catling & Ling, 2011). It means that perception is creating a meaning based on the sensory experience.

Furthermore, perception is influenced by attention, beliefs, and expectations (Feldman, 2011). In other words, by knowing students' perceptions, it also knows about students' beliefs indirectly. Moreover, The belief systems of learners involve a wide variety of topics and possess the capacity to impact learners' motivation to acquire knowledge, their anticipations regarding language acquisition, their perspectives on the ease or difficulty of language acquisition, and the specific learning strategies they prefer (Richards & Lockhart, 1996). The researcher believes that students' perceptions affected students' attitudes and impressions in the teaching-learning process which influenced their ability in learning.

In identifying the students' perceptions, there are kinds of perceptions divided into two, there are; positive and negative perceptions. Self-perception has to act by all personal acts, think, and do about themselves, their capabilities and their bodies. It is also prejudiced by the reaction of others to them. This perception, in turn, influences the demeanors of each way through life.

1. Positive perception is a valuable present that prepares the self-confidence and power to catch into the world, endure crises, and focus outside oneself. It increases the construction of relationships and giving to others.
2. The negative perception is disposed to focus on their desires, trying to acquire and prove their self-worth.

In this research, the researcher uses a Likert scale questionnaire adapted from Fennel (1992) which will be used to collect the data on students' perceptions of the implementation of the strategy. The questionnaire consisted of 14 statements which are related to the teaching-learning process through Numbered Heads Together Based on Contextual Teaching and Learning. The statements are classified into statements of usefulness and feeling.

### **2.11 Previous Research**

There has been some previous research done using Numbered Heads Together. Maman and Rajab (2016) implemented Numbered Heads Together to improve the students' ability in reading comprehension. They concluded that the implementation of the technique can improve students' competence in reading comprehension through action research. The implementation of NHT method at each cycle show that the actions taken affected on improving the students' competence in every aspect observed, although the objectives and contents of each

cycle were different. Furthermore, Nurdiana (2016) also used Numbered Heads Together Technique to improve students' reading comprehension for third semester of college students. She found that the use of Numbered Heads Together Technique had a significant effect on students' reading comprehension on narrative text.

Meanwhile, some researcher also implemented Contextual Teaching and Learning in the classroom. Nawas (2018) used Contextual Teaching and Learning (CTL) Approach through REACT (Relating, Experiencing, Applying, Cooperating and Transferring) strategies in teaching writing. He concluded that there was significant difference mean scores between pre-test and post-test of experimental study. The approach can be useful to improve the students' critical thinking to write, and this also can be implemented in the teaching and learning process. In addition, Widodo (2020) carried out the experimental research using Contextual Teaching and Learning to teach Speaking. The findings reveal this method enhance students' speaking skill especially in transactional and interpersonal communication.

Dealing with some studies which have been conducted by several researchers above, the writer tries to use Contextual Teaching and Learning in implementing Numbered Heads Together. The writer will also observe the students' perception of using the technique.

## **2.12 Theoretical Assumption**

Reading comprehension is the process of applying appropriate and efficient comprehension strategies to generate meaning from written language by evaluating textual material in light of prior knowledge and experiences (Snow, 2002 and Mikulecky 2008). The reader integrates their past knowledge with extra information from a text, derives the meaning of words, and connects it to acquire

a clear grasp of the written text through the process of building meaning (Pang, et al., 2003). According to the definition above, reading comprehension is the process through which readers comprehend meaning from a text by applying past knowledge to achieve a clear understanding of the writer's message.

The process of a teacher leading students to gain reading comprehension on a text using a certain technique is known as teaching reading comprehension. The teacher is the focus of these activities since it is the teacher's role to help students learn or acquire a second language, English, in an interactive way. In this research, researcher chooses Numbered Heads Together technique as one of the cooperative learning techniques to use. This technique allows the group to begin to work together. While using the Numbered Heads Together, the researcher also implements Contextual Teaching and Learning. 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 question they have.

### **2.13 Hypothesis**

Based on the theories and the assumptions above, the researcher proposes hypothesis in this research:

There is significant difference in the students' reading comprehension after they are taught through Numbered Heads Together and Numbered Heads Together with Contextual Teaching and Learning.

Briefly, those are the explanation about this chapter that are about reading, aspects of reading, teaching reading, numbered heads together, steps of numbered heads together, contextual teaching and learning, components of contextual teaching and



learning, strategies in contextual teaching and learning, the procedure of numbered heads together based on contextual teaching and learning, students' perception, previous research, theoretical assumption, and hypothesis.

### **III. RESEARCH METHOD**

This chapter deals with seven subchapters consisted of research design, research setting, data sources, research instruments, data collecting techniques research procedures data analysis, and hypothesis testing are explained.

#### **3.1 Research Design**

This research is quantitative study, the research focused on two classes, one as control class and the other as experimental class . Those classes were given pre-test in the first meeting in the form of reading test. After doing pre-test, students in control class was taught to read a text using Numbered Heads Together, in the other hand, students in experimental class was taught to read a text using Numbered Heads Together based on Contextual Teaching and Learning. In the last meeting researcher give post-test for the students in both control and experiment groups. Based on the procedure above, the researcher used Control Group Pre-test-Post-test Design for the first research question (Setiyadi, 2018).

The research design was presented as follows:

**G1 T1 X T2**

**G2 T1 O T2**

G1 = Experimental Group

G2 = Control Group

T1 = The first time taking a reading test before the students given a treatment.

(Pre-test)

X = The treatment, teaching reading through Numbered Heads Together based on Contextual Teaching and Learning.

O = The treatment, teaching reading through original Numbered Heads Together.

T2 = The last time taking a reading test after student being taught through the technique.(Post-test)

This research was conducted in five meetings in each group with the presentation as follow:

1. The first meeting is for pre-test
2. The second to fourth is for the treatments
3. The fifth meeting is for the post-test.

The researcher used this design because the pre-test (T1) is a test that was done to measure the students' ability in the first. In the beginning, the students were given a standardized test that appeared to be a good measure of their score before being given treatments. After conducting the pre-test, the researcher gave treatments (X) to the students. Eventually, at the end of the treatment, the researcher gave a post-test (T2) to measure the difference score before and after treatment. To collect the qualitative data, a questionnaire was administered to the students. The aim of the questionnaire is to find out the students' perception towards the implementation of Numbered Heads Together Based on Contextual Teaching and Learning.

### **3.2 Data Sources**

The subjects of this research are the second grade students of junior high school. The numbers of students of each class were 32 students. There were a total of five meetings conducted in this study. The researcher took two classes, one as control and one as experiment class.

### **3.3 Research Instrument**

The researcher used reading comprehension test and questionnaire as the instrument of the research. The reading test was conducted to find out the difference of teaching reading comprehension through Numbered Heads Together and teaching reading comprehension through Numbered Heads Together based on Contextual Teaching and Learning. The test contains five aspects of reading main idea, specific information, inference, reference, and vocabulary. The test was given in a form of multiple-choice (a, b, c, and d). Multiple-choice test was used since its marking is rapid, simple and most importantly reliable, that is, not subjective or influenced by marker judgments (Heaton, 1975). The multiple-choice format may make *wh*-questions easier to answer than no-choice *wh*-questions because they give the students some possible answers. Students might be able to check the text to see if any of the choices are specifically discussed, and then make a choice. To answer the second research question related to the students' perception towards the implementation of the teaching reading comprehension through Numbered Heads Together based on Contextual Teaching and Learning, the researcher gave a perception questionnaire. There are 15 questions in close-ended form of questionnaire.

### **3.4 Validity and Reliability**

In doing the research and determining that the test items are applicable or not, the researcher tried out the test to find out the test's validity, reliability, difficulty level, and the test's power of discrimination. It is performed to assess whether or not the test items have a good quality before being provided for the pre-test and the post-test. There were four requirements of a good test that should be met: validity, reliability, level of difficulty, and discrimination strength.

### **3.4.1 Validity of Reading Test**

Validity refers to how well the test tests what is supposed to be measured. There were four validity types, namely face validity, content validity, construct validity, and empirical or criterion validity. The writer used validity of content and construct validity to determine whether the test has a strong validity. Face validity issues with test layout while the criterion-related validity issues potential assessment of performance as in replacement test (Hatch and Farhady, 1982). Thus these two validities are deemed less important.

#### **a. Content Validity of Reading Test**

Content validity was meant to know if the test items are a good reflection of what will be covered. The test items were adapted to include a representative sample of the course from the materials taught to the students (Heaton, 1975). To get the content validity of reading comprehension, the researcher tried to organize the materials for junior high school students based on the current curriculum. This research used Recount text intended to be comprehend by junior high school students. To determine a measuring instrument's content validity, the researcher determined the overall content that should be measured.

In this research, scoring criteria relies on the five aspects of, i.e. determining main idea, finding the detail information, reference, inference and vocabulary (Nuttal, 1985). All test items which had good validity were accustomed to collect the data for this research and therefore the bad one should be removed or revised. Therefore every test items can be matched with the goal and therefore the materials were taught.

### b. Construct Validity of Reading Test

Construct validity issues whether the tests were real representation in accordance with the theory of what learning the language means (Heaton, 1975). If a test has validity model, it is capable of evaluating those specific characteristics in line with the language behavior and learning theory. The instrument's validity relationship refers to construct validity in which question reflects five kinds of reading skills, i.e. finding main idea, finding supporting details, finding reference, making inferences, and knowing vocabulary. Reading skills in the test are part of the validity of the construct and the item numbers are part of the validity of the content.

**Table 3.1 Specification aspects of reading comprehension**

No.	Aspect of Reading Comprehension	Number of Items
1	Main Idea	1, 6, 11, 21, 26, 31, 36, 41, 46,51,56
2	Specific Information	2, 7, 12, 17, 22, 27, 32, 37, 42, 47,52,57,
3	Reference	3, 8, 13, 18, 23, 28, 33, 38, 43, 48 ,53,58
4	Inference	4, 9, 14, 19, 24, 29, 34, 39, 44, 49,54,59
5	Vocabulary	5, 10, 15, 20, 25, 30, 35, 40, 45, 50,55,60
	Total	60

### 3.4.2 Reliability of Reading Test

The next important part that should be tested was instruments' reliability. The instruments were accurate if the same subject was calculated on different occasions suggesting the similar result. Using correlation product moment, the researcher calculated the reliability of the reading test and then the result was used in the Spearman Brown formulation. If the final result shows score 0,80–1,00, the instrument's value will be very high and reliable.

After getting the tryout test data to test the reliability of the reading test, the researcher calculated the data using ITEMAN. The result of the try-out test reliability (the coefficient correlation of whole items) is 0.92 (See Appendix 2). It

could be inferred that the test had a high level of reliability. Based on the result, the researcher dropped 20 items (3, 5, 8, 13, 15, 17, 22, 23, 28, 31, 34, 35, 38, 39, 44, 46, 48, 49, 55, 60), Briefly, there were 40 items administered in the pre-test and post-test.

**a. Level of difficulty**

The difficulty level is linked to "how easy or how difficult the item would be in the context of the student's point of view." It is important as test items that were going to be too simple (that all students get right) could tell us nothing of differences within the test population. The items as reasearch object should not be too simple and also not too difficult for the students. This research used the ITEMAN 4.2 divided into three categories to assess the level of difficulty of the test items. Thus, the criteria of level difficulty were as follows:

Level difficulty from 0.000 – 0.30 refers to difficult.

Level difficulty from 0.30 – 0.70 refers to avarage.

Level difficulty from 0.70 – 1.00 refers to easy.

After the calculation, the test items were average in difficulty, and some were categorized as having a difficult level. There were 9 items which categorized as easy and difficult. They had been dropped as a result (See Appendix 3).

**b. Discrimination power**

The power of discrimination refers to "the degree to which the item differentiates between the high level and the level of students on the test." A good item that meets this criteria is one where good students have done well and poor students

have failed. To find out the discrimination power of the test, the criteria from the ITEMAN 4.2 is used as follows:

0.00 to 0.19 refers to poor.

0.20 to 0.39 refers to satisfactory.

0.40 to 0.69 refers to good.

0.70 to 1.00 refers to excellent

A negative discrimination power refers to bad item.

Based on the computation of discrimination power of the try-out test (See Appendix 3 ), it was found that there were 17 items that was considered as poor items which had been dropped, and the rest are considered as good and satisfactory.

### **3.4.3 Validity Questionnaire of Students' Perception**

The validity of the questionnaire was used to construct validity. It is concerned with whether the questionnaire was actually in line with the theory. It means that the test items should test the students, or the test items should measure the students' perception of the applied techniques. Construct validity measures whether the construction has already inferred the theories, meaning that the test construction has already been in line with the objectives of learning (Hatch and Farhady, 1982).

To test the validity of the questionnaire, the researcher calculated the data using SPSS. The result showed that all questionnaire items were valid if the significance value (Sig. (2-tailed)) of each item which is lower than 0.05. Besides, it can also be proven by comparing the r-value with the r-table. The item was



valid if the r-value (Pearson correlation) is higher than the r table. It can be stated, that all items in the questionnaire were valid and had a high correlation. Furthermore, the teacher also seen the overall means score of the students' questionnaire. The table specification of the students' questionnaires interpretation of the mean score can be seen below:

**Table 3.2 Interpretation of Mean Score (Wanjohi and Syokau in Gerhardsen: 2023)**

Mean Score	Interpretation
3.5-5.0	Positive
2.5-3.4	Neutral
1.0-2.4	Negative

Based on the interpretation of the mean scores provided in Table 3.2, we can draw the following conclusions:

1. Mean Score between 3.5 and 5.0 (3.5-5.0): Positive

If the mean score falls within this range, it indicates a positive interpretation. This suggests that the respondents or participants in the study have, on average, expressed positive attitudes, opinions, or perceptions towards the subject under investigation.

2. Mean Score between 2.5 and 3.4 (2.5-3.4): Neutral

A mean score falling within this range signifies a neutral interpretation. It implies that the respondents' attitudes, opinions, or perceptions are neither significantly positive nor negative. Instead, they may have expressed a moderate or ambivalent stance on the topic.

3. Mean Score between 1.0 and 2.4 (1.0-2.4): Negative

A mean score in this range indicates a negative interpretation. It suggests that, on average, the respondents or participants have expressed negative attitudes, opinions, or perceptions regarding the subject being assessed.

In summary, the mean scores provide valuable insights into the overall sentiment or perception of the respondents. A positive mean score suggests a favorable outlook, a neutral mean score indicates a lack of strong opinions, and a negative mean score reflects a less favorable or negative stance. Researchers and teachers can use this information to assess the overall sentiment of the participants and make informed decisions or improvements based on the feedback received.

#### **3.4.4 Reliability Questionnaire of Students' Perception**

To measure the reliability of questionnaire items, Cronbach's Alpha in the application of SPSS was used. The reliability of each aspect of the questionnaire was assessed by correlating each item with its construct in SPSS. The questionnaire was scored according to the Likert scale, whereas the reliability of the questionnaire was measured by using Cronbach Alpha Coefficient. The researcher used this because it is the most common scoring to assess the consistency of the indicators in the questionnaire.

**Table 3.3 Reliability of Reading Strategy Questionnaire**

<b>Reliability Statistics</b>	
Cronbach's Alpha	N of Items
.932	15

The computation showed that the coefficient reliability of students' perception reading Questionnaire is 0.932. It can be said that the students' perception questionnaires are reliable and consistent.

### **3.5 Data Collecting Technique**

As the data is in the form of reading comprehension for students, the data was gathered using two reading tests; pre-test and post-test. Each student in each test had to answer the reading comprehension test. Pre-test and post-test scores of the students were evaluated to find out the abilities of the students before and after the treatments. The data collection technique is explained as follows:

#### **a. Pre-test**

The pre-test was conducted to find out the access point for reading comprehension aspects of the student before the treatments, both in the experimental class and in the control class. The students were given multiple-choice test in this test. In the pre-test the test items were similar to the post-test. The test was in the form of multiple-choice questions about explanation text with 4 alternative options.

#### **b. Post-test**

This test's function was to determine the students' ability and progress of reading comprehension achievement after being taught by the technique chosen. The students were also given multiple choice tests in this test with 4 alternative options.

#### **c. Questionnaire**

The perception questionnaire was used to measure students' perceptions on the application of Numbered Heads Together based on Contextual Teaching and Learning. To ensure that students understand all the items of questionnaire, it was provided both English and Bahasa Indonesia. The questionnaire included Likert-type option. Students are asked to answer each question inside the range of 5-point scale ranging from 'strongly disagree' to 'strongly agree'. There were 15

questions adapted from Fennel (1992) given to the student. The questionnaire was divided into 2 categories; useful and feel.

### **3.6 Research Procedure**

The researcher used the following procedures in order to collect the data:

#### **1. Determining subjects of the research**

The population of this research was the third grade of junior high school students. The researcher took two classes, one as experimental class and the other one as control class.

#### **2. Selecting the material**

The material of this research was Recount text based on Curriculum for junior high school students at the second grade.

#### **3. Administering the try-out test**

The aim of this test is to determine the quality of the test used as the instrument of the research and to determine which item should have been revised or dropped for the pre-test and the post-test.

#### **4. Administering the pre-test**

The pre-test was administered to assess the reading comprehension aspects before the treatments were offered in the class. This test also consists of reading comprehension from the Recount text of the multiple choice test. After the test had been conducted every test item may be calculated.

#### 5. Conducting treatments

After doing the pre-test, the students were given three times treatments. The treatments were teaching-learning reading using Numbered Heads Together with Contextual Teaching and Learning in experimental class, while in control class using Numbered Heads Together.

#### 6. Administering the post-test

As the treatments were given, the post-test was conducted to assess whether or not there is a significant difference between pre-test and post-test reading comprehension of students in pre-test and post-test results.

#### 7. Administering the Questionnaire

After the treatment had been done, a close-end questionnaire was distributed. The purpose of the questionnaire is to seek what students' perceptions on the implementation of Numbered Heads Together based on Contextual Teaching and Learning running throughout treatment.

#### 8. Data analysis

The data were analyzed using SPSS and ITEMAN after carrying out the pre-test and the post-test. It is used to know the effects of reading comprehension of the students after being taught by Numbered Heads Together with Contextual Teaching and Learning and Numbered Heads Together.

### **3.7 Data Analysis**

In analyzing the data the researcher used Statistical Package for Social Science (SPSS) program. The researcher got the data from using reading comprehension test after teaching by Numbered Heads Together and Numbered Heads Together based on Contextual Teaching and Learning. Reading test was calculated before

and after treatment. Independent Group t-test is used to compare mean score from the result of pre-test and post-test of experiment and control class. The researcher analyzed the data statistically as follows:

1. Scoring pre-test and post-test.
2. Calculating the total correct answer for pre-test and post-test.
3. Tabulating the score of the student's reading comprehension test results using a t-test.

The formula manually is as follows:

$$\frac{X1 - X2}{SD}$$

In which

$$\frac{SN}{D} = \frac{SD}{\sqrt{n}}$$

Where:

X1 = Mean of the pre test

X2 = Mean of the post test

S N= Standard error of differences between two means (denominator)

SD = Standard deviation

N = number of students

(Hatch and Farhady, 1982)

4. Drawing conclusions from the tabulated result of the pre-test and post-test, that is statistically analyzed by using SPSS (Statistical Program for Social Sciences) in order to examine whether the increase of the students' gain is significant or not.
5. Determining the students' mean score and the percentage of students' perception.

### 3.8 Scoring System

Before getting the score, the researcher determined the procedure or technique to be used in scoring the students' work. To do that, the researcher used Arikuntos' formula (1989). The ideal highest score is 100. The scores of pretest and post-tests were calculated by using the following formula:

$$S \frac{r}{n} 100$$

Where:

S: The score of the test

R: The total of right answer

N: the total.

### 3.9 Normality test

After collecting the data for pre-test and post-test, the data were analyzed using the Shapiro-Wilk test on SPSS Statistics version 26. The first requirement was to test the data normality. The normality test was used to measure whether the experimental class one and the experimental class two data were normally distributed or not. The hypothesis formulas were:

Ho : The data has normal distribution.

Ha : The data has not normal distribution.

While the criteria acceptance of hypotheses for normality test were:

Ho is accepted if Sig. >  $\alpha = 0.05$

Ha is accepted if Sig. <  $\alpha = 0.05$

**Table 3.4 Normality of Reading Test**

Class		Shapiro-Wilk		
		Statistic	df	Sig.
Result of Reading Test	Pretest Experimental Class (NHT with CTL)	.965	32	.380
	Posttest Experimental Class (NHT with CTL)	.960	32	.283
	Pretest Control Class (NHT)	.945	32	.102
	Posttest Control Class (NHT)	.976	32	.668

The samples for experimental and control class were 32 students. Table 3.3. shows that the sig. Values of the pre-test and post-test of the experimental group are 0.380 and 0.283, whereas the sig. Values of the pre-test and post-test of the control group are 0.102 and 0.668. Since the significant level (Sig.) is  $> 0.05$  ( $\alpha$ ), thus,  $H_0$  was accepted, and the conclusion was that the data on experimental class and control class has a normal distribution.

### 3.10 Homogeneity Test

After testing the data normality and making sure that the data was homogenous. A homogeneity test was used to determine whether the data obtained was homogenous. The result of the gain score obtained was tested their homogeneity by using Levene's test on SPSS version 26. The hypotheses for the homogeneity test were:

$H_0$  : The variance of the data is homogenous.

$H_1$  : The variance of the data is not homogenous.

the criteria acceptance of hypotheses for homogeneity test were:



$H_0$  is accepted if  $\text{Sig.} > \alpha = 0.05$

$H_1$  is accepted if  $\text{Sig.} < \alpha = 0.05$

**Table 3.5 Homogeneity Test**

**Test of Homogeneity of Variance**

		Levene Statistic	df1	df2	Sig.
Posttest	Based on Mean	.775	1	62	.382
	Based on Median	.686	1	62	.411
	Based on Median and with adjusted df	.686	1	61.977	.411
	Based on trimmed mean	.714	1	62	.401

The Levene statistic was used to assess the equality of variances in different samples. Based on the results obtained in the test of homogeneity of variances in the column Levene Statistics, it can be seen that the significant level (Sig.) is 0.382. It means that it is higher than  $\alpha = 0.05$ . Therefore, it can be concluded that the pre-test and post-test data have homogeneity of variances.

### **3.11 The Equality of Pre-test Score**

The pre-test was conducted to determine the students' reading comprehension achievement before being taught using Numbered Heads Together and Numbered Heads Together based on Contextual Teaching and Learning. Since the subjects were chosen purposively, the equality of the scores in both groups was emphasized. This purpose was to establish pre-intervention similarity between the students taught through the Numbered Heads Together and Numbered Heads

Together based on Contextual Teaching and Learning. The data were tested by an Independent sample T-Test.

While the criteria acceptance of test were:

1. The score of  $\text{Sig.} > \alpha = 0.05$  indicates that there is no significant difference there is no significant differences of the score pre-test on students' reading comprehension.
2. The score of  $\text{Sig.} < \alpha = 0.05$  indicates that there is there is significant differences of the score pre-test on students' reading comprehension.

**Table 3.6 Independent Samples Test**

		t-test for Equality of Means		
		t	df	Sig. (2-tailed)
Pretest	Equal variances assumed	.535	62	.595

Based on the result in table 3.6 above, the significant (2-tailed) value was higher than 0.05. There is no significant difference between students' pre-test scores in the Numbered Heads Together and Numbered Heads Together based on Contextual Teaching and Learning classes. Therefore, based on the statistical calculation above, it determined that the students' prior knowledge in Numbered Heads Together class and Numbered Heads Together based on Contextual Teaching and Learning class were equal or similar.

### **3.12 Hypothesis Testing**

The pre-test and post-test were compared in order to know the gain. Independent T-Test was utilized to determine the difference in reading comprehension achievement of two experimental classes. Moreover, the result of the t-test was

used to investigate the significant difference in students' reading comprehension achievement before and after being taught by Numbered Heads Together. Furthermore, to prove whether the proposed hypothesis is accepted or rejected. In this case, a significant level of 0.05 is used in which the probability of error in the hypothesis was only 5%. The hypotheses are drawn as follows:

$H_0$ : There is no significant differences of the students' reading comprehension after they are taught through Numbered Heads Together and Numbered Heads Together with Contextual Teaching and Learning.

$H_1$ : There is significant differences of the students' reading comprehension after they are taught through Numbered Heads Together and Numbered Heads Together with Contextual Teaching and Learning.

The criteria for accepting the hypothesis are as follows:

1.  $H_0$  is accepted if the t-table is higher than t-ratio. It means that there is no significant difference of students' reading comprehension after being taught by Numbered Heads Together and Numbered Heads Together with Contextual Teaching and Learning.
2.  $H_0$  is rejected if the t-table is lower than t-ratio. It means that there is significant difference of students' reading comprehension after being taught by Numbered Heads Together and Numbered Heads Together with Contextual Teaching and Learning.

This chapter has elaborated the method which is used in the research. It also revealed how the data is analyzed after the treatment. The data is taken from the results of pre-test and post-test.

## **V. CONCLUSIONS AND SUGGESTIONS**

This final chapter focuses on drawing conclusions and providing relevant suggestions based on the findings and analysis conducted throughout the study. This chapter serves as a comprehensive culmination of the research, offering insights into the implications of the study and proposing recommendations for further exploration and application.

### **5.1 Conclusions**

This research has provided valuable insights into the effect of Numbered Heads Together and Numbered Heads Together based on Contextual Teaching and Learning. The researcher comes to these following conclusions:

1. There is a statistically significant difference between students who are taught with Numbered Heads Together and Numbered Heads Together based on Contextual Teaching and Learning. It is revealed that Numbered Heads Together based on Contextual Teaching and Learning had better improvement because it makes the students participate at every stage of learning process and thus makes them comprehend the text better.
2. Numbered Heads Together based on Contextual Teaching and Learning leaves a good or positive perception from students. Most of them said that they could get better learning environment after the implementation of the technique. Students can work together and share the knowledge to help each other in the learning process.

## **5.2 Suggestions**

This section aims to provide valuable recommendations based on the findings and conclusions of this research study. These suggestions are intended to guide teachers, learners, and researchers in the field of language learning.

### **5.2.1 Suggestions for English Teachers**

These are some suggestions for the teacher to enhance their teaching and support students' learning when implementing this technique:

1. Teachers may provide various real-life problems related to the text for the students to create critical thinking opportunities and make the learning process become more meaningful.
2. Teachers are suggested to give feedback and encouragement to students during the learning process to make sure they are interested and comfortable in doing the task.
3. Teachers should be aware of time management in the class and make sure all the steps done in time.
4. Teachers are suggested to provide the text based on some considerations, such as level of difficulty, language and vocabulary, text length, and curriculum alignment.

### **5.2.2 Suggestions for Students**

The following suggestions are offered for learners who are interested in improving their speaking skills and motivation in language learning:

1. Students are suggested utilizing the Contextual Teaching and Learning in reading comprehension.
2. Students should fully engage in learning activities. They must actively participate in every step of the technique implemented.

### **5.2.3 Suggestions for Further Research**

Here are some suggestions for further researcher who has intention in implementing the technique:

1. The further study may examine other skills, besides reading.
2. It is suggested to explore other aspect of students other than their perception, for instance motivation.
3. Further research may combine Numbered Heads Together with other approaches.
4. It is suggested to find the statistical data for the improvement of 5 aspects of reading.

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