

**“THE EFFECTIVENESS OF QUESTION ANSWER  
RELATIONSHIP (QAR) STRATEGY TO STUDENTS’  
READING COMPREHENSION (A PRE  
EXPERIMENTAL STUDY IN THE SEVENTH GRADE  
OF SMPN 2 PONOROGO  
IN ACADEMIC YEAR 2019/2020)”**

**THESIS**



**By**

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JANUARY 2020**

## ABSTRACT

**A'yunin, Qurrota. 2020.** *The Effectiveness of Question Answer Relationship (QAR) Strategy to Students' Reading Comprehension (A pre-experimental study in the Seventh Grade of SMPN 2 Ponorogo in Academic Year 2019/2020).* A Thesis for English Education Department, the State Institute of Islamic Studies Ponorogo. Advisor Nurul Khasanah, M. Pd.

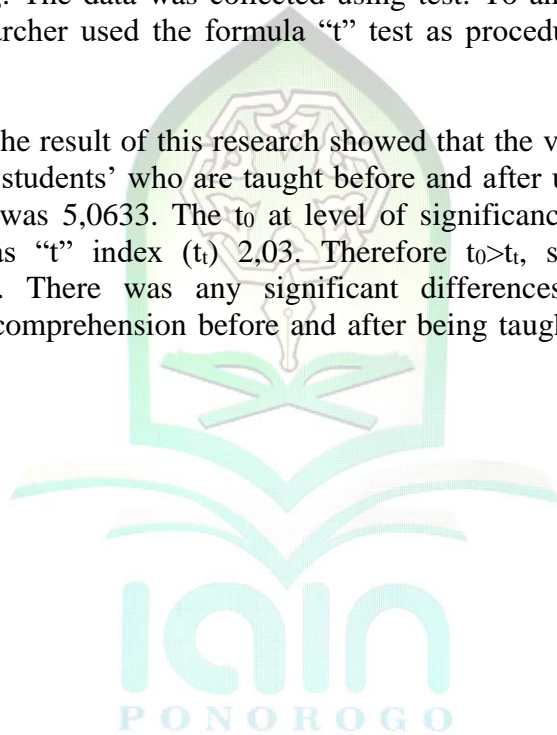
**Key Words: Question Answer Relationship (QAR) Strategy, Reading Comprehension**

Reading could be the English skill for success in educational context. Through reading, students can get new information and knowledge. In improving the students' achievement, the teacher has an important role in teaching reading. The teacher should be creative in finding better strategies to deliver the materials. Therefore, question answer relationship is one strategy which can be used to solve the problems in reading comprehension. By using QAR strategy, students need not to spend their many times looking at reading passage in order to find answer that belong to in my head question as the question needs students to answer the question by using their background knowledge.

The objective of the study is to know there is any significant different score in reading comprehension at seventh grade of SMPN 2 Ponorogo before and after being taught by QAR strategy.

The research applied quantitative approach and used a pre experimental design. The population of this research was the whole students of VII class consisted of 288 students of SMPN 2 Ponorogo in academic year 2019/2020 and the sample was VIIB that consisted of 32 students sample technique. The research was taken as the sample using sample random sampling. The data was collected using test. To analyze data, the researcher used the formula “t” test as procedure of data analysis.

The result of this research showed that the value of ( $t_0$ ) between students' who are taught before and after using QAR strategy was 5,0633. The  $t_0$  at level of significance 5% with  $db=31$  was “t” index ( $t_t$ ) 2,03. Therefore  $t_0 > t_t$ , so  $H_a$  was accepted. There was any significant differences score in reading comprehension before and after being taught by QAR strategy.



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Has been approved by the board of examiners on

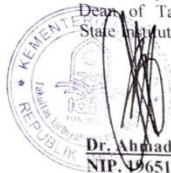
Day : Monday  
 Date : March 02<sup>nd</sup>, 2020

And has been accepted as the requirement for the degree of sarjana in English education on:

Day : Monday  
 Date : March 02<sup>nd</sup>, 2020




Ponorogo, March 02<sup>nd</sup> 2020

Certified by  
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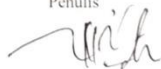
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Qurrota A'yunin

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## CHAPTER 1

### INTRODUCTION

#### A. Background of the Study

Reading has an essential part in English teaching. Many advantages can be gotten from it. Reading text not only provides good models for English writing, but also opportunities to study language, vocabularies, grammar, punctuation, and the way to construct sentences, paragraphs and texts.<sup>1</sup>

According to David Nunan, Reading is a fluent process of readers combining information from a text and their own background knowledge to built meaning. The goal of reading is comprehension. Strategic reading is defined as the ability of the reader to use a wide variety of reading strategies to accomplish a purpose for reading. Good readers know what to do when they encounter difficulties. Fluent reading is defined as the ability to read at an appropriate rate with adequate comprehension. Meaning does not rest in the reader nor does it rest in the

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<sup>1</sup> Jeremy Harmer, *How to Teach English* (England: Longman, 2002),



text. The reader's background knowledge integrates with the text to create the meaning. The text, the reader, fluency, and strategies combined together define the act of reading.<sup>2</sup>

To be successful at reading comprehension, students need to actively process what they read. That processing skill requires that students to have automatic reading skills and fluency, necessary vocabulary, and text appropriate background knowledge. Successful comprehension is augmented when students have practice with strategies for monitoring their understanding, increasing their intrinsic interest in the text, and creating goals and purpose for their reading.<sup>3</sup>

It means that reading comprehension is understanding the information in the text to catch the meaning. The reading comprehension is the act to comprehend the text explicitly and implicitly. Reading comprehension is the goals of reading which have to be mastered by the students in order to communicate with

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<sup>2</sup> Dafid Nunan, *Practical English Language Teaching* (America: McGraw-Hill, 2003), 68.

<sup>3</sup> Judy willis, *Teaching the Brain to Read* (Virginia USA: Association for Supervision and Curriculum Development, 2008), 127-128.

the writer though the text to get information from the text.

Many teachers believe that reading problems are caused by genetic factors, physiological or neurological 'deficits', maturational delay, minor sensory handicaps or impairments in psychological processes such as memory and perception or a 'learning disability'. Some teachers believe that the problem is due to a child's poor attitude and motivation, linking this sometimes with lack of educational support from the home.<sup>4</sup>

EFL learners do not understand the English should be it caused by the difficult vocabulary. Comprehension is often difficult to teach directly, however because it encompasses so much and relies on so many different skill. As a teacher should be solve this problem, should be by creating a confidence classroom by using the best strategies, perhaps it will help them comprehend what they read.

Based on my interview to the teacher in SMPN 2 Ponorogo the problem in reading process are the students

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<sup>4</sup> Peter Westwood, *Reading and Learning Difficulties: Approaches to Teaching and Assessment* (Australia: Acer Press, 2001), 26.

were difficult to find general information, specific information, textual meaning and recognize textual reference in the reading text. Beside that a part of students considered that the English lesson is difficult and most of them have not enough vocabularies.

The most teachers still used conventional method in teaching reading. The teacher still dominated in the class by using English as medium all the time, so it made the student did not understand what the teacher said. As the result the students' reading comprehension is not satisfying.

The fact that the students' reading comprehension is low, it can be associated with students less recognizing how to find the answer of comprehension questions. The student often assume that the answer of every question only found in the text, whereas the answer of questions can be found in the readers' head.

Finding appropriate technique is important, whereas making a variation in the classroom is essentials. There are many kinds of learning material and we cannot use the same technique for all of them. Furthermore, students has their own learning style that needs different

treatment using different technique. In addition, the use of various techniques makes both students and teachers more creative. Then, it can motivate students becomes active learners. In short, various techniques should be implemented in the classroom, in order to optimize the process and the results of learning.

Question Answer Relationships (QAR) is a categorization system detailing the relationship among a question, the text to which the question refers, and the reader's knowledge base. It can serve as a framework for comprehension instruction, as well as a pedagogical tool for improving teachers' and students' questioning abilities.<sup>5</sup>

Raphael identified two board categories of Question Answer Relationship (QAR) for finding information and for answering questions: *in the book questions* consisting of *Right there* and *Think and Search* questions. These questions require answers that can be found directly in the text. Another category is *in your*

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<sup>5</sup> Taffy E. Raphael & Kathryn H. Au, *QAR Comprehension Lessons: Grades 6–8* (Scholastic Teaching Resources), 4.

*head questions* consisting of *Author and you* and *on your own*. These questions require a higher level of thinking.

By employing QAR it is hoped that teacher can help students improve their reading comprehension since QAR provides students with question answer strategies of reading comprehension. The categories of question provided in QAR enable students to consume much less time. By using QAR, students need not to spend their many times looking at reading passage in order to find answer that belong to *In My Head question* as the question needs students to answer the question by using their background knowledge.<sup>6</sup>

QAR strategy had been used by some researchers in some parts of world. This strategy was examined can improve students' reading comprehension. Moreover, using this strategy is believed can develop students' higher order of thinking. There are some researchers from some parts of the world have employed this strategy (Hosseini 2014, Kinniburg and Sandra 2010, and Baqi

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<sup>6</sup> Fuad Abdul Baqi, *Employing Question Answer Relationships (QAR) Strategy to Improve Students' Reading Comprehension (a classroom action research at the eleventh year students of smanegeri Trangkasbitung in 2012/2013 academic year)*, (Thesis, Jakarta, 2014 ), 39.

2014), and the conclusion is QAR Strategy is examined effective in improving students' reading comprehension.

Based on explanation above, the researcher conducted an experimental research entitled **“The Effectiveness of Question Answer Relationship (QAR) Strategy to Students' Reading Comprehension (A pre-experimental study in the Seventh Grade of SMPN 2 Ponorogo in Academic Year 2019/2020)”**.

## **B. Limitation of the Study**

The limitations of this study are:

1. The subject of study is the seventh grade students of B class of SMPN 2 Ponorogo in Academic Year 2018/2019.
2. The object of study is the use of Question Answer Relationship (QAR) Strategy to students' reading comprehension.
3. Text material is about descriptive text.

### **C. Statement of the Problem**

Is there any significant different score in reading comprehension at seventh grade of SMPN 2 Ponorogo before and after being taught by QAR strategy?

### **D. Objective of the Study**

To know there is any significant different score in reading comprehension at seventh grade of SMPN 2 Ponorogo before and after being taught by QAR strategy.

### **E. Significances of the Study**

The writer really hopes that the result of the research will be useful theoretically and practically:

#### **1. Theoretical Significance**

There are some benefits theoretically, such as:

- a. The result of the research can improve the knowledge about an interest technique to teaching reading by using *Question Answer relationship (QAR)*
- b. The result of the research can be used as the references for those who want to conduct a research in teaching reading

## 2. Practical Significance

The result of this study is expected practically to be beneficial for:

### a. Teacher

The researcher hopes that the English teacher is able to choose some strategies that most appropriate in teaching reading. The teacher can use QAR as an alternative reading comprehension strategy to provide students devices to comprehend reading materials. Question answer relationship (QAR) is the one of strategy may apply in teaching reading.

### b. Students

It can motivate students to improve their reading comprehension by using the types of QAR categories. Learning this strategy make students accustom to higher level questions and it can spur students to think critically and creatively.

### c. Readers

This research is expected to give a contribution to readers, particularly the students



of English Institute of IAIN Ponorogo, in enriching reference with the implementation of question answer relationship (QAR) strategy in teaching reading.

## **F. Organization of the Study**

The researcher writes this thesis in five chapters. This related one another. The organizations of the thesis are:

- Chapter I : Introduction consists of background of the study, limitation of the problem, statement of the problem, objective of the study, significance of the study, and organization of the study.
- Chapter II : consists of theoretical background, previous study, and theoretical framework.
- Chapter III : consists of an object of the research, setting and subject of the study, research design, and technique of data collection.
- Chapter IV : contains a research location, data description, data analysis and discussion.

Chapter V :contains conclusion and recommendations.



## CHAPTER II

### REVIEW OF RELATED LITERATURE

#### A. Theoretical background

##### 1. Reading Comprehension

###### a. Definition of Reading

Reading is a fluent process of readers combining information from a text and reader's background knowledge to build meaning. The goal of reading is comprehension.<sup>7</sup>

Reading is a fundamental educational construct and it is unsurprising that its definition is difficult. It is a flexible skill rather than a body of knowledge. In outline, it can be seen to involve, at least, knowledge of language, knowledge of the written code, the ways in which children learn to read and the difficulties they may encounter. A consideration of the purposes that are intrinsic to the act of reading brings in aesthetic and emotional as well as

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<sup>7</sup> David Nunan, *Practical English Language Teaching: 1<sup>st</sup> Edition* (Singapore: McGraw Hill Companies, 2003), 68.

pragmatic factors for the individual. The social, philosophical and political context can be seen in the functions fulfilled by reading in society and the role of literature in cultural life. Like much knowledge, skill and understanding, the act of reading itself is mostly invisible, consisting of mental changes that cannot be directly observed, so that evidence about reading has to be evinced through observable performances of one kind or another.<sup>8</sup>

Reading is something that involves many things, not only recite writing but also involve visual activities, thinking, psycholinguistic, and metacognitive as a visual process. Reading is the process of translating the writing symbol (alphabet) to spoken words as a process of thinking.

Reading is also an interactive process in at least two ways. First, the various processes involved in reading are carried out virtually

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<sup>8</sup> Marian Sainsbury, dkk. *Assessing Reading from Theories to Classrooms* (Cambridge assessment, 2006), 16.

simultaneously. While we are recognizing words very rapidly and keeping the active in our working memories, we are also analysing the structure of sentences to assemble the most logical clause level meanings, building a main idea model of text comprehension in our heads, monitoring comprehension and so on. Combining these skills in an efficient manner makes general comprehension a time consuming ability to master.<sup>9</sup>

Reading is also interactive in the sense that linguistic information from the text interacts with information activated by the reader from long term memory, as background knowledge. These two knowledge sources (linguistic and background) are essential for building the reader's interpretation of the text.<sup>10</sup>

Reading is the activity of spelling or reciting the writing preceded by the activity of seeing

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<sup>9</sup> William Grabe and Fredricka L. Stoller, *Teaching and Researching Reading Second Edition* (New York: Routledge Taylor & Francis Group, 2011), 11.

<sup>10</sup>*Ibid.*, 12.

and understanding the writing. The activity of seeing and understanding is a simultaneous process to find out the message or written information requires a process that demands an understanding of the meaning of words or sentences which are a unity in a glance.

### **b. Reading Comprehension**

When an effective reader reads for comprehension and understanding, it is an actively engaged and thoughtful process. One of the things that good readers do during the reading process is to make connections between background knowledge and the new information in the text. Reading comprehension instruction requires a balance between the actual instruction of the strategy and student use of the strategy.

The interaction of the reader and the text is central to the process, and readers bring to this interaction their knowledge of the subject at hand, knowledge of and expectations about how

language works, motivation, interest and attitude toward the context of the text.<sup>11</sup>

Reading comprehension is a process in which the reader constructs meaning using as the building materials the information on the printed page and the knowledge stored in the readers' head. It involves intentional thinking, during which meaning is constructed through interactions between text and reader.<sup>12</sup>

Based on statement above, it can be concluded that reading comprehension is a complex skill which involve the variety of factors, context and goal of reading. The readers have integrates between their prior knowledge and their new knowledge so it will make comprehension process successfully.

### **c. Strategies to Reading Comprehension**

Comprehension is a strategy or plans to construct meaning based on the experiences and

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<sup>11</sup> David Nunan, *Language Teaching Methodology a Textbook for Teachers* (Sydney: Prentice Hall, 1991), 65-66.

<sup>12</sup> Duke and Pearson, *Reading Comprehension: Strategies That Work* (2001), 423.

it is not only can adjust but also it can exchange the mindset about something. According to Gerald G. Duffy there are many strategies of reading comprehension, such as:

1. Predicting<sup>13</sup>

It is fundamental to comprehension which based on the thoughtful use of prior knowledge. Readers make predictions based on purpose of reading, topic clues and the type of the text being read.

2. Monitoring

Monitoring is a process of talking to oneself about whether the meaning being encountered had been the meaning anticipated that is whether the original prediction is coming true.

3. Questioning

Questioning virtually same with monitoring which is questioning also a

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<sup>13</sup>Gerald G. Duffy, *Explaining Reading: a Resource for Teaching Concepts, Skills and Strategies* (New York: Guildford Press, 2009), 101.



process of talking to oneself about whether the meaning makes sense.

#### 4. Repredicting

Meanwhile repredicting is a process of given the new information encountered in the text.

#### 5. Imaging

It is a process to require readers to use prior knowledge and to predict. The prior knowledge the reader uses is experience with words and descriptive language. Readers use what that descriptive language makes them think to create an image.

## **2. Question Answer Relationship**

### **a. Definition of Question Answer Relationship**

Question Answer Relationships (QAR) is a taxonomy that assists teachers by providing a framework for answering questions and shaping comprehension instruction. When teaching students to answer comprehension questions, the QAR taxonomy provides students with structured categories for questions. When

using this taxonomy as a question-answering strategy, students are able to determine where to find the information needed to answer a question by determining where the question belongs in the QAR taxonomy. The taxonomy is also useful in that it provides a common language for teachers' and students' questions.

Raphael developed QAR as a tool for clarifying how students can approach the task of reading texts and answering questions. It helps them realize the need to consider both information in the texts and information from their own background knowledge. Without QAR instruction, students often over rely on text information or background knowledge.<sup>14</sup>

Katherine A. Daugherty Stahl states that the questions that teachers ask and instruction in QAR or other teacher led questioning can act as a springboard and a model for critical thinking and complex student generated questions.

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<sup>14</sup> Sa'dulloh Muzammil, *Journal of Linguistics, Literature & Language Teaching*. (JL3T. Vol. II, No. 2 December 2016), 107.

Teacher led questioning can be a powerful vehicle in moving text interactions toward higher levels of thinking and critical literacy.<sup>15</sup>

The focus in using QAR is to help children understand how to find answers. Children share with one another specifically where and how they found the answers: in their head or in the book. Question answer relationships help children to understand that comprehension depends upon both text (what is on the page) and reader (what is in our heads), there can be more than one right answer, not all questions are answered in the text alone, there will be some questions with no answers.<sup>16</sup>

By employing QAR it is hoped that teacher can help students improve their reading comprehension since QAR provides students with question answer strategies of reading

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<sup>15</sup> Katherine A. Daugherty Stahl, *Proof, Practice, and Promise: Comprehension Strategy Instruction in the Primary Grades the Reading Teacher* (2004), 601.

<sup>16</sup> Duke and Pearson, *Reading Comprehension: Strategies That Work* (2001), 473.

comprehension. The categories of question provided in QAR enable students to consume much less time.<sup>17</sup>

Raphael identified two board categories of QAR for finding information and for answering questions: first category is *in the book questions* consisting of *Right there* and *Think and Search* questions. These questions require answers that can be found directly in the text. Another category is *in your head questions* consisting of *Author and you* and *on your own*. These questions require a higher level of thinking. While details from the text may or may not be used, the primary source of the answer will involve the readers' own thinking in relation to the text, the authors' meaning, and application of the theme outside the text.<sup>18</sup>

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<sup>17</sup> Sa'dulloh Muzammil, *Journal of Linguistics, Literature & Language Teaching*. (JL3T. Vol. II, No. 2 December 2016), 108-109.

<sup>18</sup> Fuad Abdul Baqi, *Employing Question Answer Relationships (QAR) Strategy to Improve Students' Reading Comprehension (a Classroom Action Research at the Eleventh Year Students of SMA Negeri 1Rangkasbitung in 2012/2013 Academic Year)*, (Thesis, Jakarta, 2014 ), 39-40.

## b. Categorization of QAR

Taffy E. Raphael in *QAR Now* was categorized QAR question into two broad categorizations based on where answer of the question can be found.<sup>19</sup>

There are two types of questions, they are:

### 1) In the Book Questions

#### a) Right There

*Right there* questions require reader to go back to the passage and find the correct information (explicit information) to answer the questions.

These are sometimes called literal question as the correct answer can be found in the passage. *Right there*

questions sometimes include the words: *According to the passages, How many, Who is, Where is, and What is.*

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<sup>19</sup> Taffy E. Raphael and Kathy Highfield, *QAR Now (Question-Answer Relationships): Theory and Practice*, (New York: Wright Group, 2001), 22-30.

The steps may be purposed to answer *Right There* questions are as follows:

- a) Reread
- b) Scan
- c) Look for key words

**b) Think and Search**

In *Think and Search* questions, the answer will still be in the text, but the details necessary to answer the questions may be in more than one location. The questions usually require the reader to think about ideas or information (implicit information) in the passage relate to each other. To answer the questions effectively, the reader will need to “*think and search*” through out the text and will need to look back at the passage, find the information that the question refers to and then think about how the information or ideas fit together.

The steps may be purposed to answer *Think* and *Search* questions are as follows:

- a) Skim or reread
- b) Look for important information
- c) Summarize

## 2) In Your Head Questions

### a) Author and You

*Author and You* questions require reader to use ideas and information that is not stated directly in the passage to answer the question. These questions require the reader to think about what you have read and formulate your own include the words: *the author implies*, *the passage suggests*, and *the speakers' attitude*.

The steps may be purposed to answer *Author and You* questions are as follows:

- a) Reread

b) Think about what you already know  
and what the author says

c) Predict

**b) On Your Own**

*On Your Own* questions can be answered using readers' background knowledge on a topic. This type of questions does not usually appear on tests of reading comprehension because it does require the reader to refer to the passage. *On Your Own* questions sometimes include the words: *In your opinion, Based on your experience, and Think about someone/something you know.*

**c. The Advantages and the Weaknesses of QAR**

The four QARs provide a useful framework for teachers and students. First, when students are *consciously aware* of the different sources of information available to answer questions, they become strategic in their reading and thinking, and their comprehension



is improved. Second, the four QARs are helpful in teacher planning. Teachers need to strike a better balance between literal questioning and higher level questioning. Questions reflecting the *Think and Search*, *Author and You*, and *On Your Own* help students see relationships, connections between text and prior knowledge, experience, and/or other ideas in the subject area. Such questions often have more than a single word answer, which stimulates students to think rather than wait to be told the “right” answer.

Raphael and Au state that QAR addresses four troubling problems of practice today, particularly involving students who often receive little literacy instruction oriented to promoting high levels of thinking about text. First, QAR can help address the lack of a shared language among teachers and students for improving questioning practices, whether in the day-to-day life of the classroom, in students’ activities outside of school, or in high-stakes

testing situation. Second, QAR can bring coherence to literacy instruction within and across grade level by providing a framework for a developmental progression for comprehension instruction. As a framework, QAR provides a means for organizing comprehension strategy instruction. Third, QAR provides a focal point to begin sustained efforts for whole-school reform aimed at higher standards for literacy learning and teaching. It is difficult to find points of contact that bring teachers from kindergarten through middle school to the table with the same high levels of interest. Yet all readers at all grades can benefit from learning to think in terms of information sources for answering and asking questions. Forth, QAR provides a responsible approach to preparing students for high stakes test at different grade levels and in a variety of subject areas, without

detracting from the high-quality instruction that leads to high levels of literacy.<sup>20</sup>

## **B. Previous Research Findings**

The researchers were *Leah H. Kinniburgh and Abigail Baxter*. The title of this research was —**Using Question Answer Relationships in Science Instruction to increase the Reading Achievement of Struggling Readers and Students with Reading Disabilities**. The participants of this research were 10 fourth grade students in a science class who had been diagnosed with a reading disability and were in the special education program, or were classified as struggling readers. Science expository text was used in this research over 4 week period.

There are one general education classroom teacher and one special education teacher in conducting this research. General education classroom teacher provided science instruction related to QAR to the student participants while special education teacher

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<sup>20</sup> Sa'dulloh Muzammil, *Journal of Linguistics, Literature & Language Teaching*. (JL3T. Vol. II, No. 2 December 2016), 114-115.

only lent support and administered informal reading inventory which was The Analytical Reading inventory (as pretest and post-test) to student participants.

This research also conducted an interview to classroom teacher to gather information regarding teachers' perspective about the effectiveness of integrating the QAR into science instruction.

The result shown that all students reading comprehension scores improved from the pretest to the posttest, especially the students made the highest gains in the two types of higher order thinking types of questions, Author and Me and On My Own.

The advantages of the using QAR in this research are the struggling readers and students with reading disability can increase their reading achievement and teacher become more confident to assist struggling students after receiving training and constant support over the 4-week instructional period.

Meanwhile, the disadvantages of this research are the participants that were taken only 10 students and there was not a control group to compare the score.

Second, *Leena Furtado and Heidi Pastel* (2011), the title of the research is **Question answer relationship strategy increases reading comprehension among Kindergarten students**. This research was conducted by taking 23 kindergarten students (5–6 years old) over 4 weeks (18 days). This research used two popular Aesop's fable in applying QAR strategy.

Pretest and post test were conducted orally. That's because many students can not read independently and write answers to questions. In addition, there were parent volunteers who helped orally ask the questions to the students. Student's exact answers were recorded on their tests, and graded.

In this research, the students worked in groups. With the parent volunteers and the teacher acting as facilitators, both In the Book and In My Head questions were asked orally within each group. If students were unsuccessful answering their particular question, the discussion was opened up to the rest of the group which was in day 6-10 there were small group leaders

emerged to assist their friends who had difficulty (peer interaction).

The result of this research shown that twenty out of twenty three students scored considerably higher on the post-test than they did on the pre-test. The three students who did not score higher had scores that remained the same on both tests. The students also can understand the difference between the two types of questions, and become more comfortable in expressing their thoughts and opinions.

The advantages of this research besides increasing students reading comprehension are the students can do peer interaction to assist their friends in comprehending reading text and get confidence in expressing their thoughts and opinions.

While the disadvantage is the students have not been able to read and answer the questions independently so they need a help to read and ask the questions orally for them.

Based on two previous researches above, it can be concluded that research by Leah H. Kanniburgh and Abigail Baxter and Leena Furtado and Heidi Pastel has

similar and difference with this research. The details are explained as follows:

Compared to both previous research, there are some similarities and differences between those researches and this present research. In the first previous research, it tried to investigate whether using Questions Answer Relationship increase students' reading achievement in the class room or not. That variable QAR is the same with this present study. However, the reseach methodology and the subject of the study was different.

In the second previous research, that variable X and Y is the same with this research, than the research methodology was same too. However, the subject of the study was different with this research.

### **C. Theoretical Framework**

Reading is an activity to understand the text to get some information and knowledge. According to the opinion from Peter Stravens reading consists of making out meaning of written language. Reading is an incredibly active occupation. To do it successfully, we

do have understand what the word means in a written text.

Based on the observation, the early condition of the class used the conventional teaching method. It was causing the students' reading skill in comprehend text was still low. So, the researcher designed to apply QAR strategy in teaching reading. After that, the researcher framed the strategy to change the quality of learning which was applied in some else. It is expected the students' reading skill can increase especially their activeness, interest, and achievement.

Basically, QAR strategy is an interesting method which gives a good motivation to the students to become more active and easier in comprehending the text. QAR strategy makes the students are be enjoying in joining reading class.

#### **D. Hypothesis**

Hypothesis is a type of prediction found in many experimental studies it is a statement about what we expect to happen in a study. In research reports there are generally two types of hypotheses: research



hypotheses and null hypotheses. The null hypothesis (often written as  $H_0$ ) is a neutral statement used as a basis for testing. The null hypothesis states that there is no relationship between items under investigation. The statistical task is to reject the null hypothesis and to show that there is a relationship between X and Y.<sup>21</sup>

There are two hypotheses offered in this study, there are:

- $H_a$  : There is any significant different score in reading comprehension before and after being taught by QAR strategy at the seventh grade of SMPN 2 Ponorogo in academic year 2019/2020.
- $H_0$  : There is no significant different score in reading comprehension before and after being taught by QAR strategy at the seventh grade of SMPN 2 Ponorogo in academic year 2019/2020.

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<sup>21</sup> Alison Mackey, *Second Language Research Methodology and Design* (London: Lawrence Erlbaum Associates, 2005), 100-101.

## CHAPTER III

### RESEARCH METHODOLOGY

#### A. Research Design

This research applied a quantitative research. Quantitative research deals with questions of relationship, cause and effect, or current status that researchers can answer by gathering and statistically analyzing numeric data.<sup>22</sup>

Quantitative research based on the measurement of quantity or amount. It is applicable to phenomena that can be expressed in term of quantity. Quantitative methods consist of two types. They are experimental (pre experimental design, quasi experimental design, and true experimental design) and non experimental there are (descriptive, survey, expose facto, comparative and correlation).

According to Donal Ary an experimental design is the general plan for carrying out a study with an active independent variable. The design is important because it

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<sup>22</sup> Donald Ary, Dkk, *Introduction to Research in Education Eighth Edition* (Canada: Wadsworth Cengage Learning, 2006), 39.

determines the study's internal validity, which is the ability to reach valid conclusions about the effect of the experimental treatment on the dependent variable.<sup>23</sup>

This research applied quantitative approach and used the pre experimental design. In this research, the group is given a pretest before the experimental treatment. After the treatment is finished, the post test is administered to see the achievement.<sup>24</sup>

The researcher used the one-group pretest-posttest design usually involves three steps: (1) administering a pretest measuring the dependent variable; (2) applying the experimental treatment X to the subjects; (3) administering a posttest, again measuring the dependent variable. Differences attributed to application of the experimental treatment are then evaluated by comparing the pretest and posttest score.<sup>25</sup>

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<sup>23</sup>*Ibid.*, 301.

<sup>24</sup> Mohammad Adnan Latief, *Research Method on Language an Introduction* (Malang: UM PRESS, 2014), 96.

<sup>25</sup>Donald Ary, Dkk, *Introduction to Research in Education Eighth Edition* (Canada: Wadsworth Cengage Learning, 2006), 303.

Table 1.1<sup>26</sup>**Design of One Group Pre-test and Post-test**

<b>Pre-test</b>	<b>Treatment</b>	<b>Post-test</b>
O <sub>1</sub>	X	O <sub>2</sub>

X : Treatment

O<sub>1</sub> : Pre – test

O<sub>2</sub> : Post – test

**B. Population and Sample****1. Population**

Population is defined as all members of any well defined class of people, events, or objects.<sup>27</sup> A population is a group of individuals, objects, or items from among which samples are taken for measurement.<sup>28</sup> From the statement above it can be concluded that population is research object as target to get and collect the data.

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<sup>26</sup> John W. Creswell, *Research Design Qualitative, Quantitative, and Mixed Methods Approaches Third Edition* (Los Angeles: Sage, 2009), 160.

<sup>27</sup> Donald Ary, Dkk, *Introduction to Research in Education Eighth Edition* (Canada: Wadsworth Cengage Learning, 2006), 148.

<sup>28</sup> Kultar Singh, *Quantitative Social Research Methods* (Los Angeles: Sage Publications, 2007), 88.

From the definition above, the researcher summarizes that population is the entire subject who will be researched. The population in this research is all the seventh grade students of SMPN 2 Ponorogo in academic year 2019/2020 are 288 students.

## 2. Sample

A sample can be defined as a finite part of a statistical population whose properties are used to make estimates about the population as a whole. When dealing with people, it can be defined as a set of target respondents selected from a larger population for the purpose of a survey.<sup>29</sup> The sample is smaller than total of population. In this research sample as representation the total population.

The sample in this research is the seventh grade B student of SMPN 2 Ponorogo in academic year 2019/2020. There are 32 students consist of 13 male and 19 female. So, the researcher needs to choose the sample that appropriate with the research design. The

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<sup>29</sup>*Ibid.*,

researcher used cluster technique sampling to determine the research samples.

According Charles in Adnan Latief, cluster technique sampling involves the random selection of group that already exists.<sup>30</sup> It means that the cluster sampling technique used to determine the sample in form of group or class.

The researcher chose one class for the experiment class in the research. Whether the students have same capabilities in reading. The cluster class in the research is VIIB that consists of 32 students consist of 13 male and 19 female.

### **C. Instrument of Data Collection**

In this research instrument to collect the data was test. The test was constructed by the researcher based on the standardized procedures of making test. The test was divided into two parts pre-test and post-test in the same class. They are the test for students that used QAR Strategy in reading. The test was to gain information about

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<sup>30</sup> Mohammad Adnan Latief, *Research Method on Language an Introduction* (Malang: UM PRESS, 2014), 185.

the students' reading comprehension after teaching process finish. Instrument of data collection can be show in the table below:

**Table 1.2**  
**The Indicator Instruments of Data Collection**

<b>Variable</b>	<b>Kind of Text</b>	<b>Indicator</b>	<b>Numbers Item of Indicators</b>
Reading Comprehension	Descriptive	1. Identify the general information of the descriptive text	Pre-test: 1, 4, 5, 6, 8, 12, 14, 16
		Post-test: 1, 3,5,8,10	
		2. Find the specific information of descriptive text	Pre-test: 2, 3,7, 10, 11, 13
		Post-test: 2, 4, 6, 7, 11,16	

		3. Find the main idea of the text	Pre-test: 9
			Post-test: 9, 12, 13, 14,15

In scoring students' work, researcher using the criteria as follows:

1. The 1 score was assigned if the students answer the test correctly.
2. The 0 score was assigned if the students answer the test incorrectly.

## **D. Technique of Data Collection**

### **1. Test**

Test is some questions that given for people to show the condition or the level of development the people. The fundamental use of testing in educational program is to provide information for making decision, that is for evaluation.<sup>31</sup>

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<sup>31</sup> Lyle F. Bachman, *Fundamental Considerations in Language Testing* (New York: Oxford University Press, 1990), 54.



In this research, test applied to measure the reading comprehension of the seventh grade students of SMPN 2 Ponorogo in academic year 2019/2020. It used to analyze whether any significant difference about using QAR strategy in teaching reading. The data in the research are the result of the test. The kind of test is descriptive reading questions. The test used objective test in the form of multiple choice which consist of 20 questions item. The test was given for getting the objectives data of the students' reading comprehension by using QAR strategy in the class. The test was applied twice. Those are pre-test and post-test. Pre-test is given before treatment was taught and post-test is given after treatment was taught.

**a. Validity**

Validity is the extent to which inferences made from assessment result are appropriate, meaningful and useful in terms of the purpose of the assessment. Validity could be divided into four types, namely content validity, predictive validity and concurrent validity. To test the validity of the instrument in this study, research

used type of content validity. There are two steps to evaluate the content validity of a classroom test, they are classroom objective identified and appropriately framed and lessons objectives represented in the form of test specification. So, the content validity of an existing classroom test should be apparent in how objectives of the unit being tested are represented in the form of the content of items, cluster of items and item types.<sup>32</sup>

To calculate it, researcher used Pearson. The analyzed is used to find out the “r” hitung then consulted with  $r_{table}$  with 5% significance level for “r” product moment with db is  $n - r$ ;  $32 - 2 = 30$ . The r index is 0,349. If the value of “r” hitung is higher than the value of  $t_{table}$ , it indicated that the item is valid. If the value of rhitung is lower than the value of  $r_{table}$ , it indicated that the item is invalid.

Researcher uses Ms excel to measure the validity of research instruments and put thirty two

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<sup>32</sup> H. Douglas Brown, *Language Assessment: Principles and Classroom Practices* (New York: Pearson Education, 2004), 22.

respondents in class VIII B. Based on the calculation of item validity of pre-test shows that 12 items are valid (1, 4, 6, 8, 9, 10, 12, 13, 14, 15, 16, 17, ) and 8 items are invalid (2, 3, 5, 7, 11, 18, 19, 20). The computation of validity can be seen in appendix 1. Meanwhile the result of calculation of item validity of post-test shows that 16 items are valid (1, 2, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 19, 20) and 4 items are invalid (3, 4, 17, 18).

**b. Reliability**

A reliable test is consistent and dependable.<sup>33</sup>Reliable is the degree to which a test consistently measure whatever it measures. Reliability indicates the extent to which individual difference on test score are attributable to true differences versus chance errors.

According to Donald Ary, dkk, reliability of a measuring instrument is the degree of consistency with which it measures whatever it is measuring. This quality is essential in any kind of

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<sup>33</sup>*Ibid.*, 20.

measurement. Reliability is concerned with the effect of error on the consistency of scores.<sup>34</sup>

In this research, the reliability of the test is measured by comparing the obtained score with r-score product moment. The calculation of reliability test used SPSS programs for windows. The result of reliability said if the obtained score is higher than the table r-score, it could be said that the test is reliable. Then, if the obtained score is lower than the table “r” score, it could be said that the test is not reliable. The calculation of reliability shows as follows:

**Table 1.3**

**Reliability of Pre-test**

**Reliability Statistics**

Cronbach's Alpha	No of Items
.753	15

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<sup>34</sup> Donald Ary, Dkk, *Introduction to Research in Education Eighth Edition* ( 2010), 236.

**Table 1.4**  
**Reliability of post test**  
**Reliability Statistics**

Cronbach's Alpha	No of Items
.836	16

## 2. Documentation

Documents are written instrument, sometimes prepared by school or organization.<sup>35</sup> Documentation benefits researcher to collecting data about students, grade, teachers and staff condition, and school's location.

In this research the documentary technique is used to get the data about student's names, condition of teachers, staffs and percents of learning, vision, mission, goal, facilities, infrastructure, and the structure organization of SMPN 2 Ponorogo.

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<sup>35</sup> H. Douglas Brown, *Language Assessment Principles and Classroom Practices* (New York: Pearson Education, 2004), 129.

## E. Technique of Data Analysis

The researcher used T-test to analyze the data. It was used T-test to compare the students' reading skill that divided into one group. The "t" test formula is as follow:

T test used for large samples ( $N > 30$ ) with the twice sample had correction with one another. The formulas:  $t_0$

$$= \frac{Mx - My}{SE Mx - My}$$

The formulas to analyze the data are:

1. Determining mean from variable I and variable II

$$Mx = \frac{\sum fx}{Nx} \quad My = \frac{\sum fy}{Ny}$$

Notes:

Mx = Mean of pre test

My = Mean of post test

$\sum fx$  = Total score

Nx = Total of pre test

Ny = Total of post test

2. Determining standard deviation of variable I and variable II

$$SDx = \sqrt{\frac{\sum fx^2}{Nx} - \left[\frac{\sum fx}{Nx}\right]^2}$$

$$SDy = \sqrt{\frac{\sum fy^2}{Ny} - \left[\frac{\sum fy}{Ny}\right]^2}$$

Notes:

$SDx$  = Standard deviation of pre test

$SDy$  = Standard deviation of post test

3. Determining standard error mean variable I and II

$$SE Mx = \frac{SDx}{\sqrt{Nx-1}}$$

$$SE My = \frac{SDy}{\sqrt{Ny-1}}$$

4. Determining correlation coefficient "r" product moment

$$r = \frac{\sum XY - \frac{(\sum X)(\sum Y)}{N}}{\sqrt{\left(\sum X^2 - \frac{(\sum X)^2}{N}\right) \left(\sum Y^2 - \frac{(\sum Y)^2}{N}\right)}}$$

5. Determining the differences of mean variable I and variable II

$$SE Mx-My = \sqrt{SEMx^2 + SEMy^2 - 2rxy SE Mx \cdot SE My}$$

6. Determining value of  $t_0$

$$t_0 = \frac{Mx-My}{SE Mx-My}$$

Notes:

$SEM_x$  = standard of error of x variable

$SEM_y$  = standard of error of y variable

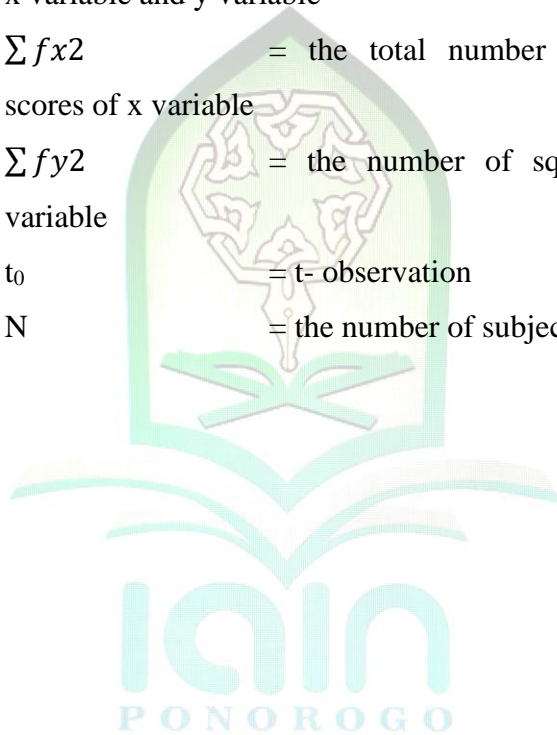
$SEM_{x-My}$  = standard error between mean of  
x variable and y variable

$\sum fx^2$  = the total number of square  
scores of x variable

$\sum fy^2$  = the number of square of y  
variable

$t_o$  = t- observation

$N$  = the number of subject





## CHAPTER IV

### FINDING AND DISCUSSION

#### **A. General Overview of Research Location and Time of the Research**

##### **1. Vision, mission and objective of SMPN 2 Ponorogo**

###### **a. Vission**

Having good moral character, achievement, environmental culture based on Iman and Taqwa.

###### **b. Mission**

- 1) Developing the appreciation and practice of religious teachings.
- 2) Familiarize the courtesy of all school residents
- 3) Make a sense of love and pride in the nation of Indonesia
- 4) Creating and conducive learning climate
- 5) Improve the education service system
- 6) Fostering students' potential in academics, sports, and arts

- 7) Develop an environment based curriculum
- 8) Creating a clean area, healthy, green, shady, beautiful, comfortable and safe environment
- 9) Creating discipline, orderliness, cleanness, and having good moral character
- 10) Establish a good and synergic cooperation relationship between the school community, the community and related institutions that are oriented towards environmental preservation

## **2. History of SMPN 2 Ponorogo<sup>36</sup>**

### **3. General Overview of Research Location**

This research was conducted at SMPN 2 Ponorogo in academic year 2019/2020. This school is located in the Basuki Rachmad Street Number. 44 Ponorogo. In this location there are 9 classes that is class A until I grade. Those school is the one of favorite school in Ponorogo city.

SMPN 2 Ponorogo is one of National Standard School (SSN) in Ponorogo. It uses the newest

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<sup>36</sup> See appendix 10

curriculum that is K13 curriculum. SMPN 2 Ponorogo supported by professional educators with educational qualification S1 and S2.

#### 4. Time of the Research

**Table 4.1**

**This Activities research was conducted on  
January 11<sup>th</sup>20<sup>th</sup> 2020.**

<b>Date</b>	<b>Activities</b>
11 <sup>th</sup> January 2020	Pre test
18 <sup>th</sup> January 2020	Treatment
20 <sup>th</sup> January 2020	Post test

#### **B. Data Description**

The data in this research were collected from students' score in pre-test and post-test of experimental class. The experimental class was taught using question answer relationship by English teacher of SMPN2Ponorogo.

##### **1. Procedure of Experiment**

This research used VII B of SMPN 2 Ponorogo as experimental class. The number of this class was

32 students. They had followed pre-test and post-test that conducted by the researcher.

First, the students were given pre-test. There were 20 questions about the descriptive text, that consists of multiple choice question. It was held on January 11<sup>th</sup>, 2020.

Second, the treatment of question answer relationship held on January 18<sup>th</sup>, 2020. The material was descriptive text.

Third, that was post-test. It was held on 20<sup>th</sup>, 2020. The questions in post-test were same with pre-test. There are 20 questions that consisted of multiple choice.

The treatment was applied in the present study called question answer relationship strategy. They were some activities that students did in the treatment class. First, Students read the descriptive text. Then teacher asked students to make a group, each group consist of 5 until 6 students. After that teacher give them a question. The question was same for all groups. Students discuss the questions in group and write the answer on the paper.

## 2. The Results of Validity Test and Reliability Test

The instrument of the research must be valid and reliable. The table below shows the results of validity test and reliability test.

**Table 2.1**  
**The Result of Validity Pre Test**

Item Number	"r" Calculated	"r" Table	Notes
1	0,36337	0,349	Valid
2	-0,9681	0,349	Invalid
3	0,15102	0,349	Invalid
4	0,57382	0,349	Valid
5	0,31681	0,349	Invalid
6	0,41999	0,349	Valid
7	0,22059	0,349	Invalid
8	0,44501	0,349	Valid
9	0,44445	0,349	Valid
10	0,46146	0,349	Valid
11	0,22824	0,349	Invalid
12	0,37792	0,349	Valid
13	0,46841	0,349	Valid

14	0,34958	0,349	Valid
15	0,51345	0,349	Valid
16	0,57382	0,349	Valid
17	0,42222	0,349	Valid
18	0,28712	0,349	Invalid
19	0,16737	0,349	Invalid
20	0,05127	0,349	Invalid

The results of validity test above showed that among 20 questions, there were 12 questions were valid and 8 questions were not valid.

**Table 2.2**  
**The Result of Validity Post Test**

<b>Item Number</b>	<b>“r” Calculated</b>	<b>“r” Table</b>	<b>Notes</b>
1	0,40914	0,349	Valid
2	0,4517	0,349	Invalid
3	0,32056	0,349	Invalid
4	0,26228	0,349	Valid
5	0,83136	0,349	Valid
6	0,84512	0,349	Valid

7	0,55457	0,349	Valid
8	0,40287	0,349	Valid
9	0,54788	0,349	Valid
10	0,47355	0,349	Valid
11	0,39498	0,349	Valid
12	0,43807	0,349	Valid
13	0,65732	0,349	Valid
14	0,59723	0,349	Valid
15	0,46784	0,349	Valid
16	0,36428	0,349	Valid
17	0,32056	0,349	Invalid
18	0,2711	0,349	Invalid
19	0,63543	0,349	Valid
20	0,59723	0,349	Valid

The results of validity test above showed that among 20 questions, there were 16 questions were valid and 4 questions were not valid.

**Table 2.3**  
**Reliability of Pre Test**  
**Reliability Statistics**

Cronbach's Alpha	No of Items
.753	15

**Table 2.4**  
**Reliability of Post Test**  
**Reliability Statistics**

Cronbach's Alpha	No of Items
.836	16

The result of pre test and post test reliability said that the score is higher than the “r” table score it could be said that the test is reliable. Then, if the score is lower than the “r” table score it could be said that the test is not reliable. From the table above it can be conclude that the test is reliable. The computation of reliability test used SPSS program. The results of reliability test above showed that among 20 questions



for pre test and post test, there were 15 questions were reliable and 5 questions were not reliable for pre test. Then there were 16 questions were reliable and 4 questions were not reliable for post test.

### **3. The Results of Students' Score Pre Test and Post Test in Experimental Class**

**Table 3.1**  
**The Score of Students' Pre-Test and Post Test in Experimental class**

<b>No</b>	<b>Name</b>	<b>Pre Test</b>	<b>Post Test</b>
1	Akbar Pandu Eka	30	78
2	Alexa	36	84
3	Ariel Ronggo S.	42	78
4	Candra Juniva D.P	30	84
5	Dama Saputra	42	78
6	Davin Abithia A.M	48	78
7	Dea P.N	30	84
8	Erika Rahmawati	48	66
9	Farish	54	78
10	FaturezaWahyu A.N	48	84
11	Fransiska Resti Adelia	30	66

12	Ilma Auliya Saadah	36	60
13	Intan Noor Dian S	54	66
14	Jaqiyya Humam F.	60	72
15	Qinanti Sekar K.	60	54
16	Lusita	36	60
17	M. Bagas R.S	66	48
18	Moh. Iqbal Ali F.	66	90
19	M. Rizqi F.N	36	42
20	Moh Rafi P.	72	90
21	Nadia Oqtavia R.	78	72
22	Nadya Dwi A.A	66	48
23	Nasywa Aqilah P.	78	90
24	Radytia W.	54	60
25	Septia Eva R.	66	90
26	Shelin Najwa Salsabila	66	72
27	Syafa Launia Azzahra	54	54
28	Zharifah Ulvi N.	72	72
29	Zhezar Yuma A.	78	90
30	Zahra Atoful Nisa	90	96
31	Zulqifli Zidan	84	96
32	Zudayanti Syafrina	84	96

	<b>N = 32</b>	<b>1794</b>	<b>2376</b>
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The result of pre-test in the class showed that the highest score is 90 that obtained by a student. Meanwhile the lowest score is 30 there are 4 students who got the lowest score. Other students have score between 90 and 30. There is a student who got 84 and there are 3 students who have score 78. From 32 students there are 2 students who got 72 and 5 students got 66. Then, 2 students have score 60 and only 4 students who have score 54. There is student who got 48 and there are 2 students have score 42. Other student have score 36 and there are 4students have score 30. Then, the total score of pre-test for experimental class that consists of 32 students is 1794.

The result of post test in the experimental class we can know that the highest score are 96, it is higher than pre-test and obtained by same student. The lowest score is 42, this score also higher than pre-test. Among 32 students in experimental class

there are 3 students who have score 96, 5 students got 90, there are 4 students have score 84. other student have score 78 and 4 students got 72, than there are 3 students have score 66 and 3 students got 60. There are 2 students got 54 and 2 students have score 48 and there is 1 student got 42. The total score of post-test in experimental class is 2376. In short, the result of post-test is higher than pre-test.

#### **4. The Results of Assumption Test for Parametric Statistic**

##### **a. Normality**

##### **1. Normality Test of Students' Reading Comprehension before Using QAR Strategy**

Normality test was conducted to know whether the data distribution was normal distribution or not.<sup>37</sup>The researcher used Lilieforsc formula to calculate normality.

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<sup>37</sup>Retno Widyanigrum, *Statistika Edisi Revisi* (Jogjakarta: Pustaka Felicha, 2014), 204.

a) Stating hypothesis

$H_0$  data distribution is normal

$H_a$  data distribution is not normal

b) Compute the mean and standard deviation

c) Compute the mean and standard deviation by making single distribution table

d) Compute the score of fkb

e) Compute the result of frequency divided by total data ( $f/n$ )

f) Compute the result of fkb divided by total data ( $fkb/n$ )

g) Compute the score of Z using the formula where X is the data,  $\mu$  is the mean, and  $\sigma$  is the standard deviation

$$Z = \frac{x - \mu}{\sigma}$$

h) Compute  $P < Z$

Probability under the  $Z$  score and the level of significance. We see the column out of  $Z$  for negative score and we see the column of wide between the average with  $Z+0,5$  for positive score.

i) Compute the  $L$  score by looking for the gap between  $f_{kb}/n$  and  $P < Z$ .

**Table 4.1**

**Calculation Data of Mean and Standard Deviation**

<b>X</b>	<b>F</b>	<b>Fx</b>	<b>x<sup>2</sup></b>	<b>fx<sup>2</sup></b>
90	1	90	8100	8100
84	2	168	7056	14112
78	3	234	6084	18252
72	2	144	5184	10368
66	5	330	4356	21780
60	2	120	3600	7200
54	4	216	2916	11664
48	3	144	2304	6912
42	2	84	1764	3528

36	4	144	1296	5184
30	4	120	900	3600
	<b>32</b>	<b>1794</b>	<b>43560</b>	<b>110700</b>

a) Mean

$$\begin{aligned}
 M_x &= \frac{\sum fx}{Nx} \\
 &= \frac{1794}{32} \\
 &= 56,0625
 \end{aligned}$$

b) Standard deviation

$$\begin{aligned}
 SD_x &= \sqrt{\frac{\sum fx^2}{n} - \left[\frac{\sum fx}{n}\right]^2} \\
 &= \sqrt{\frac{110700}{32} - \left[\frac{1794}{32}\right]^2} \\
 &= \sqrt{3459,375 - (56,0625)^2} \\
 &= \sqrt{3459,375 - 3143,00391} \\
 &= \sqrt{316,37109} \\
 &= 17,7868235
 \end{aligned}$$

**Table 4.2**  
**The Computation of Normality Test Before Using QAR**  
**Strategy**

<b>X</b>	<b>F</b>	<b>fk<sub>b</sub></b>	<b>f/n</b>	<b>fk<sub>b</sub>/n</b>	<b>Z</b>	<b>P&lt;z</b>	<b>L</b>
90	1	32	0.0312	1	1.9080135	0.971	0.028
			5		4	3	7
84	2	31	0.0625	0.96875	1.5706851	0.941	0.026
					8	8	95
78	3	29	0.0937	0.90625	1.2333568	0.890	0.015
			5		2	7	55
72	2	26	0.0625	0.8125	0.8960284	0.813	-
					56	3	0.000
							8
66	5	24	0.1562	0.75	0.5587000	0.708	0.041
			5		96	8	2
60	2	19	0.0625	0.59375	0.2213617	0.587	0.006
					8	1	65
54	4	17	0.125	0.53125	0.1159566	0.456	0.075
					24	2	05
48	3	13	0.0937	0.40625	0.4532849	0.326	0.079
			5		84	4	85



42	2	10	0.0625	0.3125	0.7906133 44	0.214 8	0.097 7
36	4	8	0.125	0.25	-1.1279417	0.131 4	<b>0.118</b> <b>6</b>
30	4	4	0.125	0.125	- 1.4652700 6	0.072 1	0.052 9

$H_0$  data distribution is normal

$H_a$  data distribution is not normal

In Lilieforsc table the score for  $n=32$  and level of significance 0.05 is  $0,886/\sqrt{n}=0,886/\sqrt{32}=0,886/5,65685425=0,1566$ .

Testing criteria:  $H_0$  is accepted if

$$L_{\max} < L_{\text{table}}$$

$H_0$  is rejected if

$$L_{\max} > L_{\text{table}}$$

From the table of computation above it is found that  $L_{\max} = 0,1186$ . The result show that  $L_{\max} < L_{\text{table}}$  so,  $h_a$  is accepted. It means the data distribution is normal.

## 2. Normality Test of Students' Reading Comprehension after Using QAR Strategy

a. Stating hypothesis

$H_0$  data distribution is normal

$H_a$  data distribution is not normal

b. Compute the mean and standard deviation

**Table 2.1**

### The Computation of Data Mean and Standard Deviation

Y	F	Fy	$y^2$	$fy^2$
96	3	288	9216	27648
90	5	450	8100	40500
84	4	336	7056	28224
78	5	390	6084	30420
72	4	288	5184	20736
66	3	198	4356	13068

60	3	180	3600	10800
54	2	108	2916	5832
48	2	96	2304	4608
42	1	42	1764	1764
	<b>32</b>	<b>2376</b>	<b>50580</b>	<b>183600</b>

a) Mean

Calculated the average

$$\begin{aligned}
 M_y &= \frac{\sum fy}{n} \\
 &= \frac{2376}{32} \\
 &= 74,25
 \end{aligned}$$

b) Calculation of standard deviation

$$\begin{aligned}
 SD_y &= \sqrt{\frac{\sum fy^2}{n} - \left(\frac{\sum fy}{n}\right)^2} \\
 &= \sqrt{\frac{183600}{32} - \left(\frac{2376}{32}\right)^2} \\
 &= \sqrt{5737,5 - (74,25)^2} \\
 &= \sqrt{5737,5 - 5513,0625} \\
 &= \sqrt{224,4375} \\
 &= 14,9812383
 \end{aligned}$$

**Table 2.2**  
**The Result of Normality Test after Using QAR Strategy**

Y	f	fk <sub>b</sub>	f/n	fk <sub>b</sub> /n	Z	P<z	L
96	3	32	0.09375	1	1.4518159	0.9265	0.0735
90	5	29	0.15625	0.9062	1.0513149	0.8531	0.05315
				5	6		
84	4	24	0.114285	0.32	0.6508140	0.7422	0.4222
			714		25		
78	5	20	0.15625	0.625	0.2503130	0.5987	0.0263
					87		
72	4	15	0.114285	0.4687	0.1501878	0.4404	0.02835
			714	5	52		
66	3	11	0.09375	0.3437	0.5506887	0.2912	0.05255
				5	91		
60	3	8	0.09375	0.25	0.9511897	0.1711	<b>0.0789</b>
					29		
54	2	5	0.0625	0.1562	1.3516906	0.0885	0.06775
				5	7		
48	2	3	0.0625	0.0937	0.7521916	0.2266	0.13285
				5	1		
42	1	1	0.03125	0.0312	2.1526925	0.0158	0.01545

				5	4		
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In Lilieforsc table the score for  $n=32$  and level of significance 0.05 is  $0,886/\sqrt{n}=0,886/\sqrt{32}=0,886/5,65685425=0,1566$ .

Testing criteria:  $H_0$  is accepted if  $L_{\max} < L_{\text{table}}$

$H_0$  is rejected if  $L_{\max} > L_{\text{table}}$

From the table of computation above it is found that  $L_{\max} = 0,0789$ . The result show that  $L_{\max} < L_{\text{table}}$  so,  $h_a$  is accepted. It means the data distribution is normal.

### C. Data Analysis

The researcher used T-test to analyze the data.

1. Determining mean from variable X and variable Y

$$\begin{aligned} M_x &= \frac{\sum fx}{N_x} \\ &= \frac{1794}{32} \\ &= 56,0625 \end{aligned}$$

Notes:

$M_x$  : mean of pre test

$M_y$  : mean of post test

$\sum fx$  : total score

$N_x$  : total of pre test

$N_y$  : total of post test

2. Determining Standard deviation of variable X and variable Y

$$\begin{aligned}
 SD_x &= \sqrt{\frac{\sum fx^2}{n} - \left[\frac{\sum fx}{n}\right]^2} \\
 &= \sqrt{\frac{110700}{32} - \left[\frac{1794}{32}\right]^2} \\
 &= \sqrt{3622,656 - (57,65625)^2} \\
 &= \sqrt{3622,656 - 3324,243} \\
 &= \sqrt{298,4131} \\
 &= 17,2746
 \end{aligned}$$

$$\begin{aligned}
 SD_y &= \sqrt{\frac{\sum fy^2}{n} - \left(\frac{\sum fy}{n}\right)^2} \\
 &= \sqrt{\frac{183600}{32} - \left(\frac{2376}{32}\right)^2} \\
 &= \sqrt{5737,5 - (74,25)^2} \\
 &= \sqrt{5737,5 - 5513,0625} \\
 &= \sqrt{224,4375} \\
 &= 14,9812383
 \end{aligned}$$

Notes:

$SD_x$  : standard deviation of pre test

$SD_y$  : standard deviation of post test

3. Determining standard error mean variable X and Y

$$\begin{aligned}
 SE_{mx} &= \frac{SDx}{\sqrt{Nx-1}} \\
 &= \frac{17,7868235}{\sqrt{32-1}} \\
 &= \frac{17,7868235}{\sqrt{31}} \\
 &= \frac{17,7868235}{5,5677} \\
 &= 3,19464
 \end{aligned}$$

$$\begin{aligned}
 SE_{my} &= \frac{SDy}{\sqrt{Ny-1}} \\
 &= \frac{14,9812383}{\sqrt{32-1}} \\
 &= \frac{14,9812383}{\sqrt{31}} \\
 &= \frac{14,9812383}{5,5677} \\
 &= 2,69074093
 \end{aligned}$$

4. Determining correlation coefficient “r” product moment

$$\begin{aligned}
 r_{xy} &= \frac{\sum XY - \frac{(\sum X)(\sum Y)}{N}}{\sqrt{\left(\sum X^2 - \frac{(\sum X)^2}{N}\right) \left(\sum Y^2 - \frac{(\sum Y)^2}{N}\right)}} \\
 &= \frac{158175 - \frac{(1845)(2691)}{32}}{\sqrt{\left(115925 - \frac{(1845)^2}{32}\right) \left(228825 - \frac{(2691)^2}{32}\right)}} \\
 &= \frac{136260 - 133204}{\sqrt{(110700) - (100576)(183600 - 176418)}} \\
 &= \frac{3056}{\sqrt{(10124)(7182)}} \\
 &= \frac{3056}{\sqrt{72710568}} \\
 &= \frac{3056}{8527,0492} \\
 &= 0,358388
 \end{aligned}$$

5. Determining the differences of mean variabe X and Y

$$\begin{aligned}
 SE_{mx-my} &= \\
 &= \sqrt{SEM_x^2 + SEM_y^2 - 2r_{xy} SE M_x . SE M_y}
 \end{aligned}$$



$$\begin{aligned}
 &= \sqrt{(3,1946)^2 + (2,6907)^2} - \\
 &2(0,35839)(3,1946)(2,6907) \\
 &= \sqrt{10,2054 + 7,2399 - 6,161233} \\
 &= \sqrt{11,284067} \\
 &= 3,3592
 \end{aligned}$$

6. Determining value of  $t_0$

$$\begin{aligned}
 t_0 &= \frac{mx - my}{SE_{mx - my}} \\
 &= \frac{56,0625 - 74,25}{3,3592} \\
 &= \frac{-18,1875}{3,3592} \\
 &= -5,0633
 \end{aligned}$$

Notes:

$SE_{mx}$  : standard of error of X variable

$SE_{my}$  : standard of error of Y variable

$SE_{mx-my}$  : standard error between mean of X variable and Y variable

$\sum fx^2$  : the total number of square scores of X variable

$\sum fy^2$  : the total number of square scores of Y variable

t<sub>0</sub> : t observation  
n : the number of subject

#### **D. Discussion**

According to the result above, it could be concluded that QAR strategy is effective in the teaching of reading comprehension of descriptive text. Using this strategy gives more significant different score to students' reading comprehension compared to teaching reading comprehension using conventional teaching. It means that QAR Strategy is effective to teach reading comprehension on descriptive text.

Raphael developed QAR as a tool for clarifying how students can approach the task of reading texts and answering questions. It helps them realize the need to consider both information in the texts and information from their own background knowledge. Without QAR instruction, students often over rely on text information or background knowledge.<sup>38</sup>

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<sup>38</sup> Sa'dulloh Muzammil, *Journal of Linguistics, Literature & Language Teaching*. (JL3T. Vol. II, No. 2 December 2016), 107.

Then, students' ability in using higher order of thinking skills also increased. In higher order of thinking skills, the students are required to piece together information in the passage, add their prior knowledge and do a little speculating in order to answer the questions.<sup>39</sup> This higher order of thinking skills are used to answer *in my head question* types that divided into two, *Author and Me* and *on My own*. In *Author and Me*, the students are required to connect information from the passage with their background knowledge. While in *on My own* question, only their experience is needed to answer the questions. Connecting is one of skill in critical thinking. Students can propose their opinion differently by answering *in my head* QAR categorization. It caused by each student will have different background knowledge and experience. Based on the interview result, the students felt that answering that QAR categorization question was challenging. The Students' increasing ability in using this skill can be

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<sup>39</sup> Pamela J. Farris, Carol J Fuhler, and Maria P. Walther, *Teaching Reading: a Balance Approach for Today's Classroom* (New York: McGraw Hill, 2004), 326.

seen from the students' progress in doing QAR treatment task.

The next is it will be interpret and draw the conclusion. Based on the computation above, it was shown that the difference coefficient of students taught using question answer relationship strategy and the students taught using ordinary technique is 5,0633 ( $t_0$ ) and the t-table ( $t_t$ ) is 2.03.

From the data above, the researcher interpret that there was significance difference because  $t_0 > t_t$ , so  $H_a$  was accepted.

Based on the explanation about the result on the table above, the researcher could conclude that there was significant difference score in reading comprehension before and after being taught by using question answer relationship strategy. In other word, question answer relationship (QAR) strategy is effective to be used in teaching reading at the seventh grade students of SMPN 2Ponorogo in academic year 2019/2020.



**CHAPTER V**

**CLOSING**

**A. Conclusion**

Based on the results of data calculation, the researcher concluded that question answer relationship (QAR) strategy can improve students' reading comprehension score at the seventh grade of SMPN 2 Ponorogo in academic year 2019/2020. The students who are taught after using question answer relationship (QAR) strategy have a better score in reading comprehension.

The result of this research based on the statistic calculation indicated that the value of  $t_0 = 5,0633$  and the value of  $db = 31$  with significance level 5% is 2,03. Comparing the  $t_0$  with  $t_{table}$ , the researcher find that  $t_0$  is higher than  $t_{table}$ . The result showed that  $t\text{-test } (t_0) > t_{table}$  ( $t_0 = 5,0633 > 2,03$ ).

It can be said that question answer relationship (QAR) strategy was effective to be used in teaching reading comprehension at seventh grade of SMPN 2 Ponorogo in academic year 2019/2020.

## **B. Suggestion**

### **1. For teacher**

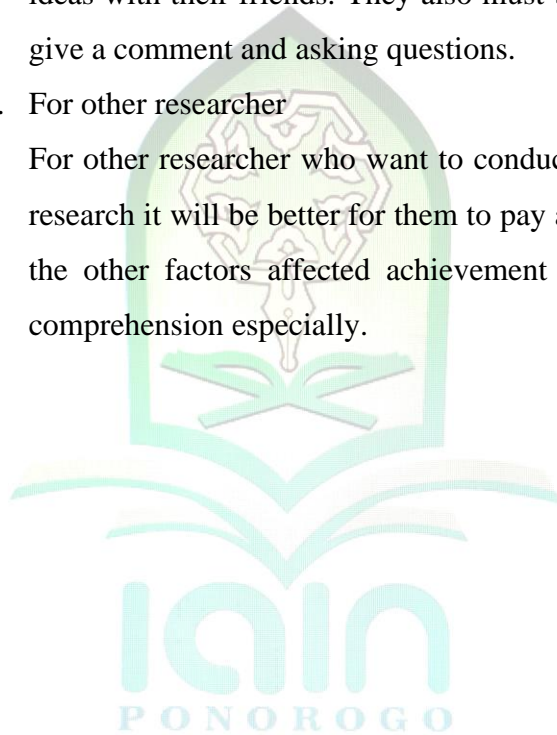
Teachers should know students' characteristic, especially in learning reading comprehension. They

also need to be creative. So that teacher can choose the right strategy to teach students in the class.

2. The students should be active in learning process in the class. They are hoped not be shy to share their ideas with their friends. They also must be brave to give a comment and asking questions.

3. For other researcher

For other researcher who want to conduct the same research it will be better for them to pay attention to the other factors affected achievement in reading comprehension especially.



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