

**INVESTIGATING THE TECHNIQUE OF MODIFIED  
NUMBERED HEAD TOGETHER IN ONLINE CLASS TO PROMOTE  
STUDENTS' READING COMPREHENSION ACHIEVEMENT AT  
SMP NEGERI 1 BRAJA SELEBAH IN THE ACADEMIC YEAR 2021/2022**

**(A Thesis)**

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**2022**

## ABSTRACT

### **Investigating the Technique of Modified Numbered Head Together in Online Class to Promote Students' Reading Comprehension Achievement at SMP Negeri 1 Braja Selehah in the Academic Year 2021/2022**

**Anwar Hadi Irawan**

The objectives of this present study are: 1) to investigate whether there was a significant difference in students' reading comprehension achievement between those who are taught through Modified Numbered Head Together and Original Numbered Head Together, 2) to find out which aspect of reading comprehension improved the most after the implementation of the modified numbered head together, and 3) to find out how the students' perceptions about the implementation of the modified numbered head together to improve their reading comprehension.

To answer the aforementioned research questions, a quantitative true experimental; control group pretest-posttest design was employed. The samples of this research were 64 students in the eighth grade of SMP Negeri 1 Braja Selehah, East Lampung in the academic year 2021/2022. The instruments of the research were a reading test and a perception questionnaire. An independent sample T-test of SPSS 16.0 was used to analyze the means of the N-Gain data of the experimental group and control group.

The results showed that the alpha  $p$ -value at Sig 2 tailed (0.028) was lower than 0.05 and the  $t$ -observed or  $t$ -ratio (2.244) was higher than  $t$ -table (2.000) at  $df$  (62). As a result, the first hypothesis was accepted that there was a significant difference in students' reading comprehension achievement between those who are taught through Modified Numbered Head Together and Original Numbered Head Together. Further, in the form of aspects of reading, the highest value of the mean of the N-Gain reading aspects of pretest and posttest in the experimental class was 1.1 or 111 % which belonged to supporting detail. It means that the supporting detail was one of the aspects of reading comprehension that improved the most after the implementation of Modified Numbered Head Together. The results also revealed that the majority of the students in the experimental group shared positive perceptions of the Modified Numbered Head Together. It was proven from the result of the Likert Scale perception questionnaire which was 75% out of 100% shared positive perception. Therefore, it was believed that the use of Modified Numbered Together was beneficial in improving students' reading comprehension achievement in the online class.

**Keywords:** *Numbered Head Together, Reading Comprehension, Expert Group, Reading Aspects, Learning Perception*

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**By  
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**A Thesis  
Submitted in a partial fulfillment of  
The requirements for S-2 Degree**



**MASTER OF ENGLISH EDUCATION STUDY PROGRAM  
LANGUAGE AND ARTS EDUCATION DEPARTMENT  
TEACHER TRAINING AND EDUCATION FACULTY  
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2022**

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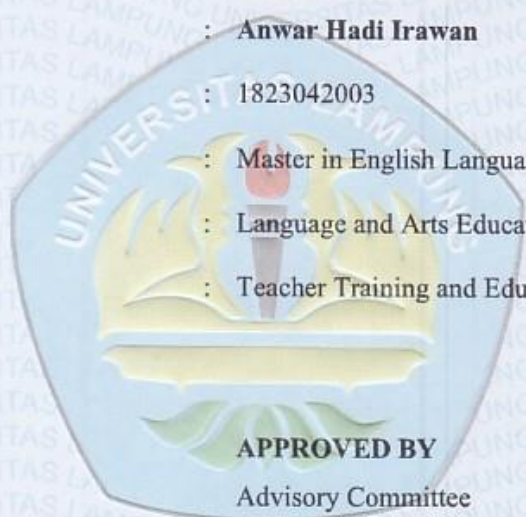
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Dengan ini saya menyatakan dengan sebenarnya bahwa:

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## **CURRICULUM VITAE**

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## **DEDICATION**

This thesis is wholeheartedly dedicated to:

My parents

My wife to be

My siblings

My friends of MPBI 2018



**MOTTO**

If you can dream, you can do it

*Walt Disney*

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Anwar Hadi Irawan

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## **INTRODUCTION**

This chapter highlights the problems and the judgments as to the appropriate empirical foundations in conducting the research. The research questions, objectives, use, scope, and definition of key terms are clearly explained by the researcher at the end of this chapter.

### **1.1 Background of the Study**

Reading is undisputedly a fundamental receptive skill for EFL learners; it is likewise a process that involves absorbing and receiving information through symbols or printed letters. Krashen and Terrell (1998: 131) point out that reading may also be a source of comprehensible input to the development of overall language proficiency and may contribute significantly to overall competence in second language learning. In other words, in learning English as a foreign language reading skill plays a vital role as it is a basic input to the development of competency in listening, speaking, and writing skills. Reading is a fluent process of readers combining information from a text and their background knowledge to build meaning and the goal of reading is comprehension (Nunan, 2003: 68). Sutarsyah (2015:90) states that background knowledge or schemata are used to make sense of the reading text. In short, reading comprehension is one of the essential language competencies to be possessed in learning English as a foreign language through reading so that the learners will easily get the information from any kind of genre text.

Unsurprisingly, the 2013 curriculum in Indonesia emphasizes reading comprehension, in which reading skill is considered the most beneficial skill to be taught from junior high school to university level. It leads to an ongoing shift in the English language curriculum for junior high school to a full concern with any written discourses that is related to social context, one of those is genre-based text such as narrative, procedure, descriptive, recount, report (Sofiar, 2016: 6). Junior high school students have to comprehend and to find the main ideas as well as the detailed information that elaborates the main and supporting ideas in the text through reading. It also happened to the student at SMP Negeri 1 Braja Selehah.

According to preliminary research, where the researcher not only interviews both the English teacher and the students, but also examines the result of the final semester test, especially in reading the comprehension section, showing that the problems in reading comprehension are related to the lack of vocabulary, lack of specific strategy in teaching reading, reading habit, and students' interest to read. Those underlying issues obstruct the students to get a satisfactory score or tend to have low scores in the reading comprehension section. Further, the new 2013 curriculum Ministerial Regulation number 62/2013 regulates English as local content which means that English is no longer belongs to the list of compulsory lessons for elementary school level leading to the abolishment of English tuition in Elementary school which may bring negative indirect impacts toward the students' ability in learning English, especially reading skill as it reduces the exposure of the students to learn English as a foreign language.

Further, the result of the pre-survey interview about the difficulty in reading comprehension which is conducted to both English teachers and the students, and also the observation of the students' learning activity in the classroom on even semester in the academic year 2021 /2022 in SMP Negeri 1 Braja Selebah and SMP Negeri 3 Pekalongan revealed that there were some inactive students or idle, and the uncomfortable result of reading test. Those factors indicate that most junior high school students still have low skills in reading and have difficulty in reading, especially in comprehending the text. In line with those problems (Caldweel, 2008) states that many EFL students with reading problems are just about the lack of fluency and inadequate sight of vocabulary and are forced to analyze each word. On top of that, the pandemic of COVID-19 requires the teacher to find a more applicable and practical learning activity and platform that saves internet data and friendly interfaces such as Whatsapp.

Therefore, the aforementioned problems should motivate the teacher and the researcher to find the appropriate solution by developing and applying the teaching technique to promote students' reading comprehension and motivation. In the effort of solving the problems above, the researcher introduces the use of the cooperative learning model which is believed as the learning model that will fix the problems above and promotes their level of self-esteem. As (Johnson and Johnson, 2006) cited in (Gillies, Ashman, and Terwel, 2008:16) state that cooperative learning promotes intrinsic motivation, achievement motivation, continuing motivation to learn, and positive attitudes toward learning and school. Hence, Kagan (2009) defines cooperative learning as a group learning activity organized so that learning

is dependent on the socially structured exchange of information among group members in which each member is accountable for his or her thought or idea.

Some various techniques and strategies involve cooperative learning, one of them is numbered head together (NHT) which is promoted by Kagan in 1990. Himmele & Himmele (2011: 46) revealed that Numbered Heads together technique is likely to promote students' participation as well as cognitive engagement. It means that the students in the classroom have a wider opportunity to participate in the process of learning English as a Foreign Language, and then facilitate cognitive involvement. According to Rahmania and Solahudin (2011) the numbered heads together (NHT) technique is a solution to solve the students' passiveness and the difficulty in comprehending the text.

Furthermore, Kagan, (1990) as cited in Himmele & Himmele (2011:45) states that numbered head together (NHT) allows all students to be held accountable for being able to relay or spread information that was learned during a group. It is a way of ensuring participation and cognitive engagement during such an activity. It is also useful for randomly assigning roles to students within groups. This implies that through numbered head together students will not only experience cognitive processes but also equal distribution of information that has been discussed during a group.

As Kagan & Kagan (2007: 6) defines that NHT is a technique in which the teacher splits the class into groups, and the teacher gives a different number to each member representing the numbered of the questions, the teacher calls randomly a particular numbered, and only the students with the called numbered respond as a

spokesperson and come up with their best answers or idea. In this activity, the students work together in a group, which ensures that each member of the group knows the answers questioned by the teacher.

Some previous research confirmed the effectiveness of NHT in teaching EFL students in the classroom. Rayanto (2017) proved that the Numbered Head Together (NHT) technique could improve both students' reading comprehension achievement of narrative text and the students' activeness during the teaching-learning process in the EFL classroom. Richard and Renandya (2002) as cited in Mustami and Safitri, (2018) states that NHT numbered head together as a cooperative learning model could be applied to enhance learning activity. Further, Lange, Costley, and Seung (2016) found the effectiveness of NHT in constructing the knowledge and the satisfaction of the learners. Wijayanti, Roemintoyo, and Murwaningsih, (2017) in an investigation revealed that the learning model of numbered heads together has better learning outcomes than direct learning. Nurdiana (2016) reveals that NHT has a positive effect on reading comprehension achievement of the narrative text for EFL learners. Corebima and Nursyamsi (2016) define NHT as one type of cooperative learning, a learning strategy that emphasizes the special structure designed to influence the pattern of students' interaction, and to improve academic mastery.

However, numbered head together (NHT) possesses some weaknesses, namely: due to random calling there is the possibility of the numbers that have been called will be recalled again by the teacher, and several group members are possibly not called by the teacher that will create idle students or freeloaders in the group

Listiadi, et al (2019) & Widyaningtyas et al (2018). Students need to use the opportunities provided to contribute what they can to their groups. Unless students feel individually accountable, some students will act as freeloaders or idle, group morale may suffer, and students may lose faith in the use of groups for learning due to the presence of these freeloaders. Moreover, freeloaders in the group make assessment more difficult, as teachers will face some difficulties or even are not able to judge the members' contributions to their groups (Johnson & Johnson, 2003). Regarding those weaknesses, the researcher would like to modify the numbered head together (NHT) in its steps based on Kagan's PIES principle and expert group activity in to make all the students participate equally in the team project, so that there will be no idle students or freeloaders anymore.

The modification of the steps refers to PIES Principle stands for (Positive Interdependence, Individual Accountability, Equal Participation, and Simultaneous Interaction) by Kagan in 2007. PIES Principle creates conditions to promote better cooperative learning in promoting active engagement of all team members and creating fair teamwork during the learning. PIES Principle suggests that to have equitable participation of the group, everyone within the group should be responsible for completing a portion of the task and has a specific different task or role (Kagan & Kagan, 2007). As Jacobs & Seow (2015) collaborative learning should create equal opportunity to participate because denying or ignoring others the chance denying others the chance to interact with the task and with group mates will make those students may enjoy less and learn less. Students need to use the opportunities provided to contribute what they can to their groups.

Further, the researcher also modified numbered head together by merging the jigsaw strategy or expert group steps into the original numbered head together. Namaziandost (2020) defines that expert group consists of material discussion, the most important learning point discussion, and “homegroup” return which is tasked to instruct the others about information as “an expert”. Each student takes turns teaching what he or she has learned to the other “homegroup” members. Besides, the number of the questions in the modified numbered head together (NHT) represents the number of the students’ head, the students will answer the questions that represent their own individual head numbers. The researcher assumes that by giving a specific question to each member of the group, it will tackle the weaknesses of NHT in which not all the students are called by the teacher and the students who have been called will be called again. On the other hand, the modification of the original NHT will not only actively engage all the students in the group discussion during the reading comprehension activity but also produce students’ accountability, responsibility and receive equal information.

In teaching reading, the teacher needs a media source of reading. One of the media is a comic strip story. Huebener (1965) in Setiyadi, et al (2018) defines that media such as pictures or animated illustrations with careful guidance from the teacher, can be employed to enrich the text, stimulate the learners’ thinking and build up vocabulary. A comic strip can be defined as “a series of pictures inside boxes that tell a story” (Liu, 2004: 229) cited in Merc (2013). Furthermore, Wright & Sherman (1994) as cited in Merc (2013) also identified that visuals, especially comics, are commonly used to encourage and develop students’ interests and competencies in reading, and the features of comic strips that make them an ideal medium for



reading and English courses. The previous research done by Merc in 2013 on some students of Anadolu Turki University revealed that comic strip story use had a significant effect on students' recall of both the high level and low-level texts for both high proficient and low proficient EFL learners. Mayang, (2019) conducted research on Mts Ar-Rahman Langkat and found that a comic strip story is an effective medium for improving reading skills. Based on those previous research and theories, the researcher will use comic strip stories as an aid to assist the numbered head together (NHT) model in the classroom.

The teaching and learning process of language is a very complex task, some experts say that it is influenced by affective factors which make the way of learning of each individual is different (Tallon, 2009) in (Al-Hebaish, 2012). According to Brown (2000) and Skehan (1989) as cited in Al-Hebaish (2012) the affective factor is the emotional side of human behavior and it involves a variety of personality aspects such as emotion, motivation, attitude, anxiety, personality, and self-confidence. Richard & Renandya,( 2002) cited in (Mustami & Safitri, 2018) states that numbered heads together (NHT) cooperative learning model can be applied to boost learning activity, the students are be more motivated to understand the materials because all the group members are responsible for the task.

Setiyadi, et al (2018:78) points out that one of the important concerns for the teacher of reading is how to make their reading classes interesting and relevant for the teacher. Furthermore, reading constitutes a combination of reading aspects that should be identified to help the learners improve the ability what they read, in the effort of it, the teacher should be able to find the appropriate instruction and

adequate media, and if those are properly used it will certainly make the reading lesson in the classroom more interesting, more colorful, and more effective (Setiyadi, et al 2018:103).

Thus, the researcher was curious about the students' perception to evaluate the implementation of the modified numbered head together, whether the modified numbered head together is appropriate instruction that positively motivates the students or not, reduces anxiety, raises self-confidence, and helps students comprehend the reading text, makes the text be more interesting, makes the text more colorful, effective, enriches the text, stimulates the learners' thinking and builds up vocabulary or the other way around it produces negative perception. In addition, the use of an asynchronous online platform in the teaching and learning process is expected to be a more applicable and friendlier interface for the students without worrying about signal interruption because of the range of signal services of the communication provider.

Regarding the previous elaboration, the researcher was curious about the effectiveness of the modified numbered head together (NHT) on the students' reading comprehension achievement, and the students' perception of the implementation of the modified numbered head together at the second grade of SMP Negeri 1 Braja Selehah, East Lampung. The researcher assumed that the teaching process by using modified numbered head together will have significant effect on the students' reading comprehension achievement instead of the original number head together.

## **1.2 Formulation of the Problems**

Based on the aforementioned background, the research problems are formulated as follow:

1. Is there any significant difference on students' reading comprehension achievement between those who are taught through the modified numbered head together and the original numbered head together?
2. Which aspect of reading comprehension improves the most after the implementation of the modified numbered head together?
3. How is the students' learning perception about the implementation of the modified numbered head together to improve their reading comprehension?

## **1.3 Objectives of the Research**

In line with the research problems, the objectives of the research are as follow:

1. To find out whether there is a significant improvement on the students' reading comprehension achievement between those who are taught through the modified numbered head together and those who are taught through the original numbered head together.
2. To investigate which aspect of reading comprehension improves the most after the implementation of the modified numbered head together.
3. To investigate the students' learning perception after the implementation of the modified numbered head together to improve their reading comprehension?

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

The result of this research is expected to:

- 1.4.1 Practically, the result of this research can be remarkable guidance for teachers in implementing steps teaching reading comprehension by using modified numbered head together and as a further reference for someone who wants to conduct research in the same topic.
- 1.4.2 Notionally, the results of this research support and verify the supporting theories about the implementation of both modified numbered head together and original numbered head together on teaching reading comprehension.
- 1.4.3 Theoretically, the result can be a new supporting theory that supports the previous theories related to the implementation of both modified numbered head together and original numbered head together on teaching reading comprehension

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

This research dealt with the investigation of the improvement of the students' reading comprehension achievement, finding what aspects of reading improve better and students' perception on reading comprehension to evaluate the implementation of the modified numbered head together compared with the original numbered head together. Prior to the implementation of the technique, the materials which covered the definition, social function, generic structure, and language features of text had been delivered clearly to the students. The reading skill in this research was focused on reading narrative text. This research was conducted to the second-grade students of SMP Negeri 1 Braja Selehah, East Lampung

## 1.6 Definition of Key Term

Some terms are defined to give basic understanding of the related variables and concepts. Those are defined as follows:

1. Reading is a fluent process of readers combining information from a text and their own background knowledge to build meaning and the goal of reading is comprehension (Nunan, 2003)
2. Reading comprehension refers to the process of simultaneously extracting and constructing meaning through interaction and involvement with written language, it consists of the reader, the text, and the activity (Snow, 2002:13).
3. NHT (numbered head together) is a technique in which the teacher splits the class into groups, and the teacher gives a different number to each member represents the number of the questions, the teacher calls randomly a particular numbered, and only the students with the called numbered respond as a spokesperson and come up with their best answers or idea (Kagan & Kagan, 2009).
4. Expert group is the strategy that enables each student of the homegroup meets other members from other groups who are assigned the same aspect called “expert group” and after mastering the material, the students return to the home group and teach or explain the material to their group members. Aronson et al, (1971) cited in Hoerunisa & Suherdi (2017)
5. Narrative text is a genre of the text that consists of problematic events followed by resolution to solve the problem, it aims to entertain the reader. (Directorate General of Ministry of Education and Culture 2016).

## **II. LITERATURE REVIEW**

This chapter elaborates some important points related to the theories used in this study, such as the concept of reading comprehension, teaching reading, types of reading text, the concept of numbered head together (NHT), the concept of comic strip, the advantages and disadvantages of NHT, the modified of numbered head together, the teaching procedure of the modified numbered head together, learning perception, previous relevant researches, theoretical assumption, and hypothesis

### **2.1 Concept of Reading Comprehension**

Kirby (2014) states that reading comprehension is the process by which we understand the text we read by applying a reading skill that evolved for other purposes (listening or oral comprehension) to a new form of input (text). Reading comprehension is the main goal of reading (Nunan, 2003). Reading comprehension is the process of simultaneously constructing and extracting meaning through interaction and engagement with printed by doing the comprehension activities such as the accurate decoding of print, a process of meaning construction through which inferences and information not available from the printed text that is incorporated into the meaning representation, and active, motivated engagement from the reader (Snow, 2010). Further, Klingner, Vaughn, and Boardman (2007) stated that reading comprehension involves much more than readers' responses to the text. Reading comprehension is a multi-component, highly complex process that involves many interactions between readers and what they bring to the text by using

previous knowledge (schemata) and strategy. Sutarsyah (2015: 9) also states that reading is actually a cognitive process where a reader engages in the mental process of knowing, learning, and understanding things.

Moreover, Sutarsyah (2015) reveals that schemata or background knowledge affect reading comprehension, a reader who has enough background knowledge is likely to have optimum comprehension so that in order to comprehend the text, the reader should be able to catch the ideas which the authors want to convey by involving the background knowledge. In short, reading comprehension is the active and massive involvement of factors in the reader's mind in to fully understand the text. Hence, Watkins, (2017:27) defines reading comprehension seems to be an interaction between both 'text-based' and 'situational' models of comprehension. In the text-based model, readers use the words and grammar of the text to build a representation of meaning. In the situational model, readers fit information from the text into what they already know and believe about the topic and text type.

## **2.2 Aspect of Reading**

The aspects of reading or reading sub-skills that help the students comprehend the English text are the main idea, supporting detail, references, inference and, vocabulary. As Nuttall (1985) cited in Nurweni (2019:36), and Suparman, (2006) a reader should master some aspects of reading comprehension to have a deep comprehension of a text, those aspects are as follow:

### **1. Main Idea**

Based on Smalley and Ruetten (1995:3) a group of sentences that develop the main idea, in other words, a paragraph develops a topic. The topic is

basically the subject of the paragraph; it is what paragraph is about. In short, the main idea is the topic that is mainly discussed by paragraph.

## 2. **Supporting Detail or Specific Information**

Supporting sentences or specific information is the topic of a paragraph that is introduced in a sentence. It contains opinions, ideas, definitions, examples, and facts. It controls what sentences in the paragraph will discuss (Smalley and Ruetten, 1995)

## 3. **Inference**

According to Duffy (2009:122) Inferring is the ability to “read between the lines” or to get the meaning an author implies but does not state directly. In reading comprehension strategies, comprehension requires readers to note text clues, to access prior knowledge associated with those clues, and then, based on that background knowledge, predict (or infer) what the meaning is.

## 4. **Reference**

Reference covers all the devices that permit lexical relationship within a text (e.g., reference to an element previously mentioned anaphora - or to one to be mentioned below - use of synonymy, hyponymy, comparison, nominalization, etc.). The students to realize that a text is not made up of independent sentences or clauses, but that it is a web of related ideas that are announced, introduced, and taken up again later throughout the passage with the help of references. (Grellet 1981:15)



## 5. Vocabulary

According to Richards and Renandya (2002:255), vocabulary is a core component of language proficiency and provides much of the basis for how learners speak, listen, read and write. Without an extensive vocabulary and strategies for acquiring new vocabulary, learners often achieve their potential and maybe discouraged from making use of language learning opportunities around them such as reading.

### 2.3 Teaching Reading

Grellet (1981) in Richard (2001:271) states that teaching reading should involve the intensive taxonomy of exercises, such as ordering the sequence of the picture and comparing text and picture. Oakhil, Cain, and Elbro (2015) define teaching reading and reading comprehension as a complex task that requires the orchestration of much different knowledge and cognitive skills. As Sheeba and Ahmad (2018) describe the purpose of teaching reading are to give students multiple opportunities to absorb vocabulary, grammar, sentence, content information of the text, and give the students insight into the lifestyle and worldwide views of the language they are studying.

Alyousef (2005), states that teaching reading covers three phase procedures; pre-stage, while stage and post reading stage. Similarly, Watkins (2017:27) in teaching reading comprehension in the classroom that focuses on language learning lessons, a teacher should follow a three-stage procedure which comprises; pre-activity, while-activity, and post activity. In the pre-activity the teacher should build the background knowledge of the students related to the text and asks the students to predict the structure and the topic of the text, In the while-activity, the most

important activity in reading where the teacher can provide learners with a reason for reading and also guide them towards the most important parts of the text, pushing them to focus resources on understanding its key messages, while post reading activity commonly dominates with questions that test factual comprehension after reading the text.

.Oakhil Cain and Elbro (2015) define that in order to have a good comprehension in teaching reading or to have a fully understanding of the whole text meaning, the material should be related to mental model, a mental model that is created from the information taken from the text or material that is related to a real or imagined world. Hence, Grellet (1981) says that in reading it is not enough to gist the of the text, the detailed comprehension is necessary also, the detailed comprehension could be reached if the teacher uses the short stories and comic strips as the material text type.

In conclusion, due to previous theories, to have successful and effective teaching of reading comprehension, the teacher should not only pay attention to the principle and strategies of teaching reading, but also the aspect of reading comprising the main idea, specific information, reference, reference, vocabulary and materials to the characters of the reading text that suits the learners as well. The modified numbered head together assisted by comic strip stories seems suitable as the technique to be applied in teaching reading comprehension.

#### **2.4 Types of Reading Text**

Text genres are original types of texts that are used for specific purposes of communication. Each genre has one or more original structures, which can influence comprehension (Zwaan, 1994) as cited in Duffy (2015:82) the readers who are familiar with the particular structure of the genre of the text have several

benefits: they know what to expect from different parts of the text, where to search for particular types of information in the text, and how the different parts of the text are linked together (Duffy, 2015).

According to the Development Centre of the General Directorate of Teacher and Educational Staff, the Minister of Education and Culture Republic of Indonesia 2016, classifies the genre of the reading text for students in Indonesia into two types, literary text and factual text. The literary text entertains or elicits an emotional response by using language to create mental images; it consists of narrative, poem and drama. The factual text informs, instructs, or persuades by giving facts and information; it consists of recount, explanation, discussion, information, report, exposition, procedure, news item, and response. Nation (2009: 5) asserts that the technique in teaching reading comprehension is largely meaning focused, it focuses on giving primary attention to understanding and enjoying a story. The generic structure of a narrative is suitable for reading comprehension text due to most children having accustomed to a narrative which comes from being read stories and their everyday experiences (Oakhill, Cain, and Elbro, 2015). Therefore, in this present study, the narrative text will be the focus of the research.

#### 2.4.1 The Generic Structure of Narrative Text

The common generic structures of narrative text are orientation, complication, elaboration or sequence of events, resolution, and coda (optional)

a. Orientation

Orientation is the introduction of setting of the story, characters, and plots

b. Complication/Elaboration/Sequence of events

This is the middle of the story which typically consists of the elaboration of the characters' plans and some attempts to achieve those plans, it is commonly known as the problem of the story.

c. Resolution

The end part of a story would typically provide some resolution of the goals and outcomes, perhaps with some evaluation of the characters' attempts to reach the goal or moral value (coda).

There are many types of narrative. Generally, it can be categorized into the fictional narrative or imaginary, the nonfictional narrative, or a combination of both.

- 1) A Fictional narrative presents an imaginary narrator's account of a story that happens in an imaginary world. It includes fairy tales, folklore or folktales, horror stories, fables, legends, myths, and science fiction.
- 2) A Nonfictional narrative (also factual narrative) presents a real-life person's account of a real-life story. It includes historical narratives, ballads, and biography.

## **2.5 The Concept of Numbered Head Together (NHT)**

Himmele & Himmele (2011: 46) reveals that numbered head together (NHT) technique is likely an activity that promotes students' participation as well as cognitive engagement. It means that the students in the classroom have wider opportunity to participate in the process of learning English as Foreign Language, and then facilitate cognitive involvement. Hence, Kagan Spencer (1990) in Himmele & Himmele (2011) states that numbered head together (NHT) allows all students to be held accountable for being able to relay or spread information that was learned during a group. It is a way of ensuring participation and cognitive engagement during such an activity. It is also useful for randomly assigning roles to students within groups in the classroom. Furthermore, Kagan & Kagan (2007: 6.20) state that numbered head together is a cooperative learning strategy that holds

every student accountable for learning material by having the students work in a group and doing team competition, then the students in each group have to convey and bring out the idea or to respond to a particular question represents the number that has been given to them whenever the teacher mentions the number. . Further, Jacobsen (2009) in Mauliza (2020) states that the Numbered Head Together (NHT) is a learning model that involves more students in discussions to understand the material in a lesson and evaluates the extent of students' understanding of the material. This model can be applied to all subjects and for all levels of students. In this learning model, students are grouped into learning groups consisting of students who work together in a learning activity. Every student in one group is expected to be able to work together and take responsibility both for themselves and the group

NHT learning strategy promotes the cooperation between students in groups to achieve learning objectives. The students are divided into small groups and directed to study the learning material that has been assigned. The purpose of the grouping is to provide opportunities for students to be actively involved in the thinking process and the learning activities. In this case, most of the learning activities are centralized on students that are studying the subject matter as well as discussing and solving problems. NHT learning strategy is one type of cooperative learning that emphasizes on the special structure designed to influence the pattern of students' interaction, and its goal is to improve the academic mastery so that it can develop and increase students' retention (Nursyamsi S.Y & Aloysius Duran Corebima, 2016).

Ibrahim, (2000:28) defines NHT as a cooperative learning model which consists of four strategies used to regulate student interactions namely;

- a. Numbering; the teacher splits the class into groups consisting of 4 -5 students, and the teacher gives the different number to each member represents the number of the questions
- b. Asking question; the teacher provides some topics or reading text followed by questions to the groups in the classroom and ask them to understand the topic by doing a careful reading.
- c. Thinking together; after reading the given topic, the students think together to find the best answer of the questions, they should explain the answer to their teammates, so that all the members in their group know the answer.
- d. Bringing out the best answer; the teacher mentions a particular number to be answered, the students with the appropriate number or the same number as the teacher mentioned prepare to bring out their answer, the teacher points the student randomly, and only the students with the called number respond as a spokesperson and come up with their best answers or idea

In this activity, the students work together in a group, which ensures that each member of the group knows the answers questioned by the teacher. NHT helps students to develop their understanding when doing social interaction in a group and presentation. Leasa & Corebima, (2017) states that NHT emphasizes students' responsibility to do their tasks based on their number. Students are to show their capability and use any strategies to reveal their responsibility. Students are also trained to understand every task comprehensively. Hence, the students' responsibility is not merely on the individual project, but also as a member of a particular group. This process encourages students' ability to solve problems and students' comprehensiveness. Thus, NHT can improve students' cognitive

achievement. Besides, as a part of cooperative learning models, NHT contributes to students' social skill improvement, when they interact with teachers and peers during the learning. Further, Haydon, Maheady & Hunter (2010) state that Numbered Heads Together (NHT) is a cooperative learning strategy in which teachers assign the students to small (4 members), heterogeneous learning groups, the teacher asks them to number themselves from 1 to 4, the teacher then directly questions to the entire class, and tell the students to put their heads together, come up with the best answers they can, and make sure that everyone on the team knows the answers.

According to Pratiwi (2019) NHT model increases the involvement of the student in analyzing the material covered in a lesson and could be used to examine the students' understanding of the content, so the teaching and learning process will be more effective as the students will have a better grasp of the subject matter. The NHT cooperative learning model is one type of cooperative learning that emphasizes on the special structure designed to influence the pattern of students' interaction, and its goal is to improve academic mastery. NHT is one of the alternative learning strategies that can be used to solve the problems.

## **2.6 The Concept of the Modified Numbered Head Together**

In this research, the researcher aimed to implement the modification of the numbered head together introduced by Spencer Kagan in 1990. The researcher modified the numbered head together by seeing the weaknesses of the original numbered head together. There is a possibility that the number that has been mentioned will be called back by the teacher and several group members are possibly not called by the teacher (Widyaningtyas, Winarni & Murwaningsih,

2018) and Listiadi et al (2019). Students need to use the opportunities provided to contribute what they can to their groups. Unless students feel individually accountable, some students will act as freeloaders or idle, group morale may suffer, and students may lose faith in the use of groups for learning due to the presence of these freeloaders. Furthermore, freeloading makes assessment more difficult, as teachers will face some difficulties or even are not be able to judge the members' contributions to their groups (Johnson & Johnson, 2003).

The researcher modifies the original NHT on its steps by referring to PIES Principle, PIES stands for (Positive Interdependence, Individual Accountability, Equal Participation, Simultaneous Interaction) by Kagan in 2007. Further, As Jacobs & Seow (2015) collaborative learning should create equal opportunity to participate because denying or ignoring others the chance denying others the chance to interact with the task and with group mates will make those students may enjoy less and learn less

To overcome the problems above, the researcher merges a jigsaw strategy or expert group into the modified number head together. Kagan (2007:444) describes an Expert group as in which the students are in teams of four and each is assigned one expert topic. Each student is assigned a same-topic partner from another team, and the partners work together to master the topic. The pairs then pair up with another pair with the same topic to check for agreement and mastery. Finally, each Expert returns to his/her team and each in turn presents and tutors his/her teammates on the content. According to Aronson et al, (1971) cited in Hoerunisa & Suherdi (2017) a jigsaw strategy enables each student of homegroup meets other members from



other groups who are assigned the same aspect called “expert group” and after mastering the material, the students return to the home group and teach or explain the material to their group members.

Kagan (2007:444) states that expert group strategy enhances students’ active engagement. Further, Namaziandost et al (2020) state that a jigsaw strategy or expert group strategy is a type of cooperative learning task that makes the students communicate with each other to fill in missing information and integrate it with other information. In addition, it bolsters important elements of cooperative learning, such as constructive interdependence and human responsibility. This is because the learners in Jigsaw need to understand each other to get the “big picture” and have to know “all the material, not just their own part, as they are evaluated individually” (Millis & Cottell, 1998: 129). The jigsaw strategy provides an excellent learning environment for the acquisition of language through relevant content, the development of academic skills through carefully structured reading and writing activities, and the exploration of relevant content through use of purposeful talk in the classroom. (Coelho 1992:3)

Furthermore, Ghaith and El-Malak (2004) state that the cycle of jigsaw strategy provides maximum opportunities for student-student interaction to restructure ideas as students need to “summarize, elaborate, exemplify, defend, and explain ideas” In addition, working in peer interdependent groups encourage students to try new ideas and experience multiple perspectives. This increases achievement and fosters a stronger knowledge base from which to explore issues and improve the higher-order comprehension of student readers.

**Table 2.1** The differences of Original NHT and Modified NHT

No	Kagan's Original NHT	Modified NHT
1	Answering the questions based on teacher decision	Answering the questions based on their own number
2	Teacher randomly calls any number	Teacher's call is in sequenced order so that no student is left behind or ignored.
3.	Static group	Expert group
4.	Main group discussion	Expert group discussion
5.	Use ordinary written text	Assisted by narrative in form of comic strips

## 2.7 Concept of Comic Strip

Ahmadi (2017) defines a comic strip as a sequence of drawings that is arranged in interrelated panels to display brief humor or form a narrative, often serialized, and usually arranged horizontally, with text in balloons and captions. Liu J (2014) also describes comic strips as a series of pictures inside boxes that tell a story. In other words, a comic is a collaboration of literary works in which there are series of pictures followed by a verbal explanation in a fixed sequence and has a particular story as a theme. According to McCloud (2006) cited in Purwaningsih (2006) and Fajriyah (2018) comic strips literature of drawing and composition of images in purposeful sequence aimed to convey information and visual response in the view.

Based on Wright & Sherman (1994) identify the features of comic strips that make them an ideal medium for reading and English courses, in their paper, the researchers analyzed the readability (interest, availability, suitability, comprehensibility, and flexibility) of comic strips for teachers and students based on the relevant literature, it is suggested that comic strips can be used effectively to build reading skills in a three-step model in the language classrooms (Merc, 2013).

### **2.8 The Advantages and the Disadvantages of Numbered Head Together**

The numbered head together technique has some strengths and weaknesses. The following statements are the strength and weakness of Kagan's Numbered head together. The advantages of numbered head Together (NHT) are as follow:

1. NHT promotes the cooperation between students in groups to achieve learning objectives (Corebima, 2016)
2. NHT indirectly trains the students to share information, listen carefully, and speak with the calculation, so that students become more productive in the learning (Kagan, 2007)
3. NHT gives the students the same responsibility and the chance to solve/answer the questions. Since the teacher randomly calls the number of the students to answer the questions, so the students will be actively involved in learning activity (Kagan, 2007) & (MacMillen, 2015)
4. NHT creates higher self-confidence, improves attendance, acceptance toward other persons becomes easier, motivation, individual conflict decreased, a much deeper understanding, increasing the good character, sensitivity and tolerance. (Lundgreen 1994 in Afandi, 2011)



However, numbered head together also has some weaknesses in the classroom. The disadvantages of numbered head together are as follow:








1. There is a possibility of the numbers that have been mentioned will be called back by the teacher (Ibrahim, 2003)
2. Several group members are possibly not called by the teacher (Widyaningtyas, Winarni & Murwaningsih, 2018) and (Listiadi, 2019).
3. The class tends to be crowded if the teacher cannot properly manage the activity. (Lundgreen, 1994)
4. Create idle students in the group or team that can be harmful to the group.




## 2.9 The Procedures of Teaching Reading Comprehension by Using Modified Numbered Head Together

The Table 2.2 below shows the procedures of teaching reading comprehension by using modified numbered head together through three-phase activity, namely pre activity, while activity and post activity.

**Table.2.2** Procedure of Teaching Reading Comprehension by Using Modified Numbered Head Together

No	Activity	Platform
A.	<b>PRE-ACTIVITY</b>	
	<ol style="list-style-type: none"> <li>1. Teacher and the students greet each other</li> <li>2. Teacher asks one of the students to pray by sending a voice note.</li> <li>3. Teacher checks the students' attendance through Google Form: <a href="https://forms.gle/wRHrwX4oGXGNxcv78">https://forms.gle/wRHrwX4oGXGNxcv78</a></li> </ol>	<div style="text-align: center;">             Whatsapp              Google Forms         </div>

	<p>4. Teacher brainstorms the students to attract their schemata about narrative.</p> <p>5. Teacher splits the class into 6 groups consisting of 5 to 6 students</p> <p>6. Teacher provides each member of the groups a number representing the questions to be put on the head/answered</p>	      
<b>B</b>	<b>WHILE ACTIVITY</b>	<b>Platform</b>
	<p>1. Teacher provides the groups the narrative through comic strips.</p> <p>2. Teacher asks the groups to read and to discuss the narrative</p> <p>3. Teacher gives questions to each member of the groups related to the story.</p> <p>4. Teacher instructs the students to answer the questions</p> <p>5. Teacher checks the students' progress in finding the answer to the questions.</p> <p>6. Teacher makes sure that all the students in the groups have finished answering the questions.</p> <p>7. Teacher calls the number in sequenced order and at the same time the student whose number has just been called moves away to an expert group. So, each student is the representative of his/her group.</p> <p>8. Teacher asks the students as the representative of the group in the expert group to present their answers</p>	    

	<p>9. Teacher clarifies and gives feedback to the students' answers while deciding on the correct one with them.</p> <p>10. Teacher instructs the students in the expert group to share the correct answer to their original group.</p> <p>11. Teacher monitors the representative students during the answer sharing session</p> <p><i>(The same step is done till the last question)</i></p>	<p>Google Meet</p>  <p>Whatsapp</p>
C	<b>POST ACTIVITY</b>	Platform
1.	<p>1. Teacher gives reward to the group which collects the highest points and motivation to the group which collects the lowest points.</p> <p>2. Teacher gives feedback and conclusion at the end of the reading comprehension class.</p> <p>3. Teacher gives evaluation in related to the narrative story which has been discussed</p> <p>4. Teacher ends the class</p>	 <p>Whatsapp</p>  <p>Whatsapp</p>

### 2.10 Concept of Perception

Demuth (2013:31) defines perception as a unique source of how to experience something; it is a highly active process of extracting sensory stimuli, their evaluation, interpretation, and backward organization of sensory stimulus. Perception is the output product of the interaction between stimulus, internal

hypothesis, expectation and knowledge of the observer. As Sobur (2009) in Yoshepine, Hidayat, and Susanto (2018), define the perception as a kind of the overall process that copes with the response after the stimulus is applied to the people. McShane and Glinow (2005:77) state that the resulting perceptions influence our emotions and behavior toward those objects, people, and events. Therefore, perception is about something that will influence the way they respond to something, whether it is positive or negative.

Based on Robbins (2002:14) there are two forms of perception; positive and negative perception. Positive perception is an assessment individual of an object or information with a positive view or as expected from the object that is perceived or from existing rules, while, negative perceptions are individual perceptions to certain objects or information with negative views, contrary of what is expected from the object that is perceived or from existing rules. Robbins (2002) states that positive perception is an individual's assessment of an object or information with a positive view or in accordance with what is expected from the object perceived or from the existing rules. Meanwhile, negative perception is an individual perception of certain objects or information with negative views, contrary to what is expected from the object perceived or from existing rules. In short, the perception is the learners' output opinions after experiencing the stimuli from the researcher, and the treatment given by the researcher is the stimuli. In this research the researcher analyzed the students' perceptions of the modified numbered head together to evaluate the implementation of the modified numbered head together compared with the original one, whether it is a helpful or appropriate method for the students in reading comprehension or vice versa.

### **2.12 Previous relevant research**

Some previous studies revealed the effects of the numbered head together in the classroom. Maulana (2020) investigated the effect of the number head together on the EFL students' reading ability and the result was satisfactory, even students seemed more confident while delivering their opinion in discussion and answering the question. It is proven by their participation in the group discussions and social interaction in the class. Mauliza (2020) conducted research on students' cognitive learning outcome through numbered head together, and the result showed that the student cognitive learning outcomes increased determined by the significant range of the N-gain of the students. Hence, Hunter and Haydon (2013) investigated the effect of numbered head together and the existing recitation method, in this case hand-raising toward the students' activeness. The researcher found that the students who were taught through NHT responded actively and their interpersonal relationships improved (Mc Millen, 2015).

Hence, Nursyamsi S.Y and Corebima (2016) conducted a study which investigated the effect of the NHT learning strategy on students' memory retention. The results of the analysis showed that the NHT learning strategy effected on memory retention. The corrected mean score of the NHT learning strategy was 24.03% higher compared to that of original learning. The students' retention in NHT cooperative learning model was higher than that in original learning. Murwaningsih (2017) investigated the impact of numbered head together (NHT) model and the direct instruction on social learning outcomes. The result of the study showed that the marginal average between lines in the treated classes with the NHT model is 77, 40 whereas the class treated with the direct instruction model is 69, 29. It proved that the cooperative learning model type NHT encourages students to improve their cooperative spirit and has better learning outcomes.



Related to reading comprehension, Rayanto (2017) commenced research, the research aimed to find out whether the (NHT) numbered head together as one of the cooperative learning strategies can improve the students' reading comprehension. The design of this research was Classroom Action Research (CAR) since this research focuses on the teaching and learning activities in the classroom. The research was conducted at the eighth grade of SMPN 1 Rejosu Kabupaten Pasuruan, East Java. The result of this research can be said to be a success because there was a progress improvement from each cycle conducted. It was proven by the result of the test in cycle one 52% and cycle two 84% from the criteria of success which was standardized 80% from all students got 76, a minimum standard score. Additionally, Risnaldi, Usman, and Diana (2016) investigated the impacts of the impact of numbered heads together perceived by the students on their reading comprehension and enthusiasm. The result showed that the students' enthusiasm is higher in learning, and in accomplishing the difficult question provided by the teacher.

However, some studies also revealed the weakness of the numbered head together as what has been conducted by Widyaningtyas, Winarni, and Murwaningsih, (2018) and Listiadi, Sulistyowati and Sakti (2019) which stated that in NHT there is a possibility of the number that have been mentioned will be called back by the teacher and several group members are possibly not called by the teacher and it takes longer time if the teacher cannot manage the activity well. These disadvantages will always be obstacles to the implementation of the numbered head together in the classroom anytime. The weakness of NHT will be tackled by modifying the steps of the numbered head together (NHT) Thus, small modifications on its steps hopefully will overcome the weaknesses of the numbered head together and bring additional advantages during the implementation

## **2.12 Theoretical Assumption**

In accordance with those previous theories and some previous research, the modification of Kagan's numbered head together potentially brings some benefits to the teaching and learning process, especially in teaching reading comprehension. Through numbered head together constitutes positive interdependence and responsibility, in which the student in a group is given a different task to be accomplished, the task that influences their group achievement. The students also work together and have equal participation in which each student within the group has an equal opportunity to share their answer and no longer students will be in an idle condition so that group morale suffer and learn less condition could be avoided. As previously explained, the researcher modifies some steps because it is not only to overcome the weaknesses of the numbered head together by referring to some theories and media in this case comic strip stories, that have been previously collaborated upon but also to adapt the NHT so that it is applicable to be done through Whatsapp during this COVID 19- Pandemic. The researcher assumes that by implementing the modified numbered head together assisted by comic strip story will effectively tackle the problems faced by the teacher and the students in reading comprehension, improve reading comprehension achievement and raise their awareness during the reading comprehension in the online classroom during the COVID 19 Pandemic.

## **2.13 Hypothesis**

Based on the theoretical framework and theoretical assumption above, the researcher then formulated the hypothesis as follows:

1. The application of the modified numbered head together can improve reading comprehension achievement significantly compared to the original numbered head together in online classroom.
2. One of the aspects of reading improves the most after the implementation of the modified numbered head together
3. The students show positive perception of the implementation of the modified numbered head together on their reading comprehension.

### **III. RESEARCH METHODS**

This chapter concerns the design of the research, population and sample, research instrument, data collecting technique, validity and reliability of the instrument, normality and homogeneity test, research procedures, data analysis, and hypotheses testing.

#### **3.1 Research Design**

The design of the research was a quantitative true experimental; control group pretest-posttest design. It required two groups, namely; a control group and an experimental group. Both of the groups were given a pretest before the treatments to see their initial ability. The groups received different treatments and received posttest at the end of the treatment. The pretest and the posttest scores were compared to determine the effectiveness of the treatment (Gay et al, 2012:267). The control class was given the original numbered head technique while the experimental class was treated by using the modified numbered head together. The Pretest was given to both groups before the treatment and the posttest was also given to both groups after the treatment to know the achievement of the students before and after receiving the treatment. Besides, the learning perception questionnaire was administered to the students in the experimental class in order to see and to evaluate the implementation of the modified numbered head together. The research design was on the next page table:

**Table 3.1** Research Design

Group/ Class	Pretest	Treatments	Posttest
G1	T <sub>1</sub>	X	T <sub>2</sub>
G2	T <sub>1</sub>	O	T <sub>2</sub>

Where:

G1 : Experimental Class                      T<sub>1</sub>     : Reading Comprehension pretest

G2 : Control Class                              T<sub>2</sub>     : Reading Comprehension posttest

X    : Modified Numbered Head Together

O    : Original Numbered Head Together

(Gay et al, 2012: 267)

### 3.2 Population and Sample of the Research

The population of the research is all the individuals as the target of the research, while the sample was individuals that represent the data of the population (Setiyadi, 2006:38). The population of the research is all the students in the eighth grade of SMP Negeri 1 Braja Selebah. There are 178 students in the eighth grade who were categorized into five stratified class. The number of students in each class is 32 to 35 students. The cluster random sampling was used by the researcher in determining the sample of the research. A cluster random sampling refers to picking up some samples randomly over a particular decided population of the quantitative research which is considered wide (Sugiyono, 2013:83). The researcher randomly selects 8.1 and 8.3. Prior to the pretest, the researcher conducted the homogeneity test to

make sure that the two groups have the same ability before giving the treatment (Farhady, 2013). The researcher finally takes 8.1 and 8.3 because both classes have almost the same achievement in English competence and by seeing the result of the homogeneity test

### **3.3 Definition of Variable**

There were two types of variables in the research namely; a dependent variable and an independent variable (Gay et al, 2012:152) and Setiyadi (2006:107). The researcher elaborated the two variables as follows:

#### **3.3.1 Independent variable**

The independent variable known as (X) variable was those that caused or influenced the outcomes. In other words, it was the variable that affected the high or the low outcomes of the dependent variable. There were two independent variables of the research, the first one was the original numbered head together and the second one was the modified numbered head together

#### **3.3.2 Dependent Variable**

The dependent variable was simply known as (Y) variable, it is the outcomes or the influence of independent variable which was measured at the end of the research. There were two dependent variables in this research. The first one was reading comprehension achievement and the second one was students' learning perception

### **3.4 Research Instrument**

The research instruments were a reading comprehension test and a students' perception questionnaire. The brief explanation is as follows:

### 3.4.1 Reading test

The reading test was administered to the students to know the students' achievement in comprehending the text. The reading test in the form of multiple-choice pre-test and post-test represented five aspects of reading. The test consisted of 50 items of a multiple choices with four options (A, B, C, and D). The time allocation was 90 minutes. Due to the outbreak of COVID-19 (Coronavirus disease-2019), the tests were administered asynchronously online through Google Form. **(See Appendix 2)**

### 3.4.2 The perception questionnaire

The perception questionnaire was adapted from Demirici (2007) and Yoshepine, Hidayat, and Susanto (2018). Some modifications were made to address the research question. It consisted of 20 statements of perception about reading comprehension through modified numbered head together. The Likert scale was used to measure the perception of the students. The Likert Scale is used to measure the attitude, opinion, and perception of an individual or group (Sugiyono, 2013:93). The statements were responded by the participants by selecting one out of five points: 5 (strongly agree), 4 (agree), 3 (neutral), 2 (disagree), and 1 (strongly disagree). The result of the students' perception was used as additional data that support the implementation of the modified numbered head together in reading comprehension. It was proven from the result of the Likert Scale perception questionnaire which was 75% out of 100% of students shared positive perception (agree and strongly agree). **See Appendix 19.**

### 3.5 Data Collecting Technique

In this research, the researcher collected the data by using some techniques below:

#### 1. Administering the pretest

The pre-test was administered to the students before the treatment of teaching reading comprehension through the original numbered head together and modified numbered head together assisted by comic strip stories. It was conducted to know the students' reading comprehension achievement before treatment. In answering the question, the students selected the correct answer by clicking the letter "A", "B", "C", or "D". 90 minutes were given to the students to finish this test. The test was administered online due to the outbreak of COVID-19 by using Google Form Quiz in order to maintain the safety of the researcher and the participants of the test from the virus. The minimum score was 4 and the maximum score was 54 for the control group, while the minimum score was 10 and the maximum score was 46 for the experimental class was 46. **(See Appendix 3 and Appendix 12)**

#### 2. Administering the posttest

The post test was administered to the students both in the control group and experimental group after the treatment of teaching reading comprehension by using the original numbered head together and modified numbered head together assisted by comic strip story. The form, time, and the material in the post test were the same as the pre-test. The test was also administered online due to the outbreak of COVID-19 by using Google Form Quiz in order to maintain the safety of the researcher and the participants of the test from the virus. The minimum score was 26 and the maximum score was 82 for the control group. The minimum score was 30 and the maximum score was 98 for the experimental class was 46. **(See Appendix 3 and Appendix 14)**



### 3. Providing the questionnaire

The questionnaire was distributed to the students, right after the treatments in order to know the students' perception about the modified numbered head together. The questionnaire was administered online due to the outbreak of COVID-19 by using Google Form Quiz in order to maintain the safety of the researcher and the participants of the test. The Likert Scale was used to assess the level of agreement and the disagreement of the students toward the modified numbered head together. It was proven from the result of the Likert Scale perception questionnaire which was 75% out of 100% of students shared positive perceptions (agree and strongly agree). **See Appendix 19.**

### **3.6. Try-Out of the Instruments**

In this research, to prove whether the items of the tests are good or not as reading test items, those items must be tried out first. A test would be said to have a good quality if it meets the validity, reliability, level difficulty, discrimination power, normality, and homogeneity. The try-out test was administered to 30 students of VIII 1 of SMP N 1 Braja Selebah through Google Form Quiz on August 10<sup>th</sup>, 2021. The number of the items for the reading test were 60 items of the multiple-choice test.

#### **3.6.1. Validity of the Reading Test**

Validity refers to the extent to which the results of the procedure serve the uses for which they are intended (Hatch and Farhady, 1982:250). Meanwhile, Heaton (1991:159) defines the validity of the test as the extent to which it measures what it

is supposed to be measure and nothing else. In short, in this research, the items of the test should provide a true measure of reading skills that is intended to measure. To obtain the validity of the test, the researcher considered the construct and the content validity as the basic type of validity (Hatch and Farhady, 1982).

### 3.6.1.1 Content validity

Content validity is the extent to which a test measures a representative sample of the subject matter content. The focus of content validity is on the adequacy of the sample and not simply on the appearance of a test (Hatch and Farhady, 1982). The test items which are adapted from the materials that have been taught to the students should be constructed as to contain a representative sample of the course (Heaton, 1988). The content validity is concerned with whether the test is sufficiently representative and comprehensive for the test. For content validity, the material which is given must be suitable for the curriculum (Setiyadi, 2006: 23). The reading test that had been given to the students was suitable for the students' level and representative of the 2013 Curriculum and syllabus for the second grade of junior high school students. The narrative texts provided in the reading test were part of the standard competence of the 2013 Curriculum for the second grade of junior high

<b>Core Competence</b>	<b>Basic Competence</b>
CC-1: Respecting and appreciating the embraced religion  CC-2: Respecting and appreciating the honest behavior, discipline, responsibility, caring (tolerance and cooperation) politeness, confidence in interacting effectively in the	1. Understanding the social structure and the language feature of narrative, fable, and legend related to the daily life context  2. Comprehending the meaning of the written and spoken forms of fable and the short legend related to the daily life context

<p>social environment and daily life within the range of association and existence</p> <p>CC-3: Understanding and implementing the knowledge (factual, conceptual, and procedural) based on the curiosity about science, technology, culture, and visible phenomena</p> <p>CC-4: Analyzing, presenting and comprehending the concrete form (using, arranging, modifying, and creating), and abstract form (writing, reading, counting, drawing, and composing) related to the school lesson and the other sources in the point of view/theory</p>	
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(Source: Adapted from English Syllabus of Curriculum 2013, BSNP)

### 3.6.1.2 Construct Validity of Reading Test

Construct validity relates to the scientific value or appropriateness of a measurement, to be constructing valid, a measure must be constructed to the real-world observations (Thorndike & Dinnel, 2002:247). Furthermore, the test has construct validity; it is capable of measuring certain specific characteristics in accordance with a theory of language behavior and learning (Heaton, 1991:161). Thus, the scope of the test was about reading aspects, so the items of the grabbed the aspects of reading. The making of the reading test referred to the concept of reading comprehension stated by Nuttall (1982) in Mebarki, 2011; Hidayati, 2017,

Suparman, (2006)) and Nurweni (2019:37) which was aimed to demonstrate the main idea, supporting detail, inference-reference and understanding vocabulary

**Table. 3.2 The Distribution of Aspects of Reading in the Test**

No	Reading Aspect	Items Number	Total Item	Per centage
1	Finding Main Idea	1,2,11,12,21,22,33,34,41,42,51,52	12	20%
2	Finding Supporting Detail	3,4,13,14,23,24,35,36,43,44,55,56	12	20%
3	Finding Inference	5,6,15,16,29,30,37,38,47,48,59,60	12	20%
4	Finding Reference	9,10,17,18,27,28,39,40,49,50,53,54	12	20%
5	Vocabulary	7,8,19,20,25,26,31,32,45,46,57,58	12	20%
	Total Items		60 Items	100%

### 3.6.2. Reliability

Reliability is a necessary characteristic of any good test: for it to be valid at all, a test must first be reliable as a measuring instrument (Heaton, 1991:162). In addition, reliability is the overall consistency of a measure. According to Hatch and Farhady (1982), reliability refers to the extent to which a test produces consistent results when administered under similar conditions. To estimate the reliability of the reading test, the split-half technique was used in this research. In order to find the reliability, we should find the coefficient correlation first through Pearson Product-Moment Formula (Arikunto, 2006:108), the formula could be seen as follow

**The coefficient correlation of product-moment:**

$$r_1 = \frac{\sum xy}{\sqrt{[(\sum x^2)(\sum y^2)]}}$$

$$r_1 = \frac{7359}{\sqrt{[(8863)(7438)]}}$$

$$r_1 = \frac{7359}{\sqrt{65922994}}$$

$$r_1 = \frac{7310}{8119.298}$$

$$r_1 = 0.906359$$

Where,

$r_i$  : the coefficient correlation product-moment

$x$  : odd numbered

$y$  : even numbered

$xy$  : odd and even number

$x^2$  : the square of  $x$

$y^2$  : the square of  $y$

$n$  : numbered of testees

The coefficient correlation product-moment formula is 0.906359. The next step is finding the coefficient reliability by inserting the score of coefficient correlation product-moment into the Spearman Brown's Prophecy formula (Hatchy and Farhady, 1982:247) to ascertain the coefficient reliability of the whole test, the calculation is as follows:

$$r_w = \frac{2r_i}{1 + r_i}$$

Where:

$r_w$  : coefficient reliability

$r_i$  : the coefficient correlation product moment

**The coefficient reliability Spearman-Brown:**

$$rw = \frac{2 \times 0.906359}{1 + 0.906359}$$

$$rw = \frac{1.812718}{1.906359}$$

$$rw = 0.95088$$

So, the coefficient reliability is **0.95088**

After finding the coefficient reliability, the researcher analyzed the standard of reliability testing below:

**Table 3.3 The Index of Reliability Testing**

Index	Criteria
0.80 - 1.00	Very high
0.60 - 0.79	High
0.40 - 0.59	Average
0.20 - 0.39	Low
0.0 - 0.19	Very Low

(Arikunto, 2006: 180)

According to the standard of the reliability testing above, the coefficient reliability of 0.95088 is in the range of 0.80 – 1.00 or very high. Therefore, it can be inferred that the reading test reliability of this present research was considered to be very high (See Appendix 1).

### 3.6.3. Index of Difficulty/Facility Value/Level of Difficulty

Index of difficulty or level of difficulty/facility values relates to how easy or difficult the item is from the point of view of the testees (Heaton, 1991:178). It is important since test items that are too easy can tell us nothing about differences within the test population (Shohamy, 1985:72). In order to find out the level of difficulty, this research used the following formula:

$$FV: \frac{R}{N}$$

Where,

FV : Facility value or level of difficulty/index of difficulty

R : number of testees who answered the test correctly

N : total numbered of testees who take the test

**Table 3.4 Index of Difficulty Level**

Index	Criteria
Less than 0.30	Difficult
Between 0.30 and 0.70	Average
Above 70	Fairly easy

(Zulaiha, 2008:34)

The researcher measured the facility index of the instruments or items used in the try out test by using facility value formula. The calculation of the level of difficulty of the try-out test showed that the facility index varied considerably. All of the items were at the range of between 0.30 and 0.70, in other word the facility index level was average (**See Appendix 9**).

### 3.6.4. Discrimination Power

Sometimes an important feature of a test is its capacity to discriminate among the different candidates and to reflect the differences in the performances of the individuals in the group (Heaton, 1991). A good item according to this criterion is one in which good students do well and bad students fail. To find out the discrimination power, this research used the following formula:

$$DP = \frac{\text{Correct } U - \text{Correct } L}{n}$$

Where,

DP : discrimination power

U : the proportion of “upper group” students getting the item correct

L : the proportion of “lower group” students getting the item correct

n : half of the total numbered of students

The criteria as follows:

Index	Criteria
0.40 - above	Very good item
0.30 - 0.39	Reasonably good
0.20 - 0.29	Marginal
Below 0.19	Poor items, to be rejected or improved by revision

(Ebel and Frisbie, 1991:232)

The researcher applied the discrimination power formula to the result of the try-out test to get the discrimination power of each item. Obviously, due to the result of



discrimination power calculation it was found that there were 11 items on the try out test which were then categorized as very good item (item number 1,5,6,9,12,13,14,18,20,52,57), 11 items categorized as reasonably good items (item number 4,7,8,17,31,33,41,49,50,54,55), 25 items categorized as marginal item (item number 2, 10, 15, 16, 19, 21, 24, 25, 26, 27, 28, 29, 30, 32, 35, 36, 37, 39, 40, 42, 43, 45, 47, 48, 60), and unfortunately, there were 13 poor items which were required to be rejected or improved by revision.

### **3.6.5 Validity of the questionnaire**

In assessing the questionnaire validity, the researcher applied two kinds of validity in order to enhance the validity of questionnaire namely; content and construct validity).

- a. Content validity deals with how well the items of the questionnaire measure the area of perception. The items of the questionnaires should represent the aspects of the perception that is going to be assessed. In order to enhance the content validity of the questionnaire, the questionnaire was adapted from Demirici (2007) and Yoshepine, et al (2018).
- b. Construct Validity deals with the theory applied in the items. It means that the items of the questionnaire should actually measure the certain characteristics of perception. The researcher used inter rater-validity to check the construct validity of the questionnaire (Setiadi,2006:55). The researcher consulted to some experts in order to gain their opinions about the instruments, and whether the items are match or not to assess the perception in form of inter-rater judgment of closed-ended question. The raters were the master on EFL teaching, namely: Kristian Adi Putra, S.Pd. M.A., Eko Noprianto, M.Pd. and Yulan Puspita Rini, S.S., M.A.

### 3.6.6 Reliability of the questionnaire

To examine the questionnaire's reliability, it had been tested by using Cronbach's Alpha Test through SPSS 16. The criteria of questionnaire reliability is as follow:

1. If the value of Cronbach Alpha is more than 0.60 ( $> 0.60$ ), then the questionnaire is reliable or consistent
2. If the value of Cronbach Alpha is less than 0.60 ( $> 0.60$ ), then the questionnaire is said not be reliable or inconsistent

(Sujarweni, 2014: 193)

Cronbach's Alpha	N of Items
.971	20

The score of the Cronbach Alpha was 0.971 it was higher than 0.60, then the questionnaire was reliable or consistent.

### 3.7 Scoring System of the Reading Test

The individual scoring system for the reading test was calculated by using the following formula:

$$S = \frac{N \times 100}{R}$$

Where :

S: the score of the reading test

N: the total item of the reading test

R: the total of the correct answers of the student

(Arikunto, 1989:271)

### 3.8 Research Procedure

In conducting the research, the researcher used the following steps:

1. *Determining the research questions and determining the focus of the research.*

In determining the problem, the researcher searched some sources on the internet, observation of the students and read the books, and E-journals that were related to this topic.

2. *Determining the instruments*

The instruments which were used in this research were a reading test and a perception questionnaire.

3. *Determining subjects of the research*

In determining the sample of the research, the researcher took two classes of the second-grade students in SMP Negeri 1 Braja Selehah, East Lampung through cluster random sampling because the samples of the population have stratified level.

4. *Trying out the instruments*

The researcher conducted the try-out test of the instrument which were going to be used in the pretest and posttest in order to see the reliability, difficulty level, and discrimination power of the research instruments. It had been done through Google Form due to COVID 19 pandemic.

5. *Analyzing the result of the try-out test*

After conducting the try out, the researcher analyzed the validity and the reliability of the instruments, and did some annihilation or revision of poor items.

6. *Administering the pretest for both experimental and control classes*

The pre-test was administered to the students before the treatment. It was aimed to know the students' initial ability or the starting point of reading comprehension achievement before treatment. It had been done through Google Form due to COVID-19 pandemic.

7. *Giving the treatments*

The treatments were designed for three meetings in the experimental and control classes. In the experimental class, the researcher applied the modified numbered head together, while in the control class the researcher applied the original numbered head together.

8. *Distributing the questionnaire*

The questionnaire was distributed in the experimental class to know the students' perceptions and to evaluate the implementation of the modified numbered head together

9. *Administering the posttest for both experimental and control classes*

The researcher administered the posttest both in the experimental and control groups in order to see the difference in the students' reading comprehension achievement after the treatment. The instructions were the same as the pretest.

10. *Scoring the data*

The researcher calculated both the mean of the N gain of pre-test and posttest, and the mean of the N gain of reading aspects between pretest and posttest

### *11. Analyzing the data*

The analysis of the data had been done through the SPSS 16.0 computer program by the researcher. The independent group t-test was used for the first research question. Before analyzing the data, the researcher checked the normality and homogeneity of the samples. The second research question was answered by calculating the N-Gain mean of the reading aspects. The third research question was questionnaire data, the researcher uses a descriptive analysis method in order to analyze the data through the Likert Scale. (Setiyadi, 2006:169)

### *12. Drawing conclusion*

The conclusion was drawn up based on the result of the data analysis.

## **3.9. Data Analysis**

Setiyadi (2006) says that data analysis is the process of organizing the data in order to gain regularity of the pattern and form of the research. To find the difference in reading comprehension achievement between the students who were taught through the modified numbered head together and the original numbered head together, the researcher followed some steps below:

1. Tabulating the scores of the reading comprehension test
2. Analyzing the tabulated data.

The means of the pre-test and post-test were carefully determined, then calculated through independent t-test. In this research, some analyses were also done by the researcher involving the analysis of the following steps:

- a. The normality and homogeneity test.
  - b. The N-Gain means of the pretest and posttest and the total N-Gain mean of the reading comprehension aspects
3. Making interpretation, inference, or conclusion

The researcher inferred the difference in reading comprehension achievement between students who were taught through the modified numbered head together and the original numbered head together from the result of the independent group t-test.

### 3.10. Normality Test

Before using the independent group t-test to analyze the data, the researcher calculated the value of the normality and homogeneity tests. The normality distribution test is a test to measure whether our data have a normal distribution. To find out the normality, the researcher used Kolmogorov Smirnov of SPSS 16.00. The data are normally distributed if the alpha level is higher than 0.05 ( $p > 0.05$ ).

Class		Kolmogorov-Smirnov <sup>a</sup>		
		Statistic	df	Sig.
Student's	Pre-Test	.083	32	.200 <sup>*</sup>
Achievement	Post-Test	.095	32	.200 <sup>*</sup>

The Kolmogorov Smirnov alpha ( $p$ ) value was 0.200. the alpha value is higher than 0.05 so the data were normally distributed. (See Appendix 13)

### **3.11. Hypothesis Testing**

In the effort of measuring the hypothesis, the independent group t-test of SPSS 16.0 was used in this research. In this research, the hypotheses were analyzed by using the independent group t-test, since it was a statistical technique that was aimed to test the comparative hypothesis and to examine whether there was significant difference between the N-gain means of the two groups. The researcher used a two-tailed test because the data came from two samples or two tails distribution of belly curved data whether there is a difference between two samples (Newby, 2014:578).

The hypotheses are drawn as follows:

The application of modified numbered head together (Modified NHT) can improve reading comprehension achievement significantly compared to original numbered head together (NHT) in the online classroom. The hypothesis is accepted if the t-value is higher than t- ratio and the significance level or it is called alpha value is lower than 0.05 ( $< 0.05.$ ) at Sig (2-tailed)

## **V. CONCLUSION AND SUGGESTION**

This chapter discusses the conclusion and suggestions based on the findings and discussion of the research.

### **5.1 Conclusion**

Based on the findings of the data analysis, there was significant improvement of the students' reading comprehension achievement after being taught by using modified numbered head together. The modified numbered head together effectively reduced boredom and idleness during group activity and the students became more active, raised awareness, and less daunted in following the teaching-learning process in an online classroom setting because the students provided plenty of opportunities to actively engaged in learning with their group mates. Besides, each aspect of the reading comprehension achievement improved respectively, and the supporting detail aspect was the aspect of reading that improved the most.

### **5.2 Suggestion**

In referring to the finding and conclusion above, some recommendations and suggestions are proposed to the English teacher and further researcher.

#### **5.2.1 For English Teacher**

Prior to the application of the modified numbered head together, the English teacher should provide clear instruction of the procedure and set up a trial phase before the real activity so that the activity of both the modified and the original numbered head together run well.



### **5.2.2 For Future researcher**

Hopefully, this study will become a valuable reference in conducting further reading research on reading comprehension achievement. It is suggested to involve not only narrative text but also other genre text such as descriptive, recount, report and et cetera. Moreover, the modified numbered head together seems suitable to collaborate with other productive and receptive skills such as listening, speaking, and writing, especially in offline class.

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