ABSTRACT

Winarsih, 2016. *The Effectiveness of Schema Theory on Students' Reading Achievement at the Eighth year of SMPN 1 Jenangan Ponorogo in Academic Year 2015/2016.* A thesis, English Education Department, Faculty of Education, State Islamic College of Ponorogo (STAIN) Ponorogo. Advisor Andi Susilo, M. Pd.

Key words: Schema Theory, Reading Achievement

Reading is a basic tool of learning and one of the most important skills in everyday life. That is why students are able to master reading skill. In fact, most of students do not understand with the content of the text. Before reading, the teachers should have suitable steps of teaching reading. There should be a pre-reading step for activating their schemata to prepare students before they read the text. Hence,this study attempted to investigate the use of schema theory as one the way to help the students understanding the text.

This study applied quantitative research method. Quasi-experimental research design used to investigate the difference achievement in reading comprehension between students who were taught by applying schema theory and who were not taught by applying schema theory. The population of this research was the whole students of VIII class which amount 169 students. The sample was VIIIC as an experiment class consist of 24 and VIIIB as a control class which consist of 22 students. The sampling technique used in this research was cluster random sampling. The data were collected by test and documentation. To analyze the data, the researcher used statistic calculation of the t-test to determine the final calculation of t_o (T observation) that is done to measure the last score of the experimental class and control class by using statistic calculation of the t-test with significance degree 0.05.

The result of this research showed that the mean score of posttest from the experimental class was higher 84.06 than that of control class 78.19. It had been found that the comparison value (t_0) between students reading achievement who were taught by applying schema theory and who were not taught by applying schema theory was 4.97. This was higher than t_t value in the table, which was t_t = 2, 02 that in 5% signification level with db = 44. Its means Ha accepted. It means that schema theory was effective to facilitate the students' reading achievement at the eighth year of SMPN 1 Jenangan Ponorogo in academic year 2015/2016.

CHAPTER I

INTRODUCTION

This chapter presents the main issues of background of the study, limitation of the study, a statement of the problems, objective of the study, and significance of the study.

A. Background of the Study

Being able to read English text becomes essential for everyone, including students, in order to increase their knowledge.[1] This is because there are many kinds of written materials like books, magazines, and newspapers, which are written in English. Reading is a basic tool of learning and one of the most important skills in everyday life. That is why students are able to master reading skill. In fact, nearly all children begin school with the expectation they will learn to read, and one of the most important things a child is asked to do is to read. As a result, reading is considered as one of English skills that educationally the most important thing to be mastered.

Furthermore, there are two main reasons why people read such as for pleasure and information.[2] If students know that they can get pleasure from reading like reading a novel and comics in their own language, they may be able to make the connection that reading in general can provide pleasure. In other

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[1] Caroline T. Linse, "Practical English Language Teaching," Young Learners, ed. David Nunan (New York: McGraw-Hill ESL/ELT, 2005), 71.
[2] Ibid, 73.

hand, we read a book to get information such as reading to learn English, or reading to get information from magazine or newspaper. Finally, through reading we can get a lot of information, knowledge, enjoyment and even problem solution. Therefore, the ability to read the text in any form will give a great deal of advantages in our life.

Reading the texts also provides opportunities to study language: vocabulary, grammar, punctuation, and the way we construct sentences, paragraphs and texts. Moreover, good reading texts can introduce interesting topics, stimulate discussion, excite imaginative responses and be the springboard for well rounded, fascinating lessons.[3] Finally, students can improve their reading comprehension to read a text if they have all of the aspects of reading.

In teaching reading comprehension, there are three stages that should be done: pre-reading, whilst-reading, and post-reading.[4] The pre-reading stage is activities before reading or before students read a text to build word and background knowledge to improve students' abilities and remember the material presented in textbooks. This step is intended to trigger students' comprehension of the text. The teachers normally work on general aspects of the topic to elicit what students already know about the topic and make them ready for the new information.

Before reading, the teachers are also suggested to motivate students through activities that may increase their interest (book talks, dramatic readings,

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[3] Jeremy Harmer, How to Teach English (Malaysia: VVP, 1998), 68.

[4] Bambang, The Teaching English Language Skills and English Language Components, 56.

or displays of art related to the text), making the text relevant to students in some ways. It is also important to activate students' background knowledge of the content of the text by discussing what students will read and what they already know about its topic and about the text organization. Students, with some help from the teachers may establish a purpose for reading, identify and discuss difficult words, phrases, concepts in the text, and preview the text (by surveying the title, illustrations, and unusual text structures) to make predictions about its content, think, talk, and write about the topic of the text.

Whilst-reading stage is used to encourage students to be flexible, active readers also to promote a dialogue between the reader and the writer. In the whilst-reading or during reading stage, the teachers can generate appropriate strategies to help students in comprehending the text. Therefore, this stage is mostly dominated with discussions and activities that match students' interest that help the teachers gear the activities toward achieving the purpose.

Furthermore, post-reading stage is the last of reading comprehensions and often in the form of questions that follow a text, used to test understanding. At this stage, the students should be able to evaluate the text as a whole to respond to it from a more or less personal point of view. The teachers can conduct such activities such as scanning question, summarizing, learner's purpose, and following-up.

Nunan says that readers can build general knowledge to obtain a lot of information, which they need, for in reading, readers build a process of combining

information from a text and their background knowledge to build meaning.[5] It means readers must understand well about the text. If they master reading skill, they get information and say something to another. Thus, reading is an experience which related of mind or brain to get the meaning of the text. When they read, they will do something with what they have read.

In the process of reading, comprehension of a message entails drawing information from both the message and the internal schemata until the sets are reconciled as a single schema or message.[6] Bartlett suggests that the knowledge we carry around in our hand is organized into interrelated patterns.[7] These are constructed from our previous study experiences of the experiential world and guide us, we make sense of we make new experiences.

Schema theory comprehending a text is an interactive process between the reader's background knowledge and the text. Efficient comprehension requires the ability to relate the textual material to one's own knowledge. As Anderson points out, every act of comprehension involves one's knowledge of the world as well.[8] Moreover, Reading comprehension is a function of the nature of the text itself and the extent to which the reader possesses, uses, and integrates pertinent background knowledge, or schemata.

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[5] David Nunan, Practical English Language Teaching (New York: the Mc Graw-Hill Companies, Inc, 2003) , 69.

[6] Stott Nigel, Helping ESL Students Become Better Readers: Schema Theory Applications and Limitations,Journal (Fukuoka, Japan)

[7] David Nunan, Language Teaching Methodology (UK: Prentice Hall International, 1991),68.

[8] Biddulph Jeanne, The Guided Reading Approach: Theory and Research, (New Zealand: Learning Media Limited Published, 2002), 4-5

Schema theory explains how to make meaning occurs and how knowledge is stored and organized in the brain. According to Henk, the schema is knowledge structures in readers' minds, and these structures allow readers to connect new information with what they already know.[9] Moreover, when readers encounter new examples of things for which they have an existing schema, they are more likely to make meaningful connections with their new information than their schemata are lacking.

In general, reading can be seen as a receptive skill rather than a productive skill. It is because readers' task is just to read and not to make or to produce any product as the output of reading. Though most people have the same idea about what reading is, it is not fully correct. In fact, reading is not that simple. Being able to read a text is only a small part of reading skill. However, understanding a text or an author's message is the essence of reading, especially reading comprehension and it needs higher-order thinking in reading.

Reading problems are not just caused by schema deficiencies and the relevant schemata must be activated. Therefore, readers may come to a text with prior knowledge, but their schemata are not necessarily activated while reading so pre-reading activities must accomplish both goals: building new background knowledge as well as activating existing background knowledge.[10] Therefore, if students read the text in their own language, it is not difficult for them to read it,

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[9] Ibid,
[10] Stott Nigel, Helping ESL Students Become Better Readers: Schema Theory Applications and Limitations,Journal (Fukuoka, Japan)

but when they read it in a foreign language, they frequently encounter difficulties in reading.

Teachers should have suitable steps of teaching reading. There should be a pre-reading step to prepare students before they read the whole material.[11] Therefore, teachers should provide learners with various pre-reading activities that help them activate their background knowledge about the reading text because pre-reading activities was important. Besides that, the purpose of pre-reading activities are to motivate students to read the text and prepare them to be able to read it. Thus, the success of reading a text depends much on the activities in pre-reading phase.

From the facts above, the writer attempts to investigate the achievement in reading comprehension among students who are taught by using schema theory and who are not taught by using schema theory at the eighth year of SMPN 1 Jenangan Ponorogo in academic year 2015/2016. It is interested in conducting this study because pre-reading activities has not received the attention and is often overlooked by teachers. At this school, in practically schema theory has never been applied in teaching reading. Hence, it is essential to conduct this study under the title "The effectiveness of schema theory on students' reading achievement at the eighth year of SMPN 1 Jenangan Ponorogo in academic year 2015/2016".

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[11] Palita Thongyon and Thanyapa Chiramanee, The Effects of Pre-reading Activities on Reading Comprehension Ability, The 3rd International Conference on Humanities and Social Sciences April 2, 2011 Faculty of Liberal Arts, Prince of Songkla University Proceedings-Teaching Techniques.

B. Limitation of the Study

To avoid a deviation of the discussion, this study focuses on some concerns identified as follows:

1. The subject of the study is the eighth year of SMPN 1 Jenangan Ponorogo in academic year 2015/2016.

2. The object of this study is the effectiveness of schema theory toward students' reading achievement.

C. Statement of the Problem

Regarding to the background of the study, statements of the problems formulated as follows.

"Do the students who are taught by applying schema theory achieve better scores in reading comprehension than those who are not taught by applying schema theory at the eighth year of SMPN 1 Jenangan Ponorogo in academic year 2015/2016?."

D. Objective of the Study

Related to the statement of the problem above, the objective of this study is described as follows:

"To investigate the difference achievement in reading comprehension between students who are taught by applying schema theory and who are not taught by applying schema theory at the eighth year of SMPN 1 Jenangan Ponorogo in academic year 2015/2016."

E. Significance of the Study

The result of the study is to be beneficial for English teachers, students, and future researchers.

1. English Teachers

The research findings will give some contributions to the English teachers related to the teaching and learning process of reading. It is expected that from this study, reading is not seen as simply an activity to read the passages, but to comprehend the whole text to get the writer's message. In addition, the findings are expected that this result of this research to apply schema theory in teaching reading, hopefully teacher applying schema theory and will be useful opportunity to improve their quality of teaching English in general and teaching reading in detail.

2. Students

By involving their background knowledge in the teaching and learning process, it is expected that they are able to overcome their problems in comprehending the English texts and it can motivate them to read the texts to improve and gain more knowledge.

3. Future Researchers

The findings of the study can be served as a valuable reference related to the reading comprehension issue. In addition, to the future researchers who want to conduct this research or other skill, these findings are expected to be a beneficial reference. Beside that, some aspect can be adapted and can be improved.

F. Organization of the Thesis

This thesis consists of five chapters. They are introduction, review of literature, research methods, research result and closing. They are highlighted as follows.

Chapter 1 is introduction. It contains background of study, limitation of the problems, a statement of the problem, objective of the study, and organization of the thesis.

Chapter 2 is explanation the review of related literature. It contains of theoretical background, teaching, reading, reading comprehension, schema theory, previous research finding, theoretical framework, and hypothesis.

Chapter 3 is research methods. This chapter contains the research design, population and sample, instrument of data collection, techniques of data collection, and data analysis.

Chapter 4 is result. This chapter contains of a research setting, description of research location, descriptions and analysis of data, and the discussion of result of the study.

Chapter 5 is closing. This chapter contains of conclusion of the research and recommendation.

CHAPTER II

REVIEW OF RELATED LITERATURE

This chapter discusses theoretical background, previous research finding, theoretical framework and hypothesis. Those are preset led respectively in the following subheadings.

A. Theoretical Background

This theoretical background presents theories that related to this study. The theories reviewed include of reading, reading comprehension, and schema theory.

1. Reading

Reading is something many of us take for granted. We read with what appears to be little effort and little planning. In addition, it is remarkable that so much of the world's population can read. They can read basic forms, read advertisements, read newspapers, and use basic reading skills in their work and daily lives when needed.[12] Therefore, it is also important to recognize that many people around the world read in more than one language. We read something while sitting, others while walking, and others while driving.

Reading is not done in a vacuum. It is done within a social context. Therefore, the social context contributes to a reader's idea of what is the meaning of their activity. In other words, reading can be defined as an active process of getting meaning intended by the author from printed or written verbal symbols. During this

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[12]William Grabe, Reading in a Second Language Moving from Theory to Practice (New York: Cambridge University Press, 2009), 1s.

process, the reader combines his/her language skills and background knowledge of the real world to grasp the meaning.

Reading also integrates visual and non-visual information. During the act of reading, the visual information found on the page is combined with the non-visual information contained in the reader's mind to create meaning. In that way, what is the reader's mind is just as important as what is on the page in the process of creating meaning.

a. Definition of Reading

Reading is a process of readers, combining information from a text and their own background knowledge to build meaning. [13] In the same line mentioned that reading could be defined simply as making meaning from print. It means that the reader has the background knowledge, comprehension is high and correct inferences are made. If they do not have the prior-knowledge they will be distorted a meaning.

According to Hill, "reading is what the reader does to get the meaning he needs from textual source". [14] Bond and Wagner content that reading means as "the process of requiring an author's meaning of interpreting, evaluating and affecting upon those meaning". [15] Therefore, this process that goes on between the reader and the text, resulting in comprehension. The text presents letters, words, sentences, and paragraphs that encode the meaning.

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[13] Neil J. Anderson, David Nunan. Practical English Language Teaching: Reading. (New York: McGraw Hill, 2008), 2.

[14] Walter R Hill, Secondary School Reading Process, Program, Procedure (Boston; Allyn Bacon, 1979), 4.

[15] Guy L.Bond And Eva Bond Wagner, Teaching Child To Read (New York: The Macmillan Company, 1969), 4.

From statements above, the researcher concludes that reading can be called combine the information from background knowledge to get meaning also making meaning from the writer said in the text. Researcher thinks that reading is very important to have learned by children earlier. The children before mastering the other skills like listening, speaking, and writing must master Reading also as the first skill. So, if the children do not learn to read early, they will difficult to receive knowledge well. They will feel confused and cannot grow well in their lives.

b.   Components of Reading

Reading comprehension is the most complex aspect of reading. When a reader is actively engaged with a text, she is asking and answering questions about the story and summarizing what she has read. Reading is an astoundingly complex cognitive process. Here are five aspects to the process of reading: phonics, phonemic awareness, vocabulary, reading comprehension and fluency. [16]

1)   Phonics

Phonics is the connection between sounds and letter symbols. It is also the combination of these sound-symbol connections to create words. Without phonics, words are simply a bunch of squiggles and lines on a page. If you think about it, letters are arbitrary. Phonics through spelling focuses on connecting sounds with letters in writing. All of these approaches can be taught and used

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[16] http://www.k12reader.com/the-five-essential-components-of-reading/. Retrieved on 14 March 2016.

independently or in combination to help young readers learn to identify new words.

2) Phonemic **Awareness**

Phonemic awareness is closely related to phonics because both involve the connection between sounds and words. While phonics is the connection between sounds and letters, phonemic awareness is the understanding that words are created from phonemes (small units of sound in language). These may seem like the same thing, but there is a subtle difference in the two. Phonics is used only in writing, language because it involves letters. Phonemes are sounds only. While they can be represented using letters, they can also be simply the auditory sounds of words. Finally, phoneme blending requires the reader to connect a series of phonemes together to create a word.

3) Vocabulary

There are two primary ways of teaching and learning new vocabulary words. The first is explicit instruction. This involves someone telling you how a word is pronounced and what its meaning is. Context clues provides another method for discovering new words. They include other words in a sentence or paragraph, text features (i.e. Bold print, italics), illustrations, graphs and charts. Context clues are any item in the text that points to the definition of a new word.

4) **Fluency**

Fluency is a reader's ability to read with speed, accuracy and expression. While fluency is most often measured through oral readings, good readers also exhibit this skill when they are reading silently. A particularly suspenseful action

sequence moves quickly through your mind creating a palpable sense of tension. Fluent reader needs to be reading at least 200 words per minute with 70 percent comprehension.[17] Fluency is intimately tied to comprehension. A reader must be able to move quickly enough through a text to develop meaning.

5) Reading **Comprehension**

Reading comprehension is the culmination of all of the reading skills and the ultimate goal of learning to read. The purpose of mastery of each of the four previous skills is to enable comprehension.

c. **Parts of Reading**

A reading lesson, in which we intend to grasp meaning of new information based on what we already know, think or feel about the topic we are about to read, is divided into three stages based on the purposes of each stage, i.e. the pre-, whilst-, and post reading stage.[18]

1. The Pre-/Before Reading Stage

Pre-reading activity (warm up) its activities before reading or before students read a text to build word and background knowledge to improve students' abilities and remember the material presented in textbooks. This should increase all students' comprehension of the text.

In this stage, include discussing the author or text type, brainstorming, considering illustration and titles. In pre-reading activity, the teacher gives

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[17] David Nunan . Practical English Language Teaching. (New York : The McGraw Hill Companies, 2003).,76.
[18] Bambang Yudi Cahyono, The Teaching of English Language Skills and English Language Components (Malang: State University of Malang Press, 2010), 82-85.

motivation to the students by giving some question related to the topic with gives the visual aids of the text.

2. The Whilst-/During Reading Stage

The whilst is activity during the reading stage or the actual reading of the text. During this stage, students should be making sense of the text and connections. Students should be also practiced comprehension strategies and constantly relate to the text.

We generally read a text with some purpose or interest in mind. One important purpose is for the teacher to model good reading strategies such as identifying main ideas, guessing meaning of unfamiliar words in context, and so on.

3. The Post-/After Reading Stage

The post/after-reading activity is the last of this stage. When the whilst-/during the reading stage is completed, the students are expected to have obtained new information from the text.

At this stage, the students should be able to evaluate the text as a whole to respond to it from a more or less personal point of view. Common post-reading activities are creating stories or end of stories, producing post-test, reconstructing texts, and questioning texts or views of the writer.

d. Kinds of Reading Skill

All the models of reading that have been looked at so far have been designed with careful reading in mind. In fact, many of the models of reading that have surfaced in the literature to date have been mainly concerned with careful

reading. There are five kinds of reading: Search reading, Skimming, Scanning, Careful reading (at the global level) and Browsing.[19]

1) Skimming

This is a reading for gist. Reading schemes like SQ3R recommend starting the reading to learn the process with skimming, so that the reader has a framework to accommodate the whole text.

2) Search reading

In the locating information on predetermined topics, the reader wants information to answer set questions or to provide data, for example, in completing assignments.

3) Scanning

This is a reading selected, to achieve very specific reading goals, e.g. finding the number in a directory, finding the capital of Bavaria. The main feature of scanning is that any part of the text that does not contain the preselected symbol (s) is dismissed. It may involve looking for specific words/phrases, figures/percentages, names, dates of particular events or specific items in an index.

4) Careful reading

This is the kind of reading favored by many educationalist and psychologists to the exclusion of all other types. It is associated with reading to learn, hence with the reading of textbooks.

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[19] A.H. Urquhart and C.J. Weir, Reading in a Second Language: Process, Product and Practice (London: Longman, 1998), 100-104.

5) Browsing

We have added a type 'browsing' to describe the sort of reading where goals are not well defined, parts of a text may be skipped fairly randomly, and there is little attempt to integrate the information into a macrostructure, so we can browse through virtually any text, given only that it consists of more than a few words.

e. Purpose of Reading

Reading has purposed to find information or meaning from the text. The readers read the text with their background knowledge to find the meaning which they want to know.

Reading has purposed to find information, such as material and meaning the written. There are:[20]

1. Reading to search for simple information

2. Reading to skim quickly

3. Reading to learn from texts

4. Reading to integrate information

5. Reading to write

6. Reading to criticize texts for general comprehension

In conclusion, reading has many purposes that must be known by the students in learning English to make their reading success.

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[20] William Grabe and Fredericka. Stoler, Teaching and Researching Reading.(London: Longman Inc, 2002), 9.

f. Models of Reading

1. Bottom – Up Model

It suggests that all reading follows a mechanical pattern in which the reader creates a piece by-piece, mental translation of the information in the text, with little interference from the reader's own background knowledge.

2. Top –Down Model

It is assumed that reading is primarily directed by reader goals and expectation.[21]

3. Interactive Model

It is a general metaphorical explanation. The simple idea behind this view is that one can take useful ideas from top-down view.[22] This model combines element of both bottom-up and top down model of reading to reach comprehension.

g. Strategies for Developing Reading

The teacher needs to develop students' reading skill so that they can apply various reading strategies, based on particular purpose:

a) Pre-Reading Stage, readers are helped to deal with the text through some sort of familiarization activity, rather than being given a text 'cold' and the answering comprehension question

b) While-Reading Task allows readers to interact with a text, and motivate them to be active as they read.

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[21] Ibid, 3.
[22] Ibid., 33.

c) Post-Reading Task will focus on follow-up extension work, usually based on something arising from the text itself, which encourage student to check the things they did while reading.[23]

2. Reading Comprehension

a. Definition of Reading Comprehension

Comprehension was once seen as a passive process in which the reader's main mission was to grasp the author's message.[24] Indeed, comprehension means understanding deeply the text. Comprehension is an active process in which plays a very active role, constructing meaning base on his or her cultural and experiential background, purpose for reading, and the overall setting.[25] The most widely accepted descriptive reading is schema theory. Comprehension is an active, constructive process that actives schema.

Anderson stated that learner comprehends a message when is able to bring mind schema that gives a good account of the object and the events described in the message. Ordinarily, comprehension proceeds so smoothly that cutting and fitting a schema in order to achieve a satisfactory account of a message. It is instructive, therefore, to try to understand the material that gives us pause, so that readers that reflect upon minds at work. In reading comprehension, a complex

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[23] Peter Lucantony, *Teaching and Assessing Skill in English as a Second Language* (New York: Cambridge University Press, 2006)

[24] Thomas G.Gunning, *Assesing and Correcting Reading and Writing Difficulties* (USA: Pearson Educational inc,2010), 352

[25] Ibid.

behavior involves understanding in reading through some ways, particularly in pre reading activities.

According to Pearson and Johnson, "reading comprehension is unitary process and a set of discrete process of comprehension."[26] Reading comprehension is the process of simultaneously extracting and constructing meaning through interaction and involvement with written language.[27] We use the words, extracting and constructing to emphasize both the importance and the insufficiency of the text as a determinant of reading comprehension.

According to burn basic comprehension units in reading as follows[28]:

1) Word

Student's sight vocabularies should be increasing from word they already, comprehend, words that are a part their meaning vocabularies.

2) Sentences

Students may find complicated sentences difficult to understand, so they need to know way to attack them, or derive their meaning.

3) Paragraphs

Paragraphs are group of sentences that serve a particular function within a whole selection or passage. They may be organized around a main idea or topic. Understanding their function, their genera organization and the relationship between the sentences in paragraph is important to read comprehension.

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[26] Paul C and Burn et.al, *Teaching Reading in Today's Elementary Schools* (US: Wesley Publising Company, 1990) 148.

[27] Danielle S. McNamara, Reading Comprehension Strategies: Theoris, Interventions, and Technologies, ed, (USA: Lawrence Erlbaum Associates, 2007), 6. Or www.erlbaum.com.

[28] Paul C and Burn et.al, *Teaching Reading in Today's Elementary Schools* (US: Wesley Publising Company, 1990) 150.

4) Whole selection

It is entire selections, which consist of words, sentences, and paragraphs, and that understanding of the whole selection depends upon understanding the smaller units. The reader is primarily trying to extract information from the text and form the basis of reading the students can understand how to make sentences and paragraphs.

b. The purpose of Reading Comprehension

Commonly, reading comprehension has many purposes are:[29]

1. To find out how do or make something

2. To get detailed information, especially from a familiar material

3. To judge or criticize ideas

4. To obtain pleasure and appreciation

5. To broaden your general knowledge and experience

6. To find the key sentence, phrase, or word

7. To find answers to specific questions

8. To get trend or organization of thought as it appears in an article, chapter, or book.

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[29] Paul Wilty, How to become Better Reader (USA: Science Research Associates, 1953), 49.

3. Schema theory

a. Definition of Schema Theory

Schema theory is a theory of how knowledge is acquired, processed, and retrieved. The schema is the technical term used by cognitive scientists to describe how people process, organize, and store information in their heads. Schemas, or schemata, are seen as cognitive constructs by which we organize information in our long-term memory.[30] By building background knowledge, we can increase students' understanding of texts. Cultures and experiential knowledge gaps can create the impression of a language barrier, when it is simply that the student lacks the appropriate schema.

The fundamental tenet of schema theory assumes that written text does not carry meaning by itself. Rather, a text only provides directions for readers as to how they should retrieve or construct meaning from their own previously acquired knowledge. This previously knowledge is called the readers' background knowledge (prior knowledge), and the previously acquired knowledge structures are called schemata.[31] It meant that it is relating what we do not know, or new information to what we already know.

The main point of schema theory is one need to connect new things with those known concepts, past experience, or background knowledge, to understand new things. Understanding and interpretation of new things depend on the existing

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[30] Al-Issa,Ahmad, Schema Theory And L2 Reading Comprehension: Implications For Teaching, Journal of College Teaching & Learning – July 2006.

[31] Shuying An, Schema Theory in Reading, Journal Changchun University of Science & Technology, Changchun, China,January 2013.

schema in mind and the input information must match the existing schema.

Kerlinger stated that:

"A theory is a set of interrelated constructs (concepts), definition, and preposition that present a systematic view of phenomena by specifying relation among variables, with the purpose of explaining and predicting the phenomena. In this case, theory covers phenomena systematically and generally".[32]

Rumelhart proposed three possible reasons why readers cannot understand a text are:[33]

1. Readers lack proper schema. Under this condition, readers cannot understand the meaning contained in the text at all.

2. Readers may possess adequate schema, but the author does not provide enough clues to activate the schema. Therefore, readers still cannot get the meaning. If an adequate clue is provided, readers can understand the text.

3. Readers interpret the text in a consistent way, but deviate from the author's intention. Under this condition, readers seem to understand the text, but misunderstand the author's intention.

b. **Background Knowledge**

Pittelman and heimlich described that background knowledge as an individual life experiences the knowledge of the world acquired through his/her life.[34] Background knowledge of people is different which depend on their experience. While the readers read the text, spontaneously their background or

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[32] Basrowi & Suwandi, Memahami Penelitian Kuantitatif, (Jakarta Rineka Cipta,2008), 37.

[33] http://www.readperiodicals.com/2011001/2015988461.tml, Accesssed on 03 January 2016.

[34] Majid Pour-Muhammadi, "Test-Taking Strategies: Schema Theory And Reading Comprehension Test Performance", International Journal Of Umanities And Social Science, 239.

prior knowledge contributes to understanding the text. Building background knowledge will activate schema theory.

Stevenson and Anderson discovered that when readers have the background knowledge assumed by the writer, comprehension is high; correct inferences are made. [35] If they do not have the background knowledge, they distort meaning as they attempt to adjust the writer's intent to their knowledge of the world.

Yang specified that background knowledge involves six dimensions as follows:[36]

1. Dynamic in nature

2. Available before a learning task

3. Structure in human mind

4. Exist in multiple states (declarative, procedural, and conditional)

5. Explicit and implicit in nature

6. Conceptual and met cognitive knowledge components

Overall, it can be concluded that prior knowledge facilitates not only better readers, but also poor readers reading comprehension. Building background knowledge is important because it is naturally in the human brain.

c. The Function of Schema Theory

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[35] Gebhard, jerry G, Teaching English as a Foreign or Second Language, (The University of Michigan Press), 199.

[36] Ibid, 239-240.

The readers' schema theory influence both learning and remembering of the information and ideas in a text. According to Anderson, there are six functions of activating schema theory as follow:[37]

1. A schema provides additional scaffolding for assimilating text information.

2. A schema facilitates selective allocation of attention.

3. A schema enables inferential elaboration.

4. A schema allows orderly searches of memory.

5. A schema facilitates editing and summarizing.

6. A schema permits inferential reconstruction.

Thus, our knowledge and experiences related to key ideas in the text we read influences what we learn and remember about what we read.

d. Types of Schema Theory

According to the nature of contents, different types of schemata have been suggested: 1. Formal schemata, relating to the rhetorical structure of the text; 2. Content schemata, relating to the content of a text read; and 3. Cultural schemata, more general aspects of cultural knowledge shared by larger sections of a cultural population, 4. Carrel had also added linguistic schemata.[38]

1. Formal schema

A formal schema refers to "background knowledge of the formal, rhetorical organizational structures of different types of texts". In other words, a formal schema refers to the knowledge of the ways in which different genres are

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[37] Rudell, Et, Al, *Theoritical Models And Processes Of Reading*, 473-474.

[38] Shuying An, *Schema Theory in Reading*, Journal Changchun University of Science & Technology, Changchun, China,January 2013.

presented, with reference to Richards, they point out that schema or macro-structure refers to file underlying structure, which accounts for the organization of a text or discourse. Different kinds of texts and discourse (e.g. Stories, description, letters, reports, poems) are distinguished by the ways in which the topic, propositions, and other information are linked together to form a unit.

2. Content schema

    Content schema refers to "background knowledge of the content area of the text". It contains conceptual knowledge or information about what usually happens within a certain topic in addition, relates to each other form a coherent whole. It is an open-ended set of typical events and entities for a specific occasion.

3. Cultural schemata

    Richard et al defines culture as "the total set of beliefs, attitudes, customs, behavior, social habits, etc., of the members of a particular society". Rivers and Temper call cultural knowledge "socio-cultural meaning" which is "meaning which springs from shared experiences, values and attitudes".

4. Linguistic schema

    Linguistics schema refers to the knowledge about vocabulary and grammar. It plays a basic role in a comprehensive understanding of the text.

e. **Applications of Schema Theory in Reading**

    Carrel said that numerous ways in which relevant schemata may be constructed, including lectures, visual aids, demonstrations, real-life experiences, discussion, role-play, text previewing, introduction and discussion of key

vocabulary, and key-word/key-concept association activities.[39] Examples of such contextualization include, for example, showing pictures of a city before asking the students to read a text about that city, or playing a video clip from a film adaptation of the novel the class is about to study. Although helpful, these pre reading activities are probably not sufficient alone and teachers will need to supply additional information.

f. The Advantages of Schema Theory

Hansen stated that pre-reading activities have advantages to prepare native speakers for the concepts that follow, but making the reading task easier and connecting the new concept more meaningfully to prior knowledge, pre-reading activities make reading a more enjoyable task. Pre- readings, activities are thus intended to activate appropriate schema theory include the knowledge structures or provide knowledge that the reader lacks.[40]

By pre-reading activities, support the student to link his/her background knowledge with concepts in the text is to set to set up appropriate expectations about the language and content of the passage.[41] Background knowledge of people is different which depend on their experience. While the readers read the text, spontaneously their background or prior knowledge contributes to understanding the text. Building background knowledge will activate schema theory by pre reading is very important.

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[39] Carrel and Eisterhold. 1987. Schema Theory and ESL Reading Pedagogy. TESOL Quarterly, vol 21 no 3.

[40] Mino Elemi & Saman Ebadi, "The Effects Of Pre-Reading Activities On ESP Reading *Comprehension"*, Journal Of Language Teaching and Research, (Online), Vol. 1, No.5, September 2010, 569.

[41] http://readingmatrix.com/articles/alyousef/article.pdf. Accessed on 23 December 2016

Pre-reading activities have many advantages as follow:[42]

1. To activate the students' knowledge of the subject

2. To provide any language preparation that might be needed for coping with the passage.

3. To motivate the learners when they read the text.

4. To help the students feel confident that they have prior knowledge about the text.

5. To promote the student engagement and interest by providing them with means to preview and anticipate the text.

6. To comment on the visual.

7. To draw students' attention to the new vocabulary.

8. To set the scene.

9. To talk about the title of the text.

Therefore, activating schema theory in pre-reading activities helps the students to understand the material because the teacher gives them new concept of prior knowledge. Pre-reading activities contribute the students to read the material and do the task easily. The students will more enjoyable in teaching reading in the class.

B. Previous Research Finding

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[42] http://edergi.atauni.edu.tr/index,php/SBED/article/viewfile/123/117. Accessed on 4 January 2016.

Various researches' have been made whether to investigate to observe the role of schemata in students reading comprehension achievement or to investigate its effectiveness in teaching reading.

Findings related some research with the effectiveness of schema theory in reading comprehension. Nurmilasari presented one of the researches. This research conducted a qualitative study to know the role of schemata in pre-reading activity.[43] This study was conducted in tenth of SMKN 1 Ponorogo by involving of RPL (Rekayasa Perangkat Lunak) 1 and 2 classes in reading class as the research subject. The result of the study revealed that by activating schema, the students would comprehend the material. In addition, pre-reading activities stimulate students to be enthusiasm in reading comprehension. Therefore, the goal of teaching and learning is fulfilled.

Another research that similar to this research was the thesis from Dewi under the title "Improving the reading comprehension using schema activation strategy".[44] The researcher applied Classroom Action Research (CAR) as the method of the research. The subject was the students of the class VIII C of SMP N 1 Mlati, Sleman. There were thirty students in class VIII G. There were two forms of data in this research. The qualitative data were collected through observation and interview. Then, the quantitative data were collected through Pre-test, Achievement test I, Achievement test II, and Post-test. The result of this research showed that there was

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[43] Dila Nurmilasari, "Activating Schema Theory Through Pre-Reading Activities In Reading Comprehension To The Eighth Grade Students Of SMKN 1 Ponorogo In Academic Year *2011/2012"*, (Thesis STAIN Ponorogo, 2012).

[44] Kurnia Citra Dewi,"Improving the Reading Comprehension of Grade VIII Students at SMP N 1 Mlati Using Schema Activation Strategy in the Academic Year of 2013/2014, (Thesis Undergraduate Theses from Yogyakarta State University, 2014), Available of eprintts.uny.ac.id/19182/1/1kurniacitradewi09202244044.pdf, Retrivied on 1 April 2016.

successfully improved in students reading comprehension after implementing of schema activation strategy. The students 'interest and attention in the process of teaching and learning English, especially reading, reading improved. They were also able to explore many words related to the topic of the lesson.

The other research that similar to this research by Abdelaal and Sase. This study investigates the relationship between prior knowledge and reading comprehension in second language among postgraduate students in University Putra Malaysia.[45] Participants in the study were 20 students who have the same level in English as a subject. The results of this study revealed that showed a significantly higher relationship between the high prior knowledge and reading comprehension. The obtained results are found to be highly significant .However, before performance of students in a reading comprehension with high prior knowledge was significantly better than reading comprehension with low prior knowledge.

Another previous research finding was journal from Radzi and Aziz.[46] The study aims at Exploring Content Schemata Influence on L2 learners' Comprehension. This research conducted a qualitative study of a short story entitled, Twelve and Not Stupid by Zuraidah Omar. The 150-word entry response

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[45] Noureldin Mohamed Abdelaal and Amal Saleh Sase, "Relationship between *Prior Knowledge and Reading Comprehension",* 2014. Available of http://dx.doi.org/10.7575/aiac.alls.v.5n.6p.125. pdf. Retrieved on 14 Feb 2016.
[46] Amizura Hanadi Mohd Radzi, Noor Hashima Abd Aziz, "Exploring Content Schemata *Influence on L2 learners' Comprehension of Zuraidah Omar's, Twelve and Not Stupid",* The International Conference on Communication and Media 2014 (i-COME'14), 18-20 October 2014, Langkawi, MALAYSIA, Retrivied on 1 April 2016.

from each participant and the interview data gathered from the in-depth interviews were analyzed to determine whether content schemata had influenced the learners' understanding of the text. This study revealed that content schemata had influenced the learners' understanding of the text as learners' comprehension was facilitated by their background knowledge of the content area of the text.

Moreover, the research finding related to the previous study journal was from Azizifar, Roshania, Gowhary, Jamalinesari. The study to know the Effect of Pre-reading Activities on the Reading Comprehension Performance.[47] The subject of research consisted of 60 grade- 10 students studying at Omol Habibeh high school in Ilam, Iran. The design of the study is two groups were given different pre-reading activity, guessing reading content from asking pre-reading questions and vocabulary definition, respectively. The result of the study is the obtained results are found to be highly significant. It was found that the group receiving guessing meaning from pre-reading questions performed better that their counterpart who experienced vocabulary definitions and satisfied with the activity they experienced.

The last previous research finding was from Puti.[48] The research was aimed at improving the students' comprehension ability by activating their schemata. This research conducted an action research. The subjects of the research

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[47] Akbar Azizifar, Soghra Roshania, Habib Gowhary, Ali Jamalinesari, "The Effect of Pre-*reading Activities on the Reading ComprehensionPerformance of Ilami High School Students"*, (2nd Global Conference on Linguistics and Foreign Language Teaching, Linelt-2014, Dubai – United Arab Emirates, December 11 – 13, 2014), Retrivied on 1 April 2016.

[48] Hadrian Priangga Puti, "Improving the Reading Comprehension Ability of Grade VIII B Students of SMPN 1 Gamping in the Academic Year of 2013/2014 by Activating Their *Schemata"*, Undergraduate Theses from Yogyakarta State University, 2014), Available of http://eprints.uny.ac.id/19235/1/Hadrian%20Priangga%20Puti%2009202241024.pdf, Retrivied on 1 April 2016.

were 31 students of Class VIII B of SMPN 1 Gamping. The results of the research showed that using students' schemata was effective to improve students' reading comprehension ability.

Related to this research, these research findings become valuable contribution and reference to the researcher. The researcher realizes well that applying an appropriate teaching technique is one of the factors that determine the success of teaching reading. The technique used should be a communicable material to helping the students to comprehend the text.

C. Theoretical Framework

Reading is an activity to understand the texts and to get some information and knowledge. In getting the meaning from the text, the students need comprehension strategy. It means that the major goal for reading activities is comprehension. Therefore, the teachers must guide their students in providing strategies to engage them prior to reading and finally the students will be more pertinent to comprehend.

There are three stages of reading comprehension, they are pre-reading, while reading and post reading. Before reading, the teacher must build the background knowledge of their students; therefore, they use pre-reading activity to activate their schemata. Pre-reading are stage that it will help the students to easily understand the text. Commonly, Students use their prior knowledge to understand information and apply their knowledge to new facts.

Pre-reading activities are thus intended to activate appropriate the knowledge structures or provide the knowledge that the reader lacks. The present study intends to investigate the effects of pre-reading activities for comprehension of engineering students. It is hypothesized that employing the pre-reading activities would significantly improve student's ability in comprehension.[49] Therefore the importance of pre-reading activities in building of related information in such a way that the new material is easily assimilated into the learner's existing field of their knowledge.

This research is experimental research, with the effectiveness of schema theory at the eighth grade students of SMPN 1 Jenangan Ponorogo in academic years 2015/2016. The research used schema theory to get better of reading comprehension achievement. After that the researcher observed this process to know, is there any significant difference in achievement between students taught schema theory and not being taught schema theory at the eighth grade students of SMPN 1 Jenangan Ponorogo in academic year 2015/2016.

This research consists of two variables:

X : Schema Theory

Y : Students' Reading Comprehension Achievement

The researcher assumes that pre-reading technique by using schema theory at the eighth grade students of SMPN 1 Jenangan is effective to achieve better score in reading comprehension.

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[49] Alemi Minoo, Abadi Saman, The Effects of Pre-reading Activities on ESP Reading Comprehension, (ACADEMY PUBLISHER Manufactured in Finland, September 2010) Journal of Language Teaching and Research, Vol. 1, No. 5, pp. 569-577 doi:10.4304/jltr.1.5.569-577

D. Hypothesis

A hypothesis is a temporary answer to the problem of theoretical research that is considered most likely and highest levels were correct.

There are two hypotheses:

Ha : The students taught by applying schema theory will achieve a better score in reading comprehension than the students not being taught schema theory at the eighth year students of SMPN 1 Jenangan Ponorogo in academic year 2015/2016.

Ho : The students taught by applying schema theory will not achieve a better score in reading comprehension than the students not being taught schema theory at the eighth grade students of SMPN 1 Jenangan Ponorogo in academic year 2015/2016.

Hypothesis in this research is: Ha: The students taught schema theory will achieve a better score in reading comprehension than the students not being taught schema theory at the eighth grade students of SMPN 1 Jenangan Ponorogo in academic year 2015/2016.

BAB III

RESEARCH METHODS

The research method covers a set of research activities. It involves research design, population and sample, instrument of data collection, techniques of data collection, and technique of data analysis.

A. **Research Design**

This study applied quantitative research method. Quantitative research emphasizes precisely measuring variables and testing hypothesis that link to a general causal explanation.[50] It means that to analyze the data the researcher used statistical calculation. In particular, this research applied experimental research to found the causal relation.

Experimental research manipulated and controlled the cause variable and proceeds to observe the change in the effect variable. Moreover, experimental research is research to assess the effect of a treatment or educational treatment such as students' behavior or to test hypotheses about the influence of action there and when compared to other measures.[51] Base of explanation the general-purpose experiment study is to evaluate the effects of a particular treatment for the symptoms of a particular group compared with other groups that use different treatment.

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[50] W. Laurence Newman, Social Research Methods: Qualitative and Quantitative Approaches, (USA: Allyn and Bacon, 1991), 122.

[51] Jack Fraenkel and Norman Wallen, How to Design & Evaluate Rearch In Education (San Fransisco: Mc Graw Hill companies, 2000), 212.

There are four kinds of experiment such as pre experiment, true experiment, quasi experiment, and ex post de facto.[52] In this research, the research employed quasi-experimental and used Nonequivalent (pre-test and post-test) control group design. Quasi-experimental research is a research that directly attempts to influence a particular variable, and when properly applied, it is the best type for testing hypothesis about the cause-effect relationship.[53] This design was assumed to meet with the aim of this research that is to know whether there is a significant difference of the students' achievement that is given by using certain treatment.

The research design is as follows:

E O1 → X → O2

K O3 →   O4
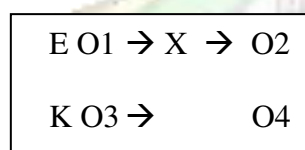
Notes:

E   :   experiment class (the students who are taught using schema theory)

K   :   control class (the students who are taught lecturing method)

O1   :   pre test for the experiment class

O3   :   pre test for the control class

X   :   treatment

O2   :   post test for the experiment class after using schema theory

O4   :   post test for the control class after using conventional methods.[54]

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[52] M. Adnan Latief, Research Methods On Language Learning An Introduction (Malang: UM Press, 2012) 92.

[53] Jack Fraenkel and Norman Wallen, How to Design & Evaluate Rearch In Education (San Fransisco: Mc Graw Hill companies, 2000), 283.

[54]Suharsimi Arikunto, Prosedur Penelitian Suatu Pendekatan Praktek. (Jakarta: Rineka Cipta,1992), 79.

There were two groups of subjects, which were required in this research; they were experimental group and control group. Each group was subject to a different treatment. The experiment and the control class must be parallel. It means the student of those classes was the same capability and achievement in reading. These classes were chose based on the English teacher's recommendation who knows their capability exactly. In this research was used experiment to know the effectiveness of schema theory in teaching reading. Here, there were two variables, schema theory as dependent variable and teaching reading as independent variable.

The goal of the research design, which uses schema theory in teaching reading, is to know this theory is effective or not to be applying in teaching reading. These are three steps:

1. Pre Research Step

Here, the researcher must prepare the data, which is need before starting the research. Firstly, determine between experimental and control class, lesson plan, and instrument.

2. While Research Step

For this step, the researcher applies schema theory in experiment class, and conventional method in control class. Data will be conduct from pre test and posttest.

3. Data Analysis Step

In this section, the researcher will analyze data, which are gotten.

a. Collect the posttest score from experimental and control class.

b. Test the data to t-test.

T-test is the one of statistic tests, which used to test the correctness or error of null hypothesis, which declare that between two mean of the samples, which take randomly from the same population, there is no significant difference.[55] The null hypothesis was used to know the effectiveness of schema theory on students' reading achievement at the eighth year students of SMPN 1 Jenangan Ponorogo in academic year 2015/2016. Before doing a t-test, the researcher must found the other result, they are; mean, standard deviation, and standard error from each variable.

B. Population and Sample

1. Population

Population research is object as a target to get and to collect data.[56] According to Suharsimi Arikunto, the population is the subject of study or group of subjects that would be a subject to generalize the study results.[57] From these statements, population is a group of students that will be observe.

In this research, the population was the eighth year students of SMPN 1 Jenangan Ponorogo. There were seven classes with total number 169 students. For those classes, the researcher chooses two classes of the eighth year as experiment class and control class. To select samples, the researcher taken a reading test data that was done by the teacher. Then, from the results of reading scores, the

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[55]Retno Widyaningrum, Statistika (Yogyakarta: Pustaka Felicha, 2011), 153.
[56]P. Joko Subagyo, Metode Penelitian Dalam Teori dan Praktek. (Jakarta: PT RINEKA CIPTA ,2004),23.
[57]Suharsimi Arikunto, Prosedur Penelitian Suatu Pendekatan Praktek. (Jakarta: Rineka Cipta, 2002), 130.

researcher measures the means and standard deviation of the classes to know whether the classes had similar characteristics of capability.[58]

2. Sample

The part of the population is called as samples, which considered representing that population.[59] The Sample is smaller than the total of the population. Based on the statement, sample was used to make the process of data collection more effective, efficient, and objective conducted. Thus, sampling technique is a procedure of taking part of the population would be use as the sample. In this research, a cluster random sampling was used to determine the sample.

According to Margono, cluster random sampling or sample area (group) is determined based on the sampling areas or groups that exist in the population such as school, class, region, and not individual.[60] According to Charles in Latief, cluster technique, sampling involves the random selection of groups that already exists.[61] This study choose this sampling technique because cluster random sampling was easier in the implementation and manageable than with others technique. Moreover, the researcher could limit the time, energy, and fee.

They were only two classes that consider homogeny or had similar abilities. They were B and C classes. From those classes, classes would be as experiment class and control class by used a lottery technique. The result reveal

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[58] See Appendix 2

[59]P. Joko Subagyo, Metode Penelitian Dalam Teori dan Praktek. (Jakarta: PT RINEKA CIPTA ,2004),23.

[60] S. Margono, Metodologi Penelitian Pendidikan (Jakarta: PT Rineka Cipta, 1997), 127.

[61] Mohammad Adnan Latief, Research Methods on Language Learning An Introduction (Malang: UM Press, 2013), 185.

that class C became an experimental class consists of 24 students and class B as a control class consists of 22 students. Meanwhile, for validity class chooses another class that was almost same level scores that was D class. Validity class was used to measure the validity of tests. In this study, the researcher used content validity. It means that a measuring instrument was deemed valid if it was in accordance with the curriculum to be achieved. Therefore, before the data was test to experiment class and control class, it should be test for its validity.

C. Instrument of Data Collection

The instrument is a tool that uses for collecting data in order that they works easier, the result is better, accurate, complete, and systematic, so that the data are easy to be process.

Data is the most important thing in the research. To get the data, the researcher has to arrange the instrument and technique data that are need to collect the data. In this study used, the standard procedures for making test constructed the test. The test was divided into two parts. They were pre-test and post-test. The pre-test was directed at the beginning study before the treatment. Post-test was to gain information about the student achievement after the treatment process finished.

In this research, used reading comprehension test which prepared by the researcher to found out the effectiveness of schema theory. The form test was objective. There were 20 multiple choice items with 4 themes by taken 60 minutes

to completed it.[62] The test measure the student's ability in reading comprehension achievement that had previously taught by the teacher.

According to Suharsimi Arikunto a good instrument must fulfill with two important requirements, they are valid and reliable. Therefore, instrument test use two tests, the first test is test of validity and the second test is test of reliability.

1. **Test of Validity**

By far most complex criterion of an effective test and arguably the most important principle is validity, "The extent to which inferences made from assessment results are appropriately meaningful and useful in terms of the purpose of the assessment".[63] To determine the internal validity of an instrument, the researcher uses formula Karl Pearson product moment.

$$\text{rxy} = \frac{n\Sigma XY - (\Sigma X)(\Sigma Y)}{\sqrt{(n\Sigma X^2 - (\Sigma X)^2)(n\Sigma Y^2 - (\Sigma Y)^2)}}$$

Information:

rxy   = Coefficient correlation between variable x and y

N   = Total Respondent

ΣXY = Total product score with score total

ΣX = Score items total

ΣY = Score total

$(\Sigma X)^2$ = quadrate score items total

$(\Sigma Y)^2$ = quadrate score total

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[62] See Appendix 1
[63] Douglas Brown, Language Assessment Principal and Classroom Practices (New York: Longman, 2000), 22.

It is very important to test the validity of our instrument before we are going to hold the research. Because when our instrument is valid, the data gained are accurate and valid.

2. Test of Reliability

In reliability using formula as follow:

$$rxx = \frac{K}{K-1}\left(\frac{s_x^2 - \Sigma pq}{s_x^2}\right)$$

Information:

rxx : reliability of the whole test

K : number of items on the test

S_X^2 : variance of scores on the total test (acquired standard deviation)

P : proportion of correct responses on a single item

Q : proportion of incorrect responses on a single item

To test the validity and reliability of the instrument, the researcher taken a sample of 24 respondents and used 20 items for reading comprehension test.[64]

D. Technique of Data Collection

Data collection, there were two techniques employed to collect the data in this study. They were test and documentation. The test was used to gain primary data. Meanwhile, documentation was conducted to fulfill the supporting data.

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[64] See Appendix 3

1. Test

In this research test was used to gather data about students reading comprehension achievement. It was used to analyzed whether any significant difference about the applying schema theory in the eighth year of SMPN 1 Jenangan Ponorogo in academic year 2015/2016."

Furthermore, in testing reading, the students were asked to answer some questions relating to the texts that were given by the teacher. Reading test was the used of the pre-test and post-test not only to measure the students' comprehension competence in reading but also to collect the data.

The comprehension of main ideas, inferences, and the information stated in the passage, pronoun referents was assessed in the reading test. The information limits only in narrative text, and recount text. This research chooses traditional multiple-choice questions to evaluate students' reading comprehension. The numbers of each test was twenty.

2. Documentation

Documentation defined as documents used as evidence or proof.[65] Thus, documents are official paper that gives information or evidence. Therefore, documentation is a kind of important technique to get the data about everything, which is in the form of notes, transcript, book, newspaper, and so on.

In this research, the documentation was used to gotten the data about students' names, vision, mission, goals, facilities, infrastructure, and organization structure of SMPN 1 Jenangan Ponorogo.

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[65]A. S. Hornby, *Oxford advanced Learner's Dictionary of* Current english. (New York: Oxford University Press, 1987), 132.

E. Technique for Data Analysis

The analysis method is used in research is a statistic inferential technique. It uses to prove the probability theory, where it is also used for data analysis for explanation aims. In this case, for counts the data to answer statements of the problem and to test the hypothesis.

In this study, the researcher applied a Quasi-experimental research to compared the mean score of experimental group was taught by applying schema theory. Control group was taught by applying conventional strategy. To analyze the data, the researcher used statistic calculation of the t-test to determine the final calculation of t_o (T observation) that is done to measure the last score of the experimental class and control class by using statistic calculation of the t-test with significance degree 0.05 as follows.[66]

$$T_o \text{ score} : t_o = \frac{M1 - M2}{SEm\,1 - m\,2}$$

Before the researcher use t test, the researcher applied Assumption test, namely normality test and homogeneity test:

1. Normality test using Kolmogorov-Smirnov test. Each of the two populations being compared must follow a normal distribution. The steps of analyzing normality test as follows:

a. Formulated hypothesis

   Ho : the data were not normality distributed

   Ha : the data were normality distributed

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[66] Anas Sudijono, Pengantar Statistik Pendidikan (Jakarta: PT. Raja Grafindo Persada, 2005), 314-316.

b. Calculate the average (mean) to create a table

$$Mx = \frac{\Sigma fx}{n}$$

$$SDx : i\sqrt{\frac{\Sigma fx2}{n} - \left[\frac{\Sigma fx}{n}\right]^2}$$

c. Calculating the value of fkb

d. Calculated each frequency divided by the number of data (f/n)

e. Fkb calculating each divided by the number of data (fkb/n)

f. Calculated the value of Z by the formula X is the original value of data and μ is the population mean can be estimated using the average of the sample or the meanwhile σ was the standard deviation of the sample values. Z values would be calculated each value after sorting smallest to largest.

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

g. Calculate $P \leq Z$

h. For a_2 values obtained from the difference between columns 5 and 7 (fkb/n and $P \leq Z$)

i. For a_1 values obtained from the difference between columns 4 and 8 (f/n and a_2)

j. Comparing the highest number, a_1 with Kolmogorov-Simirov table

k. Test the hypothesis

1. If a_1 maximum < Kolmogorov-Simirov table, receive Ha and data is normal distribution.[67]

2. Homogeneity test using Harley test. Homogeneity test is the variance ratio test between two groups or more.[68] This can be tested by Harley test.

$$F(max)= \underline{Var\ max = SD^2max}$$
$$Var\ min = SD^2min^{[69]}$$

The steps of analyzing homogeneity test as follows:

a. Make a frequency distribution table

b. Calculated SD formula

$$SDx : \sqrt{\frac{\sum fx2}{nx} - \left[\frac{\sum fy}{ny}\right]^2}$$

$$SDy : \sqrt{\frac{\sum fy2}{ny} - \left[\frac{\sum fy}{ny}\right]^2}$$

c. Using the formula Harley

$$F(max)= \underline{Var\ max = SD^2max}$$
$$Var\ min = SD^2min$$

d. Comparing F (max) results calculated with F (max) table, with db = (n-1 ; k)

3. T-test is used to determine whether the means of two groups are statistically different from one another.

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[67] Retno Widyaningrum, *Statistik* (Ponorogo: STAIN Ponorogo Press, 2009), 206-210.
[68] Ibid. 214.
[69] Ibid. 216.

The data analysis used is T-test non-independent experiment with 5% significance level with this formula as follows:

a. Determining mean variable I and II, with formula:

$$M1 = M' + i \left[\frac{\sum fx}{n1}\right]^2$$

$$M2 = M' + i \left[\frac{\sum fy}{n2}\right]^2$$

b. Determining deviations standard of variable I and variable II, with formula:

$$SD1 : i \sqrt{\frac{\sum fx'2}{n1} - \left[\frac{\sum fx}{n1}\right]^2}$$

$$SD2 : i \sqrt{\frac{\sum fy'2}{n2} - \left[\frac{\sum fy}{n2}\right]^2}$$

c. Determining standard error mean variable I and II, with formula:

$$SE_{M1} = \frac{SD1}{\sqrt{n1-1}}$$

$$SE_{M2} = \frac{SD1}{\sqrt{n2-1}}$$

d. Determining the differences of mean variable I and mean variable II, with formula:

$$SE_{M1-M2} = \sqrt{SE_{M1^2+}SE_{M2^2}}$$

e. To score

$$t_o = \frac{M1 - M2}{SEm\ 1 - m2}$$

After all of the data are calculated, the last procedure is determining df (degree of freedom) with formula:

$$\text{Df or db} = (N_x + N_y) - 2$$

Notes:

M1	= Mean of variable X (post-test)
M2	= Mean of variable Y (post-test)
SD1'	= Standard Deviation x variable
SD2'	= Standard Deviation y variable
SEM1'	= Standard of error of x variable
SEM2'	= Standard of the error of y variable
SEM1-M2	= Standard error between the mean of x Variable and y Variable
R12	= the correlation coefficient between x variable and y variable
	= the total number of score multiplication of x variable and y variable
$\Sigma f1'$	= the total number of scores of x variable
$\Sigma f2'$	= the total number of scores of x variable
$\Sigma f1^2$	= the total number of square scores of x variable
$\Sigma f2^2$	= the total number of square scores of y variable
To	= t- Observation
N	= the number of subjects
	(N-1): db: Degree of Freedom

CHAPTER IV

FINDING AND DISCUSSION

This chapter reports about research location, data description, data analysis, and discussion.

A. Research Location

1. Description of Research Setting

This study was conducted at SMPN 1 Jenangan Ponorogo in academic year 2015/2016. The school is located on Jenangan – Kesugihan Street, Jenangan Ponorogo, and East Java. This school stands on 15,000 m^2 wide of area, which contains of mosque, laboratory, library, and 21 classes.[70]

SMPN 1 Jenangan Ponorogo has been as National Standard School (SSN) level since 2008. This show has been gotten as this school developed to higher level with many ways, for examples: improving the qualified teacher, teaching and learning process, and developing of the infrastructure in SMPN 1 Jenangan Ponorogo. It was also show the students' academic and non-academic have been reached one kinds of the best school in Ponorogo, which has some achievements.

In the academic achievements for examples, MIPA Olympiad as second winner, science competition as winner, and Power Point as second winner. For non-academic achievements for examples: volleyball competition as third winner, Basketball competition as winner, and Ju-jitsu as winner.[71]

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[70] See Appendix 6
[71] Ibid

SMPN 1 Jenangan Ponorogo has used Kurikulum Tingkat Satuan Pendidikan (KTSP). This curriculum was developed from standard of content by school based on their context and potential. The school improved the curriculum based on the demands of the times. It used KTSP for all subject.

Students were the important component in education course. There were 511 students of SMPN 1 Jenangan Ponorogo in academic year 2015/2016. It devided into three years; the seventh year consist of 174 students, the eighth year consists of 169 students, and the nineth year consists of 168 students.

As an educational institution that was able to answer the terms change and development in an effort to realize the independence of schools, SMPN 1 Jenangan Ponorogo formulate of vision and mission. The vision is Excellent in achievements, cultured based on the faith and piety. The missions are:

- To realize school as centers of education in developing logic, ethics, aesthetics, and practices form the whole of Indonesia people.

- To realize the conducive school environment to motivate the students to study hard, create, produce, and innovate from the knowledge as their future.

- To educate, train, guide and develop the students to be fun of read, study, work, and try to produce, so the students be able to develop their capabilities and environment, and include in the competition in globalization era with the value of religion.

- To guide and train the students for study about organization become a human integrity and a good cadre for their country.

- To increase teaching and learning process and infrastructure with the priority scale to increase the achievement in the final of academic year.

- To developing of local and national culture through of the traditional and modern art.

The goals of SMPN 1 Jenangan Ponorogo are based on from vision and mission above. It purposes that the goals will be communicative and easy to measure. The goals are:

- Develop of KTSP with syllabus in each subject, lesson plan, worksheet of students' activities and assessment system.

- Educative participant reach for championship of environmental race of healthy and clean school in province storey level.

- The availability of infrastructures of sports activities and art are more complete, within their standards and environmentally friendly.

- Implementation of CTL (Contextual Teaching and Learning) approach in teaching and learning process based on the active, creative, innovative and joyful orientation.

B. Data Description

In this study, the population was the eighth year students of SMP 1 Jenangan Ponorogo in academic year 2015/2016. They were 46 students as sample was divided into two groups. The first group as experimental group was taught by applying schema theory there were 24 students and the second group as control group was not taught by applying schema theory consist of 22 students.

1. The time of the research

This research was conducted in April, 25th – Mei, 06th 2016. The schedule for experiment and control class can be seen in the table below:

Table 4.1 Experiment class schedule

Date	Activities
April, 25th 2015	Pre-test
April, 26th 2015	First treatment
April, 28th 2015	Second treatment
Mei, 03rd 2015	Third treatment
Mei, 05th 2015	Post test

Table 4.2 Control class schedule

Date	Activities
April, 25th 2015	Pre-test
April, 27th 2015	First meeting
April, 29th 2015	Second meeting
Mei, 04th 2015	Third meeting
Mei, 06th 2015	Post test

2. Procedure of Experiment

This research was taken VIIIC class as experiment class. The number of the experiment class was 24 students. The students had followed pretest before going to treatment and posttest after they had some treatment from the researcher.

Firstly, in April 25th 2016 before beginning a research student were given a pretest. There were 20 multiple-choice items with four themes about narrative and recount text it was taken 60 minutes to complete. All of students at VIIIC had done the pretest.

Secondly, in April 26th 2016 was the first treatment of applying schema theory in teaching reading. The material was narrative text. Before reading, the teacher had given some questions to the students for activating their schemata to understanding a text. The teacher was applying mind-mapping strategy for activating their schemata in teaching reading.

Thirdly, was the second treatment hold in April, 28th 2016. The material still same with first treatment (narrative text), but had different strategy. In the second treatment, the teacher used questioning strategy for activating their schemata in teaching reading. Before the students going to the reading text they had to review the previous activities in the previous meetings in order to recall their memory.

Fourthly, the third treatment hold in Mei, 03rd 2016. The material was recount text. Before students read the text, they had some question about the text by the teacher for activating their schemata.

Fifthly, those students had given posttest. It holds in Mei, 05th 2016. The posttest used to measure weather taught by applying schema theory was successes or not in teaching reading comprehension.

3.   Procedure of Control

This research was taken VIIIB as a control class. There were 22 students and had done the pretest and posttest. In control class, there were five meeting. It hold in April 25th – Mei 6[th]2016. The procedure of this class was same with experimental class. There were pretest, first, second, third meeting and posttest.

In the control class pretest and posttest that given to the students were same with experimental class. There were 20 multiple-choice items with four themes about narrative and recount text. It was taken by 60 minutes to complete. All of the students at VIIIB had been done pretest in April, 25th 2016.

In the control class, the teacher which was taught the students with the same material with experimental class and given them a different treatment. The teacher was used conventional method in teaching and learning process. It was a good method by the teacher to transfer their knowledge to the students. The students will pay attention to the teacher, but this method have some weaknesses that the students do not interesting, will be bored until feel asleep, they cannot be active and the student not enjoy their class. It was because the method cannot create a fun situation in the class.

The conventional method had some steps in teaching and learning process they were:

a. The teacher was given one reading text to each student.

b. The students read the text by itself.

c. The students found difficult word from the text uses dictionary.

d. The students translated the text.

e. The teacher discussed the text with the students.

4. The Result of Students' Pre Test in Experimental Class (8C)

The table below shows the score of the pre test of the experimental class students who were taught by applying schema theory.

Table 4.3 The Score of Students' Pre Test In Experimental Class

No.	Name	Scores
1	Aan Setyawan	60
2	Achis Romadhona	80
3	Catur Pamungkas	60
4	Choirul Anwar	55
5	Diah Nur Setiyoningsih	60
6	Dina Carlina	85
7	Ferga Aditiya Yudistira	65
8	Ganees Biger Berlian Mahliga	70
9	Irfan Edi Tri Susanto	55
10	Isnatul Umah Hidayati	75
11	Jarqoni Maksum	60
12	Kharisma Yuli Silfiana	75
13	Kiki Triwidiyanti	70
14	Muhamad Arifin	65
15	Muhamad Nurohman	60
16	Muhammad Arda Rifa'i	70

No.	Name	Scores
17	Muhammad Daroini	65
18	Reza Krisna Ariyanto	80
19	Rezah Aida Nurkhani	65
20	Rizal Muchsinin	75
21	Siti Khomsatun	65
22	Tarisa Alfia Ratna Mulyana	75
23	Wahyu Riyan Nur Adhaini	60
24	Yoga Putra Perdana	55
	N = 24	1605

From the table above, the highest score for experimental class was 85; there was only one students gotten the highest score. The lowest score for experimental class was 55; there were three students gotten the lowest scores. The total score of experiment class was 1605.

5. **The Result of Students' Pre Test in Control Class (8B)**

The table below shows the score of the pre test of the control class students who were not taught by applying schema theory.

Table 4.4 The Score of Students' Pre Test in Control Class

No.	Name	Scores
1	Alvina Nurcahyani	60
2	Andhin Musthofa	80

No.	Name	Scores
3	Anggi Putra	75
4	Anggit Samudra	70
5	Cindiy Nursafikah	70
6	Elvi Anasari	75
7	Erixs Hardi Cristiawan	70
8	Fahri Hermawan	75
9	Helmi Dwiki Priatama	60
10	Ines Eva Cahyanti	50
11	Iqbal Maulana	75
12	Irenniza Margi Luvianingtyas	75
13	Muhammad Zainul Mustakim	65
14	Nabil Varuqi	80
15	Nandia Putri	65
16	Nur Imansyah	70
17	Putri Wahyuningrum	65
18	Ria Puji Lestari	50
19	Sulistya Oktaviona	60
20	Tasya Dwi Karmila	70
21	Wahyu Ramadhani	75
22	Zeila Febri Ardliansyah	60
	N= 22	1495

For the controlled class the highest score was 80; there were two students gotten the highest scores. The total lowest for the control class was 50; there were two students. The total score of controlled class was 1495 and the differentiate result with the experimental class was 110.

6. **The Result of Students' Post Test in Experimental Class (Variable X)**

The table below shows the score of the post test of the experimental class students taught by applying schema theory.

Table 4.5 The Score of Students' Post Test in Experimental Class

No.	Name	Scores
1	Aan Setyawan	75
2	Achis Romadhona	90
3	Catur Pamungkas	70
4	Choirul Anwar	85
5	Diah Nur Setiyoningsih	95
6	Dina Carlina	100
7	Ferga Aditiya Yudistira	85
8	Ganees Biger Berlian Mahliga	90
9	Irfan Edi Tri Susanto	75
10	Isnatul Umah Hidayati	80
11	Jarqoni Maksum	75
12	Kharisma Yuli Silfiana	85
13	Kiki Triwidiyanti	100
14	Muhamad Arifin	70
15	Muhamad Nurohman	80
16	Muhammad Arda Rifa'i	85
17	Muhammad Daroini	90
18	Reza Krisna Ariyanto	80
19	Rezah Aida Nurkhani	75
20	Rizal Muchsinin	80
21	Siti Khomsatun	95
22	Tarisa Alfia Ratna Mulyana	90
23	Wahyu Riyan Nur Adhaini	85
24	Yoga Putra Perdana	75
	N = 24	2010

From the table above, there were two students gotten the maximal scores for experimental class. The lowest score was 70 for experimental class there were only one student gotten the lowest score. Total score of experimental class was 2010. It can be concluded that the posttest students taught by applying schema theory were good.

7. The Result of Students' Post Test in Control Class (Variable Y)

The table below shows the score of the post test of the control class students who were not taught by applying schema theory.

Table 4.6 The Score of Students' Post Test in Control Class

No.	Name	Scores
1	Alvina Nurcahyani	65
2	Andhin Musthofa	80
3	Anggi Putra	75
4	Anggit Samudra	80
5	Cindiy Nursafikah	85
6	Elvi Anasari	80
7	Erixs Hardi Cristiawan	75
8	Fahri Hermawan	75
9	Helmi Dwiki Priatama	75
10	Ines Eva Cahyanti	65
11	Iqbal Maulana	85
12	Irenniza Margi Luvianingtyas	80
13	Muhammad Zainul Mustakim	75
14	Nabil Varuqi	85
15	Nandia Putri	75
16	Nur Imansyah	80
17	Putri Wahyuningrum	80
18	Ria Puji Lestari	70
19	Sulistya Oktaviona	85
20	Tasya Dwi Karmila	85
21	Wahyu Ramadhani	80
22	Zeila Febri Ardliansyah	75
	N= 22	1710

From the table above, the highest score for control class was 85. There were five students gotten the maximal scores. The lowest score was 65 for control

class there were two students gotten the lowest score. Total score of control class was 1710. It can be concluded that the posttest student without taught applying schema theory was varieties.

8. The Result of Assumption Test for Parametric Statistic

a. Normality

Normality test was conducted to known whether the data distribution was normal distribution or not.[72] For this test, it would be proposed the hypothesis as follow:

Ho: the data was not normal distribution

Ha: the data was normal distribution

Table 4.7 Normality of Data and Calculation of The Students' Post Test in Experimental Class

X	F	FX	X^2	FX^2
100	2	200	10000	20000
95	2	190	9025	18050
90	4	360	8100	32400
85	5	425	7225	36125
80	4	320	6400	25600
75	5	375	5625	28125
70	2	140	4900	9800
TOTAL	$\sum F = 24$	$\sum FX = 2010$	$\sum X^2 = 51275$	$\sum FX^2 = 170100$

Calculate the average:

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[72] Retno Widyaningrum, Statistik (Ponorogo: STAIN Ponorogo Press, 2009), 206.

$$Mx = \frac{\sum fx}{N}$$

$$= \frac{2010}{24}$$

$$= 83.75$$

Calculate the deviation standard:

$$SD_X = \sqrt{\frac{\sum fx^2}{n} - \left(\frac{\sum fx}{n}\right)^2}$$

$$SD_X = \sqrt{\frac{170100}{24} - \left(\frac{2010}{24}\right)^2}$$

$$SD_X = \sqrt{7087.5 - (83.75)^2}$$

$$SD_X = \sqrt{7087.5 - 7014.0625}$$

$$SD_X = \sqrt{73.4375}$$

$$SD_X = 8.57$$

Table 4.8 The Result of Normality Test for Experimental Class

X	F	Fkb	F/n	Fkb/n	Z	P≤Z	a_2	a_1
1	2	3	4	5	6	7	8	9
100	2	24	0,083	1,00	1.896	0.9706	0.029	0.054
95	2	22	0,083	0,91	1.313	0.9049	0.005	0.078
90	4	20	0,166	0,83	0.729	0.7642	0.065	0.101
85	5	16	0,208	0,67	0.146	0.5557	0.114	0.094
80	4	11	0,166	0,45	-0.437	0.3336	0.116	0.05
75	5	7	0,208	0,29	-1.021	0.1539	0.136	0.072
70	2	2	0.083	0.08	-1.604	0.0548	0.025	0.058

$D_{(0,05,24)}$ from index was 0.294

Ha was accepted if a_1 max $\leq D_{Index}$

Because the maximun value of a_1 was 0.101 in which the index was less then the D index, so the decision was to accept Ha, which meant the data was normality distribution.

Table 4.9 Normality of Data and Calculation of The Students' Post Test in Control Class

Y	F	FY	Y^2	FY^2
85	5	425	7225	36125
80	7	560	6400	44800
75	7	525	5625	39375
70	1	70	4900	4900
65	2	130	4225	8450
TOTAL	$\sum F = 22$	$\sum FY = 1710$	$\sum Y^2 = 28375$	$\sum FY^2 = 133650$

Calculate the average:

$$My = \frac{\sum fy}{N}$$

$$My = \frac{1710}{22}$$

$$My = 77.73$$

Calculate the deviation standard:

$$SD_y = \sqrt{\frac{\sum fy^2}{n} - \left(\frac{\sum yx}{n}\right)^2}$$

$$SD_y = \sqrt{\frac{133650}{22} - \left(\frac{1710}{22}\right)^2}$$

$$SD_y = \sqrt{6075 - (77.73)^2}$$

$$SD_y = \sqrt{6075 - 6041.95}$$

$$SD_y = \sqrt{33.05}$$

$$SD_y = 5.75$$

Table 4.10 The Result of Normality Test for Control Class

Y	F	Fkb	F/n	Fkb/n	Z	P≤Z	a_2	a_1
1	2	3	4	5	6	7	8	9
85	5	22	0.227	1	1.264	0.8962	0.1038	0.1232
80	7	17	0.318	0.773	0.395	0.6517	0.1213	0.1967
75	7	10	0.318	0.455	-0.475	0.3192	0.1358	0.1822
70	1	3	0.045	0.136	-1.344	0.0901	0.0459	-0.0009
65	2	2	0.091	0.091	-2.214	0.0136	0.0774	0.0136

$D_{(0,05,22)}$ from index was 0.294

Ha was accepted if $a_1 \max \leq D_{Index}$

Because the maximun value of a_1 was 0.1967 in which the index was less then the D index, so the decision was to accept Ha, which meant the data was normality distribution.

b. **Homogenity**

Homogenity test is the variance ratio test between two group or more.[73] This can be tested by Harley test.

The formula is:

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[73] Ibid. 214.

$$F(max) = \frac{Var\ max = SD^2\ max}{Var\ min = SD^2\ min}$$

$$F(max) = \frac{Var\ max = 8.57^2}{Var\ min = 5.75^2}$$

$$F(max) = \frac{Var\ max =\ 73.4449}{Var\ min =\ 33.0625}$$

F(max) = 2.22

Db   = n-1;k

24-1;2 =23;2

Ho= data is homogenous

Ha= data not homogenous

Fmax index is 2.95

So Fmax was 2.22 in which the index was less then the Fmax index (2.95), so the decision was to accept Ha, which meant the data was homogeny distribution.

C. Data Analysis

1. The Analysis of Student's Post Test of Experimental Group

This study analyzed a reading comprehension test to get the data. Experimental class consists of 24 students and control class consists of 22 students. The result of the test was to know the reading skill students at the eighth year of SMPN 1 Jenangan Ponorogo in Academic Year 2014-2015 effective or not, the researcher applied "t" test formula as stated below.

The first step was calculate the interval and class for made the table distribution:

$$I = \frac{R}{K}$$

K=1+3.322 log n

K= 1+3.322 log 24

K= 1+(3.322X1.380211241)

K= 1+4.585061745

K= 5.585061745 (6)

Highest score = 100

Lowest score = 70

R = H-L+1

R= 100-70+1 = 31

$$I = \frac{R}{K} = \frac{31}{6} = 5.16 \ (5)$$

So, from the data statistic above, it was known that the total range was 31, the total of class was 6 and interval was 5.

Table 4.11 The Computation of Students' Post Test in Experimental Class.

Score X	F	X	x'	fx'	x'^2	fx'^2
100	2	100	+3	+6	9	18
95-99	2	95	+2	+4	4	8
90-94	4	90	+1	+4	1	4
85-89	5	85	0	0	00	0
80-84	4	80	-1	-4	1	4
75-79	5	75	-2	-10	4	20

70-74	2	70	-3	-6	9	18
Total	**24**	**-**	**-**	**-6**	**28**	**72**

a. Finding Average (Mean) of the variable X

$$M_x = M' + i \left(\frac{\sum fx'}{n1}\right)^2$$

$$M_x = 84 + 5 \left(\frac{-6}{24}\right)^2$$

$$M_x = 84 + 5(-0.25)^2$$

$$M_x = 84 + 5X\ 0.0625$$

$$M_x = 84 + 0.3125$$

$$M_x = 84.3125$$

b. Look for SD_x

$$SD_x = i\sqrt{\frac{\sum(f.x'^2)}{n} - \left(\frac{\sum f.x'}{n}\right)^2}$$

$$SD_x = 5\sqrt{\frac{72}{24} - \left(\frac{-6}{24}\right)^2}$$

$$SD_x = 5\sqrt{3 - (-0.0.25)^2}$$

$$SD_x = 5\sqrt{3 - 0.0625}$$

$$SD_x = 5\sqrt{2.9375}$$

$$SD_x = 5x\ 1.713913651$$

$$SD_x = 8.569568251$$

From the calculation above, it wass known Mx = 84.3125 and SDx = 8.5695.

2. **The Analysis of Student's Post Test of Control Class**

The first step was calculated the interval and class for made the table distribution:

$$I = \frac{R}{K}$$

K=1+3.322 log n

K= 1+3.322 log 22

K= 1+(3.322X1.414973348)

K= 1+(3.322X1.342422681)

K= 1+4.459528145

K=5.459528145 (5)

H= 85   L= 65

R= H-L+1

R= 85-65+1

R= 21

$$I = \frac{R}{K}$$

$$I = \frac{21}{5} = 4.2 \ (4)$$

So, from the data statistic above, it was known that the total range was 21, the total of class was 5 and interval was 4.

Table 4.12 The Computation of Students Post Test Control Class

Score Y	F	Y	y'	fy'	y'^2	fy'^2
85-89	5	85	+2	10	4	20
80-84	7	80	+1	7	1	7
75-79	7	75	0	0	0	0

70-74	1	70	-1	-1	1	1
65-69	2	65	-2	-4	4	8
Total	**26**	**-**	**-**	**12**	**10**	**36**

a. Finding Average (Mean) of the variable Y

$$M_Y = M' + i \left(\frac{\sum fY'}{n1} \right)^2$$

$$M_Y = 77 + 4 \left(\frac{12}{22} \right)^2$$

$$M_Y = 77 + 4 \, (0.545454545)^2$$

$$M_Y = 77 + 4 \; x \; 0.297520661$$

$$M_Y = 77 + 1.190082644$$

$$M_Y = 78.190082644$$

b. Look for SD_y

$$SD_y = i \sqrt{\frac{36}{22} - \left(\frac{12}{22} \right)^2}$$

$$SD_y = 4\sqrt{1.636363636 - (0.545454545)^2}$$

$$SD_y = 4\sqrt{1.636363636 - 0.297520661}$$

$$SD_y = 4\sqrt{1.338884297}$$

$$SD_y = 4 x 1.157083823$$

$$SD_y = 4.628333529$$

From the calculation above, it was known Mx= 78.1901 and SDx= 4.6283

3. **Testing Hypothesis (t_{test})**

From both table above, the researcher compared the mean score of students' reading comprehension skill taught by applying schema theory (X) and the students' reading comprehension skill who were not taught by applying schema theory (Y) with this steps:
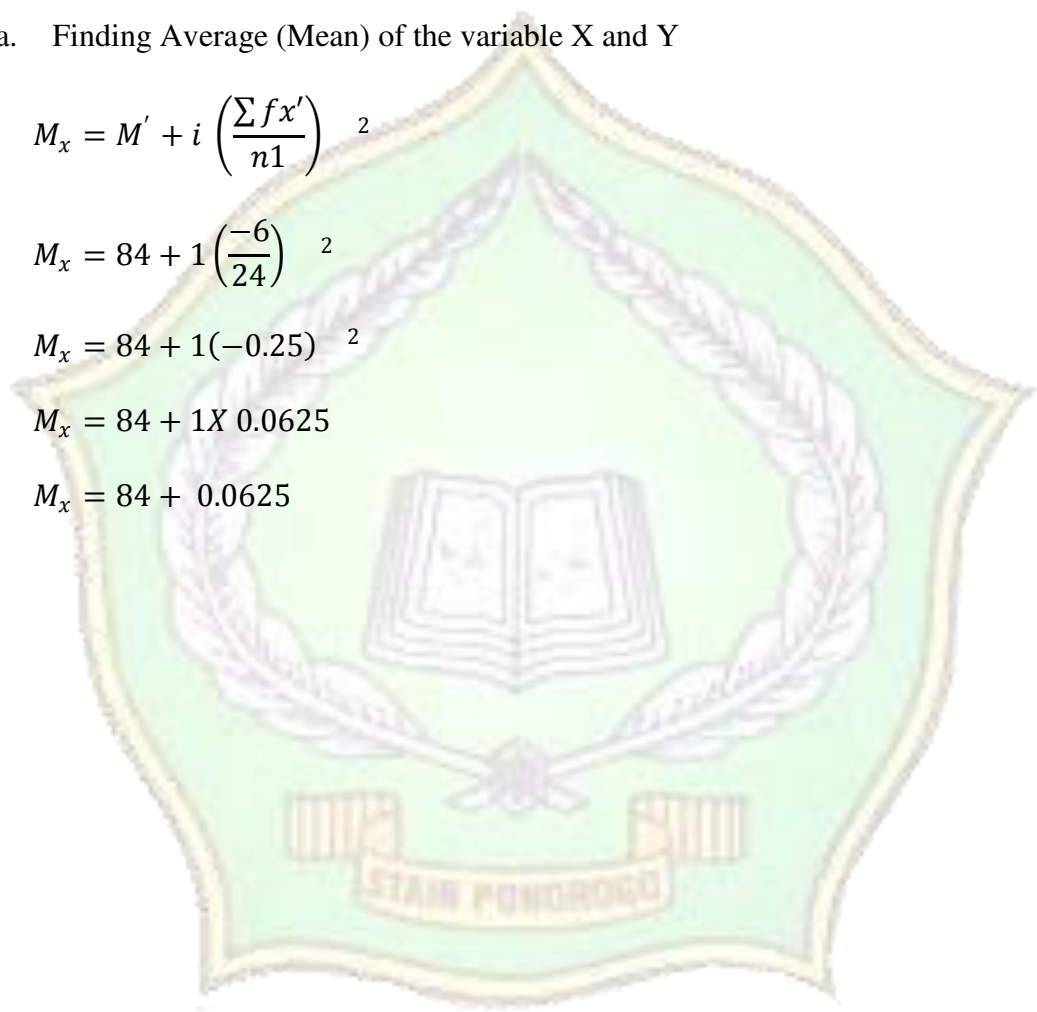
a. Finding Average (Mean) of the variable X and Y

$$M_x = M' + i \left(\frac{\sum fx'}{n1}\right)^2$$

$$M_x = 84 + 1\left(\frac{-6}{24}\right)^2$$

$$M_x = 84 + 1(-0.25)^2$$

$$M_x = 84 + 1X\ 0.0625$$

$$M_x = 84 + 0.0625$$

$$M_x = 84.0625$$

$$M_Y = M' + i \left(\frac{\sum fY'}{n1} \right)^2$$

$$M_Y = 77 + 4 \left(\frac{12}{22} \right)^2$$

$$M_Y = 77 + 4 \, (0.545454545)^2$$

$$M_Y = 77 + 4 \, x \, 0.297520661$$

$$M_Y = 77 + 1.190082644$$

$$M_Y = 78.190082644$$

b. Look for SD_x and SD_y

$$SD_x = i \sqrt{ \frac{\sum (f.x'^2)}{n} - \left(\frac{\sum f.x'}{n} \right)^2 }$$

$$SD_x = 5 \sqrt{ \frac{72}{24} - \left(\frac{-6}{24} \right)^2 }$$

$$SD_x = 5 \sqrt{ 3 - (-0.0.25)^2 }$$

$$SD_x = 5 \sqrt{ 3 - 0.0625 }$$

$$SD_x = 5 \sqrt{ 2.9375 }$$

$$SD_x = 5 \, x \, 1.713913651$$

$$SD_x = 8.569568251$$

$$SD_y = i \sqrt{ \frac{36}{22} - \left(\frac{12}{22} \right)^2 }$$

$$SD_y = 4 \sqrt{ 1.636363636 - (0.545454545)^2 }$$

$$SD_y = 4\sqrt{1.636363636 - 0.297520661}$$

$$SD_y = 4\sqrt{1.338884297}$$

$$SD_y = 4x1.157083823$$

$$SD_y = 4.628333529$$

c. Determining standard error mean variable X and Y

$$SE_{Mx} = \frac{SDx}{\sqrt{n1-1}}$$

$$SE_{Mx} = \frac{8.569568251}{\sqrt{24-1}}$$

$$SE_{Mx} = \frac{8.569568251}{\sqrt{23}}$$

$$SE_{Mx} = \frac{8.569568251}{4.8}$$

$$SE_{Mx} = 1.785326718$$

$$SE_{My} = \frac{SDy}{\sqrt{n2-1}}$$

$$SE_{My} = \frac{4.628333529}{\sqrt{22-1}}$$

$$SE_{My} = \frac{4.628333529}{\sqrt{21}}$$

$$SE_{My} = \frac{4.628333529}{4.6}$$

$$SE_{My} = 1.006159462$$

d. Difference standard error score of the means variable X and variable Y

$$SE_{M1-M2} = \sqrt{SE_{M1^2+}SE_{M2^2}}$$

$$SE_{M1-M2} = \sqrt{1.785326718^2 + 1.006159462^2}$$

$$SE_{M1-M2} = \sqrt{2.408006116 + 1.012356862}$$

$$SE_{M1-M2} = \sqrt{1.395649253}$$

$$SE_{M1-M2} = 1.181375999$$

e. to score

$$t_o = \frac{MX - MY}{SEm\ 1 - m\ 2}$$

$$t_o = \frac{84.0625 - 78.190082644}{1.181375999}$$

$$t_o = \frac{5.872417356}{1.181375999}$$

$$t_o = 4.970828391\ (4.97)$$

D. Discussion

The research focused to know the effectiveness of schema theory on students' reading achievement. There were some steps for implementing the schema theory in the research. It was building interest and attention, accessing prior knowledge and exploring key words, building connection the students'prior knowledge and the new material, and comprehending the new material. It was implemented in some treatment in teaching learning process.

In teaching learning process, the researcher had given a pre test to measure the students' reading comprehension. After given the pre test, the researcher had done the treatment in experimental class by applying schema theory with some strategy such as questioner, mind mapping and brainstorming. The strategy had done by the researcher was establishing the goals of the reading and seen from obtained by the students' score after given a posttest.

From the results of the research by applying schema theory in teaching reading were believed to be effective to facilitate their reading comprehension. Their growing reading comprehension also influenced their ability and achievement during the teaching and learning process.

The statistical analyzed can give a clear explanation about the significant improvement. The result of the analysis of computation was 4.97 that was the difference coefficient of students taught by applying schema theory and the students who were not taught by applying schema theory. It was used to find out whether the difference coefficient was a significccant coefficient or not.

Hypothesis test (t_o) at 4.97 from the computation above will be compared to the "t" index (t_t) with the condition stated below:

-   If the $t_o \geq t_t$ H_a is accepted. It meant that the mean difference of both variables is a significant difference.

-   If the $t_o < t_t$ H_a is rejected. It mean that there is no mean difference of those variables. It also meant, the mean difference of those variables is not a significant difference, but the difference that is happened by the accident as a result from error sampling.

1) Hypothesis nol (Ho)

Ho : The students taught by applying schema theory will not achieve a better score in reading comprehension than the students not being taught schema theory at the eighth year students of SMPN 1 Jenangan Ponorogo in academic year 2015/2016.

2) Alternative Hypothesis (Ha)

Ha : The students taught by applying schema theory will achieve a better score in reading comprehension than the students not being taught schema theory at the eighth year students of SMPN 1 Jenangan Ponorogo in academic year 2015/2016.

To determine of db / df (degree of freedom) with the formulate and consulted with the t_t score:

Db = (N1-N2)-2

= (24+22)-2

= 46-2

= 44

From the result of db was of 5% signification level,it was found that $t_o = 4.97$ and $t_t = 2, 02$. It means that there was any significant difference between the students taught by applying schema theory and the students who were not taught by applying schema theory; it implied that the students taught by applying schema theory achieved a better score in reading comprehension. So, Alternative hypothesis (H_a) was accepted. It means that the students taught by applying schema theory had achieved a better score in reading comprehension than the

students who were not taught by applying schema theory at the eighth year students of SMPN 1 Jenangan Ponorogo in academic year 2015/2016.

Based on the result above, It can be concluded that ($t_o > t_t$). It means that the reading score between the students taught by applying schema theory and the students who were not taught by applying schema theory was a significant difference. Therefore, schema theory was effective to facilitate students' reading comprehension achievement at the eighth year of SMPN 1 Jenangan Ponorogo in academic year 2015/2016.
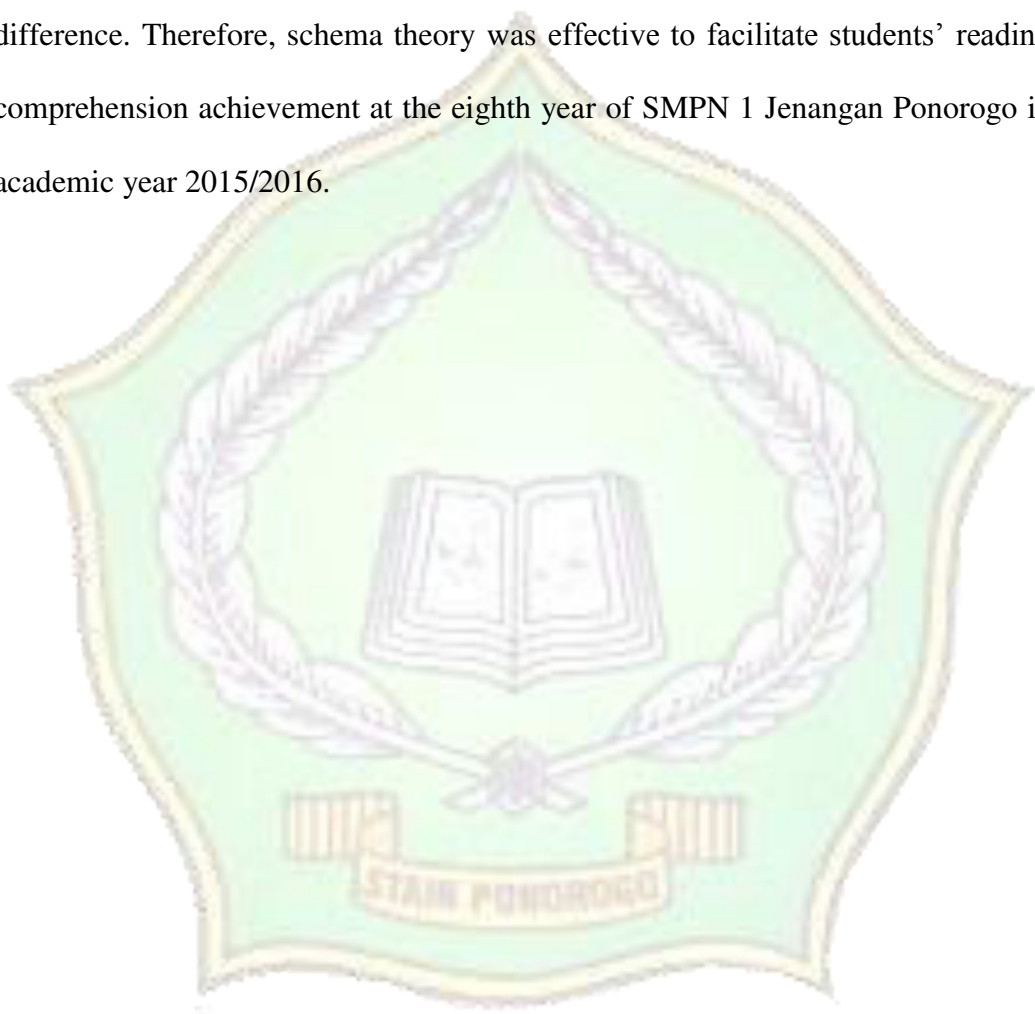
CHAPTER V

CLOSING

In this chapter, two points are presented. They are conclusions and suggestions. Each point is described as follows.

A. Conclusion

The conclusion of this research is drawn that applying schema theory in reading activities can facilitate students' reading achievement at the eighth year of SMPN 1 Jenangan Ponorogo in academic year 2015/2016. Generally, this study revealed that the students who were taught by applying schema theory achieved better scores in reading comprehension than those who were not taught by applying schema theory.

In particular, the result of this research shows that the mean score of post test from the experimental class is higher (84.06) than that of control class (78.19). It has been found that the comparison value (t_0) between students reading achievement who are taught by applying schema theory and who are not is 4.97. This is higher than t_t value in the table, which is $t_t = 2, 02$ that in 5% signification level with db = 44. Its means Ha accepted.

It means that schema theory was effective to facilitate the students' reading achievement at the eighth year of SMPN 1 Jenangan Ponorogo in academic year 2015/2016.

B. Suggestion

Based on the conclusions of the implementation of activating students'
schemata, there are some suggestions to the English teacher, students and future
researchers.

1. English teachers

English teachers should be able to create some activities, which can
accommodate the students to access their prior knowledge and connect it with the
new knowledge from the new material. Accessing prior knowledge and
connecting it to the new knowledge had a big role in the process of understanding
a text. Involving the students' schemata can improve their reading comprehension
ability significantly.

2. Students

These strategies are effective to be used in the teaching and learning
process. Schema theory guides the students to understand what the goal of their
reading is and how they can understand the material by involving their prior
schemata. Thus, they are suggested to be active in every activity, not be ashamed
and keep their learning together with other friends so that they can completely get
involved in the lesson especially English class.

3. Future Researcher

It is suggested that the other researchers who will conduct similar research
can improve and explore other strategies that can activate students' schemata. It is
also expected that the results of this research can be used as a good reference in
conducting a similar study.

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