# THE EFFECT OF USING SPIDER MAP TECHNIQUE TOWARD READING COMPREHENSION AT THE SECOND YEAR STUDENTS OF MA HASANAH PEKANBARU


**BY**

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# ABSTRAK

**REZKI ADITAMA (2012): "Efek Penggunaan Teknik Spider Map terhadap Pemahaman Membaca Siswa pada Tahun Kedua di MA Hasanah Pekanbaru"**

Faktor utama dari penelitian ini adalah menemukan ada atau tidaknya perbedaan yang signifikan antara pemahaman membaca siswa yang diajarkan dengan teknik spider map dan tidak menggunakan teknik spider map pada siswa tahun kedua MA Hasanah Pekanbaru. Pada penelitian ini, tipe penelitian adalah quasi experimental research. Penulis menggunakan *nonequivalent control group design*. Penulis menggunakan dua kelas sebagai sample yang terdiri dari 46 siswa. Kelas pertama adalah kelas eksperimen dan kelas kedua adalah kelas kontrol. Kelas eksperimen diajarkan menggunakan teknik spider map sedangkan kelas kontrol diajarkan tanpa menggunaka teknik spider map. Teknik untuk mengumpulkan data adalah test dan teknik untuk menganalisa data menggunakan rumus *Independent Smple T-test* untuk menemukan perbedaan hasil rata-rata diantara kelas eksperimen dan kelas kontrol dengan menggunakan perangkat lunak SPSS v.17 untuk Windows.

Dari hasil analisa data, penulis menyimpulkan bahwa ada perbedaan yang signifikan antara pemahaman membaca siswa yang diajarkan menggunakan teknik spider map dan tidak diajarkan menggunakan teknik spider map dengan pertimbangan $t_0$= 5,250 lebih tinggi dari pada $t_{table}$ baik pada taraf signifikan 5% = 2,02 maupun pada taraf signifikan 1% = 2,72. Kita dapat membacanya menadi 2,02 <5,250 >2,69. Hal itu berarti bahwa $H_a$ diterima dan $H_0$ ditolak. Jadi, dapat disimpulkan bahwa ada perbedaan yang signifikan antara pemahaman membaca siswa yang menggunakan teknik spider map dengan pemahaman membaca siswa tanpa menggunakan teknik spider map. Dengan kata lain, ada perbedaan yang signifikan dari penggunaan teknik spider map untuk meningkatkan pemahaman membaca siswa pada siswa tahun kedua MA Hasanah Pekanbaru.

## ABSTRACT

**REZKI ADITAMA (2012): "The Effect of Using the Spider Map Technique toward Students Reading Comprehension of The Second Year of MA Hasanah Pekanbaru"**

The main factor of this research was to find out whether or not there was a significant difference between students' reading comprehension taught by using spider map technique and without using spider map technique at the second year of MA Hasanah Pekanbaru. In this research, the type of the research was a quasi experimental research. The writer used *nonequivalent control group design*. The writer used two classes as sample that consisted of 46 students. The first class was an experimental class and the second class was a control class. The experimental class was taught by using spider map and control class was taught without using spider map technique. The technique of collecting data was a test and the technique of data analysis used *Independent Sample T-test* formula which was used to find out the difference of students' mean score between the experimental class and control class by using software SPSS v.17 for windows.

Based on the data analysis, the writer concluded that there was a significant difference between students' reading comprehension taught by using spider map technique and students' reading comprehension taught without using spider map technique with consideration $t_0$= 5,250 was higher than $t_{table}$ either in significant 5% = 2,02 or in significant 1% = 2,72. We can read 2,02 <5,250 >2,69. It means $H_a$ is accepted and $H_0$ is rejected. So, it could be concluded that there was a significant difference between students' reading comprehension by using spider map technique and students' reading comprehension without using spider map technique. In other words, there was a significant difference of using spider map technique to improve students' reading comprehension at the second year student of MA Hasanah Pekanbaru.

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# CHAPTER I

# INTRODUCTION

## A. Background of the Problem

Teaching reading is very complicated when the teacher does not prepare any technique in teaching process. Students may be bored if the teacher only does routinized activity in learning reading that only translating the text then answering several questions related to the text they read. Many techniques can be used not only to gain students' interest but also to increase students' reading ability.

Reading is an ability to connect the text and readers' knowledge to build the meaning. In accordance with the idea stated above, Nunan stated that "reading is a fluent process of readers combining information from a text and their own background knowledge to build meaning."[1] It is supported by Tankersley that "reading comprehension is the process of simultaneously extracting and constructing meaning through interaction and involvement with written language."[2]

In order to satisfy students' need toward reading comprehension, Curriculum Based School (KTSP) provides reading comprehension as one of English materials that must be taught and be learned in senior high school. MA Hasanah Pekanbaru is one of Islamic Senior High Schools in Pekanbaru which applied this curriculum in its teaching and learning process. It is located

[1]David Nunan. *Practical English Teaching.* Singapore: McGraw Hill, 2003. p.68
[2]Karen Tankersley. *Literacy Strategies for grades 4-12: Reinforcing the Threads of Reading.* Virginia: Association for Supervision and Curriculum Development, 2003. p.108

at Jl. Cempedak No. 37 B, Pekanbaru. English is taught twice a week and every meeting consists of 90 minutes. Instead of reading comprehension not as special subject each meeting, but the teacher teaches all components in genres. Therefore, the teacher should be able to manage his/her time to be efficiently in his teaching.

Based on the curriculum, English is a tool of communication through oral and written form. The ability of using English as communication means cannot be separated from four language skills: listening, speaking, reading, and writing. In MA Hasanah Pekanbaru, the passing score for English course is 70 and the basic competence stated in the syllabus of this school for second grade is "that students will be able to understand the meaning in short functional texts and simple short essay in genre of narrative, spoof, and hortatory exposition in daily life context to access knowledge".[3] In this research, the writer focuses only on narrative.

In reality, there are some of the students who have difficulties in comprehending the reading text. They do not understand clearly what they read although they have been taught by their English teacher. After the writer observed the students of MA Hasanah Pekanbaru, the writer finds phenomena as follows:

1. More than fifty percent of the students do not pass the standard of passing score before remedial program.

[3]Mainar Fitri. *Silabus Bahasa Inggris Kurikulum Tingkat Satuan Pendidikan (KTSP). Madrasah Aliyah Hasanah Pekanbaru 2010-2012*. Pekanbaru: Unpublished, 2011.

2. Some of the students are admitted that they still cannot comprehend the text after reading several times.
3. Some of the students need much time to comprehend the text.
4. Some of the students admitted that they feel difficulty to find main idea.
5. Some of the students cannot answer the question based on the text.
6. Some of the students cannot retell the text that they have read.

In this study, the writer tries to find out alternative solution in the case of teaching technique that can be used to increase students' reading comprehension. According to McKnight, for today's classroom, nothing is more essential to successful teaching and learning than strategy-based instruction. It is through the use of specific teaching strategies and learning tools that students can be more successful learners.[4] It means that the teacher should provide appropriate strategies and learning tools in teaching reading comprehension in order to get their success in their teaching.

Spider Map, a kind of graphic organizer, is a technique that provides a graphic to organize the information and thought for understanding. It is a technique to create comprehension of undiscovered patterns and relationship which uses a visual thinking technique. In accordance with the idea stated above, Mc Knight said that "The Spider is a free-form graphic organizer that allows students to think Hard about information as both visual and metaphorical. The students are also able to visualize the interconnectedness of

[4]Katherine S. McKnight. *The Teacher's Big Book of Graphic Organizer*. San Francisco: Jossey Bass, 2010. p.1

information and ideas to a central idea."[5] It allows students to arrange thoughts as they arise in their mind, according to importance, and to arrange their ideas intuitively. They can add some colors, diagrams, sketches, and pictures to make it more enjoyable process and has the additional benefit of further engaging their brain.

Based on the background and the symptoms depicted above, it is clear that most of students at second year of MA Hasanah Pekanbaru faced the problems in their reading comprehension that should be followed up as soon as possible. Therefore, the writer is interested in carrying out research entitled "THE EFFECT OF USING SPIDER MAP TECHNIQUE TOWARD READING COMPREHENSION AT THE SECOND YEAR STUDENTS OF MA HASANAH PEKANBARU"

## B. The Definition of Terms

In order to avoid the readers' misinterpretation in reading title of this research, the definition of the terms must be appropriately given. The following terms are defined as follows:

### 1. Spider Map

Spider Map is a free-form graphic organizer that allows students to think hard about information as both visual and metaphorical. The students are also able to visualize the interconnectedness of information and ideas

[5]Katherine S. McKnight. *Op.Cit* p.48

to a central idea.[6] It looks like a spider which has several feet around its body for noting with the purpose enabling students to make connections or see relationships between core concept or theme and details in story or article. In additional, Spider Map represents a technique that was developed by Hanf as an alternative to traditional note taking text.[7]

In short, Spider Map is alternative technique to taking note that student can make connections or see relationship between main ideas and supporting details.

**2. Reading Comprehension**

Reading comprehension is the process of constructing meaning from text that is defined as the level of understanding of a written text. It is the process of simultaneously extracting and constructing meaning through interaction and involvement with written language[8]. Moreover, reading comprehension is essentially the ability to understand what has been read[9].

In conclusion, reading comprehension is defined as the process of simultaneously extracting and constructing meaning through interaction and involvement with written language. It is important skill that must be skilled by English learner.

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[6]Katherine S. McKnight. *Op.Cit.* p. 48

[7]David H Jonassen. Et al. *Structural Knowledge: Technique for Representing, Conveying, and Acquiring Structural Knowledge.* New Jersey: Lawrence Eribaum Associates, 1993 p.35

[8]Catherine Snow. *Reading for Understanding toward R&D Program in Reading Comprehension"*. Santa Monica: RAND, 2002. p. 11

[9]Jennifer Zimmerman. *Definition of Reading Comprehension*. http://www.ehow.co.uk/about_6593485_definition-reading-comprehension.html. Retrieved May 18, 2011.

### 3. Narrative Text

Narrative text is one of genres of text that sequential in the events are ordered. Sequence always involves an arrangement in time. It may be straightforward or random. It has an introduction that engages the reader's interest, a body that gives details about the main event or action in the story, and a conclusion that describes the outcome.[10]

In conclusion, Narrative is one of genres of text that has a purpose to entertain reader by telling someone characters' action in the story.

## C. The Problems

### 1. The Identification of Problem

The problem of the research was obtained through the observation carried out at the field to identify the problem encountered by the students. To make this research becomes clear, the writer is going to identify the problems as follows:

1. Why do the students not pass the standard of passing score?
2. Why are the students not able to comprehend the text after reading several times?
3. Why do the students need much time to comprehend the text?
4. Why do the students feel difficult to find main idea?
5. Why do the students have limited vocabulary?
6. Why can the students not retell the text that they have read?

[10]Alice Savage and Patricia Mayer. *Effective Academic Writing 2: The Short Essay*. Hongkong: Oxford University Press, 2005. p. 58

7. How is the students' reading comprehension after being taught by using spider map technique?
8. How is the students' reading comprehension after being taught without using spider map technique?
9. How is the difference between students who are taught by Spider Map Technique and without using Spider Map Technique at the second year students of MA Hasanah Pekanbaru?

## 2. The Limitation of the Problem

Based on identification of the problems above, it can be known clearly that there are many problems that ought to be investigated. The writer specifies the text that will be investigated is narrative text because it is being studied when the writer is collecting data. Because of limited time, finance, and writers' ability, this research focuses and limited to the scope of:

1. The student's reading comprehension after being taught by using spider map technique.
2. The student's reading comprehension after being taught without using spider map technique.
3. The difference between students who are taught by Spider Map Technique and without using Spider Map Technique at the second year students of MA Hasanah Pekanbaru.

### 3. The Formulation of the Problem

The writer focuses on the effectiveness of using spider map toward student's reading comprehension of narrative text at the second year students of MA Hasanah Pekanbaru, therefore, the writer specifies the problems discussed in the following formulated question:

1. How is the students' reading comprehension after being taught by using spider map technique at second year students' of MA Hasanah Pekanbaru?
2. How is the students' reading comprehension after being taught without using spider map technique at second year students' of MA Hasanah Pekanbaru?
3. Is there any significant difference between students who are taught by Spider Map Technique and without using Spider Map Technique at the second year students of MA Hasanah Pekanbaru?

## D. The Objective and Significance of the Research

### 1. The Objectives of the Research

1. To obtain the information about the students' reading comprehension by using spider map technique.
2. To get the information about students' reading comprehension without using spider map technique.
4. To find out the information about significant difference between students who are taught by Spider Map Technique and without using

Spider Map Technique at the second year students of MA Hasanah Pekanbaru.

## 2. The Significance of the Research

1. This research is hopefully contributing to the writer as a researcher to conduct a research.
2. These research findings are also expected to give the positive contributions related to the process of teaching and learning English, especially in reading comprehension to the students and the teachers at the second year of MA Hasanah Pekanbaru.
3. These research findings are also expected to contribute the development of teaching and learning English theoretically or practically as a foreign language and for those who concern very much in language teaching and learning.

# CHAPTER II

# REVIEWING OF LITERATURE

## A. The Theoretical Framework

### 1. The Nature of Reading

Reading is one of English skills that important to be taught to the students. It is most useful activity which can enlarge students' insight. Patel stated that "Reading is an important activity in life with which one can update his/her knowledge. Reading skill is an important tool for academic success. This skill is more important than speaking and writing because reading is not only a source of information and a pleasurable activity but also as a mean of consolidating and extending one's knowledge of the language."[10]

Connecting the text and readers' background knowledge is a mainly part of reading processes. The texts are interpreted and derived to get the meaning, so that, this activity appears the information that can be used by readers to improve themselves. Depicted from sentence above, Nunan defined reading is a fluent process of readers combining information from a text and their own background knowledge to build meaning.[11] According to Moreillon, "reading is making meaning from

[10]Dr. M.F. Patel and Praveen M. Jain. *English Language Teaching Methods, Tools and Technique*. Jaipur: Sunrise Publishers and Distributors, 2008. p.113

[11]David Nunan. *Practical English Teaching.* Singapore: McGraw Hill, 2003. p.68

print and from visual information. But reading is not simple. Reading is an active process that requires a great deal of practice and skill".[12]

## 2. Reading Comprehension

### a. The Nature of Reading Comprehension

There are two terms that cannot be separated because they correlate from one to each other. Reading and comprehension are an activity that focuses on understanding the text. Reading without understanding what has been read is useless. In additional, Kalayo Hasibuan stated that the purpose (s) for reading and the type of the text determine the specific knowledge, skills, and strategies that readers need to apply to achieve comprehension.[13]

Gardner and Mc lntyre defined "reading comprehension as the ability to convert written language into forms near those used in either inner thought or dialogue"[14]. Harris and Graham stated that "reading comprehension is a multicomponent, highly complex process that involves many interactions between readers and what they bring to the text (previous knowledge, strategy use) as well as variables related to the text itself (interest in text, understanding of

[12]Judi Moreillon. *Collaborative Strategies for Teaching Reading Comprehension*. Chicago: American Library Association, 2007. p.10
[13]Kalayo Hasibuan. *Teaching English Foreign Language*. Pekanbaru: Alas, 2007. p. 68
[14]Gardner. Maclntyre. *An Instrumental Motivation in Language Study: Who Says It Isn't Effective? In Second Language Acquisition*. Cambrige University Press, 1978. p. 68

text types)"[15]. Harris and Graham also states that "reading comprehension is a complex process of constructing meaning by coordinating a number of skills related to decoding, word reading, and fluency (Jenkins, Larson, & Fleischer, 1983; O'Shea, Sindelar, & O'Shea, 1987) and the integration of background knowledge, vocabulary, and previous experiences (Anderson et al., 1985)"[16].

From the statements above, Reading comprehension can be described as the ability to comprehend or make meaning from a written text, whereas comprehension is the ability to know or hold ideas with the mind. Reading comprehension is the process of constructing meaning from text that is defined as the level of understanding of a written text. It is the process of simultaneously extracting and constructing meaning through interaction and involvement with written language. Moreover, reading comprehension is essentially the ability to understand what has been read.

**b. The Processes Involved in Reading Comprehension**

Reading comprehension has several processes that bring to comprehend the text. According to Harris and Graham, "Reading comprehension is a multicomponent, highly complex process that involves many interactions between readers and what they bring from their previous knowledge and strategy uses to the text as well

[15]Karen R. Harris and Steve Graham, *Teaching Reading Comprehension with Learning Difficulties*. New York: Guilford Press, 2007. p. 8
[16]*Ibid*. p. 12

as variables related to the text itself (interest in text, understanding of text types)".[17] It means that reading comprehension involves more than reader's respond to the text.

There are five basic comprehension processes that work together simultaneously and complement one another: microprocesses, integrative processes, macroprocesses, elaborative processes, and metacognitive processes.[18]

1) Microprocesses

It consists of chunking process and micro selection. Chunking involves grouping words into phrase that has meaning and requires understanding of syntax as well as vocabulary. Selection is another aspect that reader can decide which chunks of the text have to be remembered.

2) Integrative Processes

Integrative process involves the process of understanding and inferring the relationships among clauses. Reader is actively making connection between the sentence to another sentence to understanding and inferring the relationship among clause. Moreover, the readers are able to identify and understand the subject (pronoun referent) and sequence or causation.

[17]Karen R. Harris and Steve Graham. *Op.Cit* p.8
[18]*Ibid* p.8

3) Macroprocesses

Ideas are better understood and more easily remembered when the reader is able to organize them in a coherent way. The reader does this by summarizing the key ideas read. He or she may either automatically select the most important information to remember and delete relatively less important details. The skillful reader also uses a structure or organizational pattern to help him or her organize the important ideas. More proficient comprehenders know to use the same organizational pattern provided by the author to organize their ideas (e.g., a story map that includes characters and setting/problem/solution in a narrative or a compare-and-contrast text structure for an expository passage).

4) Elaborative Processes

When we read, we tap into our prior knowledge and make inferences beyond points described explicitly in the text. We make inferences that may or may not correspond with those intended by the author. For example from the sentence "Michael quickly locked the door and shut the windows. He was afraid." In this two sentences provided above about Michael, we do not know why he was afraid. But we can predict that perhaps he was worried that someone had followed him home, or maybe a storm was brewing and he was

concerned about strong winds. When making these inferences, we may draw upon information provided earlier in the text or upon our own previous experiences.

5) Metacognitive Processes

Much has been made of the importance of metacognition, that is, thinking about thinking. Metacognition is the reader's conscious awareness or control of cognitive processes. The metacognitive processes the reader uses are those involved in monitoring understanding, selecting what to remember, and regulating the strategies used when reading. The metacognitive strategies the reader uses include rehearsing, reviewing, underlining important words or sections of a passage, note taking, and checking understanding.

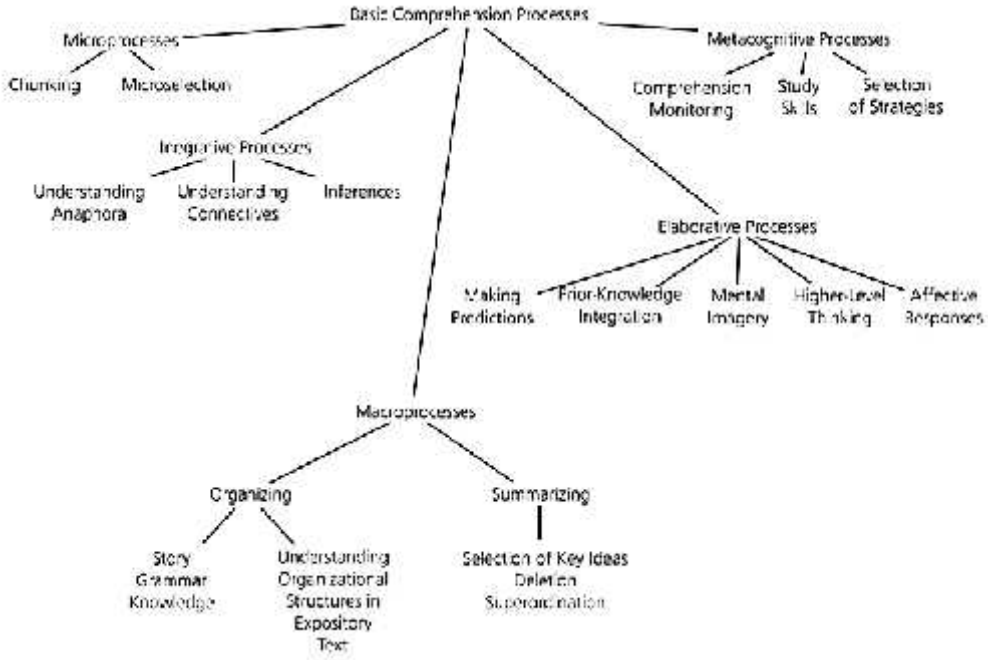


Figure 2.1
Reading Comprehension Process

Drawn from explanation above it is understood that within process there are several miscellaneous details involved apart from those five processes. In order to gain a successful reading, students should have been train those aforementioned details as their skill up lid during reading process.

**c. The Level of Comprehension**

As reading comprehension is a complex process, in additional, Clymer in Brasswel and Rasinski described the level of comprehension which is divided by three levels. These three levels of comprehension are important and necessary to be fostered by the readers. They are[19];

1. Literal Comprehension

Identifying facts directly stated in the passage is the primary step in reading comprehension. It is seen as the first level of comprehension. It is the simplest form of locating information in texts because the information is stated directly in the text. Questions assessing literal comprehension skills examine how well students can identify and understand information that is directly stated in a text. This idea is supported by Clymer who stated that literal comprehension

[19]Danny Brassell and Timothy Rasinski. *Comprehension that Works Taking Students Beyond Ordinary Understanding to Deep Comprehension*. New York: Shell Education, 2008. p. 16

requires a reader to be able to retell or recall the facts or information presented in a text[20].

2. Inferential Comprehension

Inferential comprehension is comprehension that involves using reasoning- drawing conclusions about the relationships between or among bits of information that are not explicitly stated. It requires relating background knowledge to what is read or applying knowledge about text structure to aid comprehension[21]. It refers to the ability of a reader to take in information that is inferred or implied within the text[22].

3. Critical Comprehension

Critical comprehension requires readers to make judgments about what they are reading based on an evaluation of several text-grounded factors, the determination that it is fact not opinion, the objectivity of the author, and whether the text is believable.

In conclusion, these levels of comprehension must be included when testing students. The technique must be appropriate with these levels in order to get the reliability and validity of the test.

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[20] *Ibid* p.16

[21] _____. *Inferential Comprehension*. http://www.csuchico.edu/sped/onlineacademy/a303/lesson/lesson_1/glossary/inferent.html. Retrieved Mei 28, 2011.

[22] Danny Brassell and Timothy Rasinski.*Op.Cit* p.16

### d. Factors that Affecting Reading Comprehension

As a reading process flows, there are also some factors that influence the students in their reading. Dawson and Bamman identified five factors that affect the comprehension skill. Those are[23]:

a. Intelligence

Students have different intelligence, so it will be possible for them to produce different comprehension. The number of ideas that they understand and the depth of their understanding will be largely dependent upon his general capacity to learn.

b. Experience

Students with limited experience may have difficulty in comprehending many ideas and activities with which other students are familiar before they come to school.

c. Mechanics of reading

Comprehension will be easier for the students if they have all mastered the skills of word attack and word meaning, and if they have learned to handle material books properly. Obviously, there must be a fine balance somewhat in each student between careful attention to word attack skills and to comprehension skills.

[23] Mildred A. Dawson and Henry A. Bamman. *Fundamentals of Basic Reading Instruction*. New York: David McKay Company, 1967. p. 220-223

d. Interest and interest span

It is true that we will respond quickly to what we read if we are interested in the topic or at least familiar with it. The interest span is related to personality factors; a disturbed student who has encountered many unfortunate experiences at home or in the school may be unable to preserve when required for comprehending reading passages.

e. Skills of comprehending

Another obvious factor, which influences the depth and amount of comprehension, is the skill, which the students have developed for that purpose. Like all reading skills, the ability to comprehend what we read develops gradually from the simple to the complex skills.

In conclusion, reading comprehension skill can be improved by considering several factors that have been described above. The technique must bring some factors whereas improving skill is main point of students learning process.

### 3. The Teaching and Learning Reading Comprehension

Developing the students' ability in reading the text, get the information, and understand about the text are the aims of teaching reading. Moreover, the students are able to comprehend and react toward

what is written. Ability is defined in Webster's New Encyclopedic Dictionary as (1) a: the quality or state of being able, b: competence in doing: skill, (2) natural talent or acquired proficiency: aptitude.[24] It means that the teachers should be focused in their students' interest in reading and motivates them to read in order to obtain the knowledge, particularly in learning process.

From the explanation above, it can be concluded that ability is a result of learning something. Reading ability means someone's ability to make sense of written to extract information in the text by using his knowledge, skills, and strategies to achieve the purpose of reading activity itself. Based on previous description that reading comprehension is ability in reading, the teacher should consider the factors that affect reading comprehension and the process or skills of reading comprehension in its teaching process.

**4. Spider Map**

Spider map is a technique that was developed by Hanf (1971) as an alternative note taking from text. It serves main ideas and related details in lines that connected to center idea. The center idea is placed in circle shape like a body of spider. Its legs are drawn in lines and furs used to place details with the end product looking similar to spider. It is different from pattern notes in that only hierarchical relationships

[24] _____. *Webster's New Encyclopedic Dictionary*. New York: Black Dog & Leventhal Publisher Inc, 1992.

between ideas are depicted in spider maps, whereas in pattern notes relationships between coordinate concepts are depicted.[25]

Hanf identified three main benefits of spider mapping. First, spider mapping assists in the development of critical thinking by freeing learners to select important ideas and organize them into a meaningful pattern, and integrating into a relevant whole without the constraints of formal, linear writing. Second, mapping improves reasoning skills by requiring learners to organize and analyze thoughts. Finally, spider mapping improves memory by organizing details in relation to main ideas.

Spider Map can be used in many activities. It is used to make connection or see relationship between a core concept or theme and details in story or article. Accrding to Bellanca, the appropriate uses of spider map are:

a. Use to connect details in story to the theme.
b. Use to connect details in nonfiction material to a core concept.
c. Use to connect details to main ideas in a class or discussion.
d. Use to connect details to various characters in a story (book, video, play).[26]

[25]Jonassen, David H. Et al. *Structural Knowledge: Techniques for Representing, Conveying, and Acquiring Structural Knowledge*. New Jersey: Lawrence Eribaum Associates, 1993. p.21
[26]Bellanca, James. *A Guide to Graphic Organizers: Helping Students Organize and Process Content for Deeper Learning.* California: Corwin Press, 2007. p. 87

According to Bellanca, lesson design for spider map can be done as follows:

**a. Check Prior Knowledge of the Spider Map Organizer**

1) Show the sample map to the class with the overhead
2) Name it and ask how many have used the spider map in previous lesson. With fiction? With nonfiction?
3) Invite the students who have prior experience to label the parts of the map and indicate an example of what they might enter on each part.
4) Use wait-time and distribute the opportunity to respond among volunteers.

**b. Explain the Spider Map's Purpose**

1) Ask students to speculate on how they might use the spider map with a story they are reading.
2) Ask students to speculate on the value using the spider map when reading a story or nonfiction article. Distribute the opportunity for many to contribute by drawing names from a hat or box.
3) Summarize their contributions to the value of the spider map and highlight that value in the purpose statement.

**c. Clarify and Model the Task**

1) Provide each student with a five- to seven-paragraph news article taken from the daily paper or a new magazine. Invite all to read the article.
2) Invite students to help filling in the labeled spider map with the topic, main ideas, and details. Allow all students an opportunity to respond.
3) When the map is completed, check for understanding of the process.

**d. Complete the Task**

1) Match students in pairs.
2) Assign a short story to read.
3) After students complete the reading task, instruct them to draw a spider map on a sheet of 8.5 x 11 paper. Check for understanding of the procedures for completing the map. Working together, the students will complete the map.
4) Walk among the pairs and coach as needed.

**e. Guide Reflection**

1) Form groups of six from three pairs. Assign an order for sharing.
2) Focus on content. Each group will focus on one main idea and its details. After this sharing, the other groups may add details. All should record added details on their maps. Instruct each

student to compose a summary of main idea the group selected from the map. When these summaries are completed, allow each student the chance to read them to the group of six.

3) Focus on the process. In the group of six, each student may tell how the spider map helped with the understanding of the story.

There is one procedure that has been found clearly in several resources, so that, the writer will use this lesson design as a procedure to conduct spider map technique in operational concept.

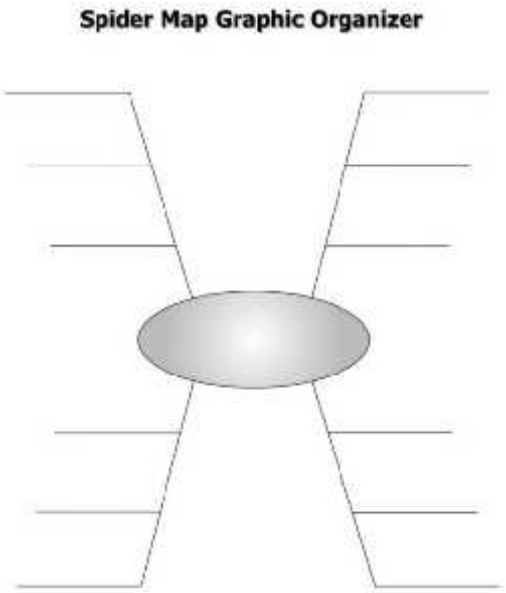


Figure 2.2
Spider Map

**5. Narrative Text**

Narrative text is one of genres of text that sequential in the events are ordered. Sequence always involves an arrangement in time. It may be

straightforward or random. It has an introduction that engages the reader's interest, a body that gives details about the main event or action in the story, and a conclusion that describes the outcome. This genre has a purpose to entertain the reader by telling the specific characters' action put in the themes which imagine the readers about the story. The generic structures of narrative text[27]:

a. Introduction
    1) The hook gets the reader's attention.
    2) The middle sentences introduce an event (the action of the story) by providing background information about the people, the place, and the time.
    3) The thesis statement prepares the reader for the action that follows.
b. Body Paragraphs
    1) The body paragraphs describe what happened in the story.
    2) They include details that bring the story to life.
    3) They often use time in order to explain the event.
c. Conclusion
    1) A conclusion describes the outcome of the event.
    2) If often ends with a comment by the writer about what the event showed or taught.

[27]Alice Savage and Patricia Mayer. *Effective Academic Writing 2: The Short Essay*. Hongkong: Oxford University Press, 2005. p. 58

## B. The Relevant Research

Many studies have been done by previous scholars and researchers on the subject of reading with focus on reading comprehension. It also happens to experimentation towards certain method of language teaching. Therefore it is always useful to the writer to gather and analize previous works of relevant research. This is not only to see the similarities and the differences on certain points between these works into my own but also to draw important conclusions beneficial this study.

1. Shahid, Hakim, Ph.D. conducted a research entitled "The effects of implementing culturally relevant teaching, two-column note-taking, and graphic organizers in the pedagogical stances and instructions of secondary content teachers." The research was included into True-Experimental research. This case study introduced teacher participants to the effectiveness of implementing culturally relevant teaching in their content instruction as well as using two-column note taking and graphic organizer reading comprehension strategies.

   Findings from the question regarding the effects of implementing culturally relevant teaching practices into teachers' instructional delivery revealed multiple relevancies that evolved as a result of the participants' utilization. Embedding lessons with culturally, socially and generationally relevant teaching practices were beneficial to the outcomes of the lesson objectives. The use of implementing multiple perspectives gave students a fuller understanding of the concepts presented in the textbook and overall

lesson. It could be deduced that instilling motivation is key in successfully instructing students in content education. It was also concluded the teachers' implementations of culturally relevant teaching practices induced and reinforced students' metacognitive capabilities.

These relevant researches which were conducted by previous researchers provide contribution toward the research that was conducted by the writer. The relevant research entitled “The Effects of Implementing Culturally Relevant Teaching, Two-Column Note Taking, and Graphic Organizers in the Pedagogical Stances and Instructions of Secondary Content Teachers”. They are as references to the writer because the previous researches showed that Spider Map Technique which was in Graphic Organizer was effective to improve comprehension. So, the writer is interested in conducting a research entitled “The effect of using spider map technique toward reading comprehension of second year of students at MA Hasanah Pekanbaru”. The differences between previous researches with the research that is conducted by the writer are different subject and object of the research, different situation that is faced, different research design because the writer‘s research design is quasi experiment design.

2. Research from Belda Susana. In 2011, Susana conducted a research entitled SCROL (Survey, Connection, Read, Outline, Lock Back) strategy toward students’ reading comprehension at the second year of Mts Darul Hikmah Pekanbaru. In her research, the method of research was quasi

experimental research that used pre-test and post-test design. She took two classes based on technique cluster random sampling. She found that the mean score of experimental group which was taught by using SCROL was categorized into Good Category while the mean score of control group which was taught by using conventional strategy categorized into Enough Category. It means that there was significant effect between students' reading comprehension by using SCROL Strategy and thowe who are taught by using conventional strategy. It showed that using SCROL strategy has positive has positive effect toward students' reading comprehension.

## C. The Operational Concept

Operational concept is the concepts used as a guidance to avoid misunderstanding and misinterpretation in the scientific research. The writer finds out the effectiveness of using Spider Map Technique to improve students' reading comprehension. There are two variables in this research; they are independent variable and dependent variable. The independent variable is the effectiveness of using Spider Map Technique, and students' reading comprehension as the dependent variable. It can be seen in the following indicators.

**1. The Indicators of Variable X:**

**a. Procedure of Experimental Group**

The treatment is conducted only for experimental group. The treatment uses spider map technique in teaching reading comprehension. The length of time to apply the strategy is eight meetings. Here are the procedures of spider map technique:

**1) Check Prior Knowledge of the Spider Map Organizer**

a) Teacher shows the sample map to the class with the overhead, name it and ask how many have used the spider map in previous lesson.

b) Teacher invites the students who have prior experience to label the parts of the map and indicate an example of what they might enter on each part.

c) Teacher uses wait-time and distributes the opportunity to respond among volunteers.

**2) Explain the Spider Map's Purpose**

a) Teacher asks students to speculate on how they might use the spider map with a story they are reading.

b) Teacher asks students to speculate on the value using the spider map when reading a story or nonfiction article. Distribute the opportunity for many to contribute by drawing names from a hat or box.

c) Teacher summarizes students' contributions to the value of the spider map and highlights that value in the purpose statement.

**3) Clarify and Model the Task**

a) Teacher provides each student with a five- to seven-paragraph news article taken from the daily paper or a new magazine. Invite all to read the article.

b) Teacher invites students to help filling in the labeled spider map with the topic, main ideas, and details. Allow all students an opportunity to respond.

c) When the map is completed, teacher checks for understanding of the process.

**4) Complete the Task**

a) Teacher matches students in pairs.

b) Teacher assigns a short story to read.

c) After students complete the reading task, teacher instructs students to draw a spider map on a sheet of 8.5 x 11 paper. Teacher checks for students' understanding of the procedures for completing the map. Working together, the students will complete the map.

d) Teacher walks among the pairs and coach as needed.

**5) Guide Reflection**

a) Form groups of six from three pairs. Teacher assigns an order for sharing.

b) Focus on content. Each group will focus on one main idea and its details. After this sharing, the other groups may add details. All should record added details on their maps. Teacher instructs each student to compose a summary of main idea the group selected from the map. When these summaries are completed, Teacher allows each student the chance to read them to the group of six.

c) Focus on the process. In the group of six, each student may tell how the spider map helped with the understanding of the story.

**b. Procedure of Control Group**

In this case, the teacher teaches reading comprehension for control group by using the technique which has been done by preliminary teacher. The technique used in the classroom is characterized as follows:

1. The teacher asks the students to read the passages on the text.
2. The teacher asks the students to find out the meaning of unfamiliar words.
3. The teacher asks the students to answer the questions based on the text.
4. The teacher collects the students' assignments.

**2. The Indicators of Variable Y:**

a. The students are able to find out main ideas in narrative text.

b. The students are able to identify supporting idea of narrative text.

c. The students are able to find the meaning of vocabulary in context.

d. The students are able to identify references in narrative text.

e. The students are able to make inference from narrative text.

## D. The Assumption and Hypothesis

### 1. The Assumption

There writer assumptions before implementing to the research are assumed as follows:

a. The students reading comprehension are various.

b. Students' reading ability is influenced by many factors.

### 2. The Hypothesis

Ho: There is no significant difference of reading comprehension between the students who are taught by using Spider Map Technique and the students who are taught without using Spider Map Technique at second year students of MA Hasanah Pekanbaru.

Ha: There is significant difference of reading comprehension between the students who are taught by using Spider Map Technique and the students who are taught without using Spider Map Technique at second year students of MA Hasanah Pekanbaru.

# CHAPTER III

# METHOD OF THE RESEARCH

## A. Research Design

This research is quasi-experimental research. Gay and Airasian stated that quasi-experimental design is used when the researcher keeps the students in existing classroom intact and the entire classrooms are assigned to treatments.[26] The writer uses intact groups, the first class is as the experimental class and the second class is as the control class. They are treated differently, however, the teacher, the length of the time, and material are the same. The experimental class is treated by using directly "Spider Map Technique" while the control class is treated as usual without using "Spider Map Technique". In conducting this research the writer assigns intact groups the experimental and control treatments. Both experimental class and control class are using pre-test and post-test, but, experimental treatment activity is only conducted to experimental class.

The design that the writer chooses is non-equivalent control class design. Tuckman said that the procedures for this design are the same as for true design except that intact group rather than randomly assigned once are used, creating a control problem in terms of selection bias.[27] This research consist of two variables, both are the effect of using "Spider Map Technique"

[26]L.R. Gay and Peter Airasian. *Educational Research: Competencies for Analysis and Application (Sixth Edition)*. New Jersey: Pearson Prentice-Hall, 2000. p.394

[27]Bruce W Tuckman. *Conducting Educational Research (Fifth Edition)*. New York: Hacourt Brace College Publisher, 1999. p.142

as the independent variable and the students' reading comprehension as dependent variable. This research can be designed by following figure:

**Figure III.1**
**Research Design**

| Group | Pre-Test | Treatment | Post-Test |
|---|---|---|---|
| Experimental Class | X1 | X | Y1 |
| Controlling Class | X2 | | Y2 |

Explanation:
X = A treatment by using "Spider Map Technique"
X1 and X2 = Pre-Test
Y1 and Y2 = Post-Test

## B. Time and Location of the Research

The location of this study was done in MA Hasanah Pekanbaru. It was located at Jl. Cempedak No. 37, Pekanbaru. This research was conducted in 14 May 2012 until 2 June 2012.

## C. Subject and Object of the Research

### 1. Subject of the Research

The subject of this research was the second semester of the second year students of MA Hasanah Pekanbaru, in the academic year of 2011/2012.

### 2. Object of the Research

The object of this research was the effect of using Spider Map technique toward students' reading comprehension, especially in narrative text.

## D. The Population and Sample of the Research

### 1. Population

The population of this research is the second year students of MA Hasanah Pekanbaru. They were 71 students divided into three classes. They were assumed to have the same level of proficiency, the same background, and the same teacher.

Table III.1
Distribution of the Research Population

| Class | Number of Students |
|---|---|
| XI IPA | 25 |
| XI IPS 1 | 23 |
| XI IPS 2 | 23 |

### 2. Sample

"Sampling is the process of selecting a number of individuals for a study in such a way that represents the larger group from which they were selected".[28] In this research, the writer uses the cluster sampling as the way to choose the sample of population. According to Gay and Airasian, cluster sampling randomly selects groups, not individuals.[29] In cluster sampling, the writer selects a sample based on the knowledge about the group itself.

The writer chooses the class of XI IPS 1 and XI IPS 2 as the sample of population. Based on the preliminary study by asking the English teacher in MA Hasanah Pekanbaru, the two classes are almost

[28] L.R Gay and Peter Airasian. *Op.Cit* p.121
[29] *Ibid* p. 129

homogenous for the total of the students in the class even the achievement in learning.

## E. Technique of Collecting the Data

To get the data needed in this research, the writer used a test to measure the students' reading comprehension. In this technique, the writer collected data by doing test. The same test was administered by experimental and control class. It is aimed to see if there is difference between the two classes.

To get data about students' reading comprehension, the writer uses the assessment based on the indicators of reading comprehension that have been explained in operational concept.

Before giving the test to the students, the test is tried out to get validity and reliability of the test. The difficulty and the reliability of the test are accounted to appropriate level at each. The difficulty level on the items show how easy or difficult the particular items provided in the test. It is shown as the percentage of the students who answer items correctly.

## F. The Validity and Reliability of the Test

### 1. Test Blueprint

For further information of te text, the researcher showed the blueprint of both tests as follows:

| No. | Indicator of Items | Number of Items | Items Number |
|---|---|---|---|
| 1. | Finding out main ideas. | 4 items | 1, 6, 11, 16, 21 |
| 2. | Identify supporting idea. | 4 items | 2, 7, 12, 17, 22 |
| 3. | Locate the meaning of vocabulary. | 4 items | 3, 8, 13, 18, 23 |
| 4. | Identify referent. | 4 items | 4, 9, 14, 19, 24 |
| 5. | Finding communicative purpose | 4 items | 5, 10, 15, 20, 25 |

**2. Validity and Reliability**

Before the tests were given to the sample, both of tests had been tried out to 25 students at the second year. The purpose of try out was to obtain validity and reliability of the test. In analyzing the validity and reliability of the test, the researcher used correlation product moment formula by dividing items into odd and even (split-half method), the formulations are as following[30]:

**The formulation of validity:**

$$r_{XY} = \frac{N\sum XY - (\sum X)(\sum Y)}{\sqrt{[N\sum X^2 - (\sum X)^2][N\sum Y^2 - (\sum Y)^2]}}$$

$r_{XY}$ : Correlated Confession between X and Y

X : Odd Items (1,3,5,6,7,9,11,13,15,17,19,21,23,25)

Y : Even Items (2,4,6,8,10,12,14,16,18,20,22,24)

N : Respondents

It was calculated as follows:

$$r_{XY} = \frac{25(1300) - (186)(170)}{\sqrt{[25(1466) - (186)^2][25(1228 - (170)^2]}}$$

$$r_{XY} = \frac{32500 - 31621}{\sqrt{[36650 - 34596][30700 - 28900]}}$$

[30] Suharsimi Arikunto. *Dasar-Dasar Evaluasi Pendidikan*. Jakarta: Bumi Aksara, 2008. p. 70-93

$$r_{XY} = \frac{879}{\sqrt{[2054][1800]}}$$

$$r_{XY} = \frac{879}{\sqrt{3697200}}$$

$$r_{XY} = \frac{879}{1922,81}$$

$$r_{XY} = 0.457$$

**The formulation of reliability:**

$$r_{11} = \frac{2\, r_{1/21/2}}{(1 + r_{1/21/2})}$$

It was calculated as follows:

$$r_{11} = \frac{2 \times 0.457}{(1 + 0.457)}$$

$$r_{11} = \frac{0.914}{1.457}$$

$$r_{11} = 0.627$$

Based on the analysis of validity and reliability above, it can be seen that the $r_{value}$ of validity was 0.457 and $r_{value}$ of reliability was 0.627. According to Arikunto the value of correlation coefficients as follow[31];

1. Between 0.800 to 1.00 = Very High
2. Between 0.600 to 0.800 = High
3. Between 0.400 to 0.600 = Enough
4. Between 0.200 to 0.400 = Low
5. Between 0.00 to 0.200 = Very Low

[31] *Ibid.* p. 75

In conclusion, validity of the test was including into high category while reliability of the test was categorized into enough category.

## G. Technique of Data Analysis

In order to find out whether or not there is a significant difference in improving students' comprehension by using Spider Map Technique of the two classes. The data are taken from students' scores in final test. Before applying t-test, it is necessary to find out several scores as follows[32]:

1. The first formula is used to find the means or average of each group. It was calculated by using formula:

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

*Mx* = the average score

$\sum fX$ = sum of the row score

N = the number of students

2. The second formula is used to find out the result of the standard deviation of each group. It shows the spread of scores. It measures the degree to which group of score deviates from the mean.

$$SDx = \sqrt{\frac{\sum fx^2}{N}}$$

SDx = Standard Deviation of Variable X

$\sum fX^2$ = Sigma of individual score quadrate of students score

$\sum fX$ = Sigma of individual score of students score

[32] *Ibid* p. 70-93

N = The number of students

3. The third formula is used to calculate the value.

$$to = \frac{Mx - My}{\sqrt{\left(\frac{SDx}{\sqrt{N-1}}\right)^2 + \left(\frac{SDy}{\sqrt{N-1}}\right)^2}}$$

to = The valuable of t obtain/table

Mx = Mean score of post-test experiment class

My = Mean score of post-test control class

SDx = Standard deviation of post-test experiment class

SDy = Standard deviation of post-test control class

N = Number of students

4. The final step is to find out the t-score that aims to figure out the degree of freedom of two groups. It is used to determine whether the t-score is a significant value or not. To find the degree of freedom, the following formula is used:

$$df = Nx + Ny - 2$$

If the value of t-calculation is bigger than value of t-table, it means that alternative hypothesis is accepted. Conversely, if the value of t-calculation is smaller than value of t-table, it means that null hypothesis is accepted.

# CHAPTER IV

# THE DATA PRESENTATION AND THE DATA ANALYSIS

## A. Description of Research Procedure

The purpose of the research is to obtain the students' reading comprehensions who are taught by using Spider Map Technique and those who are taught by using preliminary teacher's technique as well as to know if there is significant different between the students' reading comprehension who are taught by using Spider Map and those who are taught without using Spider Map Technique. The data were obtained from the students' reading comprehension of experimental and control class.

Before taking the data, the writer tried out the test to XI IPA to prove the reliability of the test. The result was found in the try out was 0.457. It means that the test was reliable enough. Then, to obtain the homogeneity and normality of the students' reading comprehension, the writer gave pre-test and post-test to XI IPS 1 and XI IPS 2. The writer asked the students to answer some questions based on the text given; the text was a narrative text. Based on design of the research, it was found that class XI IPS 1 was as a experiment class and XI IPS 2 was as an control class. Then, the writer gave treatments to experimental class only for three meetings because school examination session would be done.

After giving Spider Map Technique to experimental class, the writer used the same format of questions and text of narrative to test students' reading comprehension for the post-test of experimental class. While for control class, which were taught without using treatments, the writer also

used the same format of questions of narrative for their post-test. The result of reading test was evaluated by concerning five components, such as:

1. Finding out main ideas.
2. Identify supporting ideas.
3. Locate the meaning of vocabulary in context.
4. Identify reference in narrative text.
5. Finding communicative purpose

The data of this research were gotten from the scores of students of the experimental class and the control class. All of data were collected through the following procedures:

1. Both classes (experimental and control class), students were asked to answer the questions based on the narrative text given.
2. The format of the test was multiple choicer.
3. The writer and the observer gave scores of the students' reading comprehension that were collected from their scores of pre-test and post-test.
4. The test was composed of 25 items, and each correct item was given score by 4 points.

## B. The Data Presentation

### 1. Data Presentation of Students' Reading Comprehension Taught by Spider Map Technique

The data of students' reading comprehension taught by using Spider Map technique were gotten from pre-test and post-test of XI IPS 1

as an experimental class taken from the sample of this class (23 students). The writer taught directly for three meetings in the experimental class. The data can be seen from the table below:

**Table IV. 1**
**The Score of the Students' Reading Comprehension Taught by Using Spider Map Technique**

| No. | Students | Experimental Class | | Gain |
|---|---|---|---|---|
| | | Pre-Test | Post-Test | |
| 1 | Student 1 | 64 | 80 | 16 |
| 2 | Student 2 | 48 | 76 | 28 |
| 3 | Student 3 | 52 | 68 | 16 |
| 4 | Student 4 | 72 | 88 | 16 |
| 5 | Student 5 | 60 | 80 | 20 |
| 6 | Student 6 | 58 | 72 | 14 |
| 7 | Student 7 | 56 | 80 | 24 |
| 8 | Student 8 | 56 | 84 | 28 |
| 9 | Student 9 | 48 | 68 | 20 |
| 10 | Student 10 | 64 | 80 | 16 |
| 11 | Student 11 | 56 | 68 | 12 |
| 12 | Student 12 | 64 | 60 | -4 |
| 13 | Student 13 | 56 | 72 | 16 |
| 14 | Student 14 | 52 | 76 | 24 |
| 15 | Student 15 | 72 | 88 | 16 |
| 16 | Student 16 | 68 | 84 | 16 |
| 17 | Student 17 | 48 | 60 | 12 |
| 18 | Student 18 | 56 | 76 | 20 |
| 19 | Student 19 | 64 | 84 | 20 |
| 20 | Student 20 | 52 | 80 | 28 |
| 21 | Student 21 | 56 | 74 | 18 |
| 22 | Student 22 | 76 | 88 | 12 |
| 23 | Student 23 | 72 | 84 | 12 |
| **Total** | | **1370** | **1770** | **400** |

From the table IV.1, the writer found that the total score of pre-test in experimental class was 1370 while the highest was 76 and the lowest was 48. The total score of the post-test in the experimental class was 1770 while the highest was 88 and the lowest was 60. It looked that the students' score had increases of their reading comprehension proved by the difference of total score.

The score of frequency from the pre-test and the post-test which is significantly different can be seen as follows:

**Table IV. 2**
**The Frequency Score of Pre-test and Post-test of Students' Reading Comprehension Taught by Using Spider Map Technique**

| No | Valid of Pre-Test | Frequency of Pre-Test | Valid of Post-Test | Frequency of Post-test |
|---|---|---|---|---|
| 1 | 48 | 3 | 48 | 0 |
| 2 | 52 | 3 | 52 | 0 |
| 3 | 56 | 6 | 56 | 0 |
| 4 | 58 | 1 | 58 | 0 |
| 5 | 60 | 1 | 60 | 2 |
| 6 | 64 | 4 | 64 | 3 |
| 7 | 68 | 1 | 68 | 2 |
| 8 | 72 | 3 | 72 | 1 |
| 9 | 76 | 1 | 76 | 3 |
| 10 | 80 | 0 | 80 | 5 |
| 11 | 84 | 0 | 84 | 4 |
| 12 | 88 | 0 | 88 | 3 |
| Total | | 23 | | 23 |

The mean and standard deviation are needed in analyzing data which were gotten from the scores of pre-test and post-test. The mean and standard deviation of pre-test and post-test are as in the following table:

**Table IV. 3**
**The Mean and Standard Deviation of Pre-test and Post-test of Students' Reading Comprehension Taught by Using Spider Map Technique**

| | Mean | Std. Dev |
|---|---|---|
| **Pre-Test** | 59.56 | 8.35 |
| **Post-Test** | 76.95 | 8.22 |

Referring the table above, the mean of pre-test was 59.56 and standard deviation of pre-test was 8.35. Meanwhile, of post-test was 76.95 and standard deviation was 8.22.

## 2. Data Presentation of Students' Reading Comprehension without Using Spider Map Technique

The data of students' reading comprehension without using Spider MapTechnique were also taken from the pre-test and the post-test of XI IPS 2 as control class taken from the sample of this class (23 students). The data can be seen from the table follow:

**Table IV. 4**
**The Score of the Students' Reading Comprehension Taught without Using Spider Map Technique**

| No. | Students | Control Class | | Gain |
|---|---|---|---|---|
| | | Pre-Test | Post-Test | |
| 1 | Student 1 | 72 | 80 | 8 |
| 2 | Student 2 | 48 | 60 | 12 |
| 3 | Student 3 | 56 | 56 | 0 |
| 4 | Student 4 | 52 | 68 | 16 |
| 5 | Student 5 | 56 | 64 | 8 |
| 6 | Student 6 | 56 | 68 | 12 |
| 7 | Student 7 | 72 | 76 | 4 |
| 8 | Student 8 | 64 | 70 | 6 |
| 9 | Student 9 | 52 | 56 | 4 |
| 10 | Student 10 | 52 | 52 | 0 |
| 11 | Student 11 | 68 | 72 | 4 |
| 12 | Student 12 | 60 | 64 | 4 |
| 13 | Student 13 | 58 | 60 | 2 |
| 14 | Student 14 | 56 | 68 | 12 |
| 15 | Student 15 | 60 | 68 | 8 |
| 16 | Student 16 | 68 | 68 | 0 |
| 17 | Student 17 | 52 | 60 | 8 |
| 18 | Student 18 | 56 | 52 | -4 |
| 19 | Student 19 | 64 | 56 | -8 |
| 20 | Student 20 | 64 | 56 | -8 |
| 21 | Student 21 | 56 | 60 | 4 |
| 22 | Student 22 | 52 | 72 | 20 |
| 23 | Student 23 | 72 | 76 | 4 |
| TOTAL | | 1366 | 1482 | 116 |

From the table IV.5, The writer found that the total score of pre-test in control class was 1366 while the highest was 72 and the lowest was 42 and the total score of post-test in the control class was 1482 while the highest was 80 and the lowest was 52. It means that the

students had little increasing of their reading comprehension. Besides, the mean of pre-test and post-test of control class and experimental class also had a big difference. The frequency score and the mean of pre-test and post-test of the control class can be seen below:

**Table IV. 5**
**The Frequency Score of Pre-test and Post-test of Students' Reading Comprehension without Using Spider Map Technique**

| No | Valid of Pre-Test | Frequency of Pre-Test | Valid of Post-Test | Frequency of Post-test |
|---|---|---|---|---|
| 1 | 48 | 1 | 48 | 0 |
| 2 | 52 | 5 | 52 | 2 |
| 3 | 56 | 6 | 56 | 4 |
| 4 | 58 | 1 | 58 | 4 |
| 5 | 60 | 2 | 60 | 2 |
| 6 | 64 | 3 | 64 | 5 |
| 7 | 68 | 2 | 68 | 1 |
| 8 | 72 | 3 | 72 | 2 |
| 9 | 76 | 0 | 76 | 2 |
| 10 | 80 | 0 | 80 | 1 |
| Total | | 23 | | 23 |

**Table IV. 6**
**The Mean and Standard Deviation of the Pre-test and the Post-test of the Students' Reading Comprehension Taught without Using Spider Map Technique**

| | Mean | Std. Dev. |
|---|---|---|
| **Pre-Test** | 59.39 | 7.27 |
| **Post-Test** | 64.43 | 7.95 |

Referring the table above, the mean of pre-test was 59.39 and standard deviation of pre-test was 7.27. Meanwhile, of post-test was 64.43 and standard deviation was 7.95.

### 3. The Students' Classifications Score of the Students Taught by Using Spider Map Technique and without Using Spider Map Technique.

To find out how the students' reading comprehension who were taught by using Spider Map Technique and those who were taught by using preliminary teacher's technique, the writer only took the post-test score of each class, because the post-test was given after the treatment.

**Table IV. 7**
**Mean of Post-Test in Experimental Class and Control Class**

| | Experiment Class | Control Class |
|---|---|---|
| **Mean (Pre-Test)** | 59.56 | 59.39 |
| **Mean (Post-Test)** | 76.95 | 64.43 |

From the table IV.7, the mean of the pre-test of the experiment class was 59.56 and the mean of the post-test of the experiment class was 76.95, meanwhile the mean pre-test of the control class was 59.39 and the mean post-test of the control class was 64.43. To make it clear the following table describes the students' classification score whether taught by using Spider Map Technique or those who were taught by using preliminary teacher's technique[33]:

**Table IV. 8**
**The Classification of Students' Score**

| THE SCORE LEVEL | CATEGORY |
|---|---|
| 80-100 | Very Good |
| 66-79 | Good |
| 56-65 | Enough |
| 40-55 | Less |
| 30-30 | Fail |

[33] Suharsimi Arikunto. *Dasar-dasar Evaluasi Pendidikan*. Jakarta: Bumi Aksara. 2009. p. 245

Based on the table IV.8, the mean of the pre-test of the experiment class was 59.56, it was categorized into enough level and the mean of post-test of the experiment class was 76.95, it was categorized into good level. Meanwhile the mean pre-test of the control class was 59.39, it was categorized into enough level and the mean post-test of control class is 64.43, it was categorized into enough level. It can be stated that using Spider Map Technique could increase the students' reading comprehension.

**4. The Data Presentation of the Difference between the Students' Reading Comprehension Taught by Using Spider Map Technique and without Using Spider Map Technique.**

The following table is the description of the pre-test and post-test from both of the experimental class and the control class.

**Table IV. 9**
**Students' Pre-Test and Post-Test of Experimental and Control Class**

| No. | Students | Experimental Class | | Gain | Control Class | | Gain |
|---|---|---|---|---|---|---|---|
| | | Pre-Test | Post-Test | | Pre-Test | Post-Test | |
| 1 | Student 1 | 64 | 80 | 16 | 72 | 80 | 8 |
| 2 | Student 2 | 48 | 76 | 28 | 48 | 60 | 12 |
| 3 | Student 3 | 52 | 68 | 16 | 56 | 56 | 0 |
| 4 | Student 4 | 72 | 88 | 16 | 52 | 68 | 16 |
| 5 | Student 5 | 60 | 80 | 20 | 56 | 64 | 8 |
| 6 | Student 6 | 58 | 72 | 14 | 56 | 68 | 12 |
| 7 | Student 7 | 56 | 80 | 24 | 72 | 76 | 4 |
| 8 | Student 8 | 56 | 84 | 28 | 64 | 70 | 6 |
| 9 | Student 9 | 48 | 68 | 20 | 52 | 56 | 4 |
| 10 | Student 10 | 64 | 80 | 16 | 52 | 52 | 0 |
| 11 | Student 11 | 56 | 68 | 12 | 68 | 72 | 4 |
| 12 | Student 12 | 64 | 60 | -4 | 60 | 64 | 4 |
| 13 | Student 13 | 56 | 72 | 16 | 58 | 60 | 2 |
| 14 | Student 14 | 52 | 76 | 24 | 56 | 68 | 12 |
| 15 | Student 15 | 72 | 88 | 16 | 60 | 68 | 8 |

| No. | Students | Experimental Class | | Gain | Control Class | | Gain |
|---|---|---|---|---|---|---|---|
| | | Pre-Test | Post-Test | | Pre-Test | Post-Test | |
| 16 | Student 16 | 68 | 84 | 16 | 68 | 68 | 0 |
| 17 | Student 17 | 48 | 60 | 12 | 52 | 60 | 8 |
| 18 | Student 18 | 56 | 76 | 20 | 56 | 52 | -4 |
| 19 | Student 19 | 64 | 84 | 20 | 64 | 56 | -8 |
| 20 | Student 20 | 52 | 80 | 28 | 64 | 56 | -8 |
| 21 | Student 21 | 56 | 74 | 18 | 56 | 60 | 4 |
| 22 | Student 22 | 76 | 88 | 12 | 52 | 72 | 20 |
| 23 | Student 23 | 72 | 84 | 12 | 72 | 76 | 4 |
| **Total** | | **1370** | **1770** | **400** | **1366** | **1482** | **116** |

From the table above, it can be seen that there is actually significant difference between the pre-test and the post-test in the experiment class and the pre-test and the post-test in the control class. It also can be seen from the difference of the gain in the experimental class and the control class.

## C. The Data Analysis

The data analysis is presented by the statistical result which is followed by discussion about The Effect of Using Spider Map Technique toward Reading Comprehension at the Second Year Students of MA Hasanah Pekanbaru. It also answers the formulations of the problem as follows:

1. How is the students' reading comprehension after being taught by using spider map technique at second year students' of MA Hasanah Pekanbaru?
2. How is the students' reading comprehension after being taught without using spider map technique at second year students' of MA Hasanah Pekanbaru?

3. Is there any significant difference between students who are taught by Spider Map Technique and without using Spider Map Technique at the second year students of MA Hasanah Pekanbaru?

**1. Students' Reading Comprehension Taught by Using Spider Map Technique.**

The following table is the description of the data of the students' pre-test and posttest scores of the experimental class. It was obtained from the result of their reading comprehension. The data can be described as follows:

**Table IV. 10**
**Students' Pre-Test and Post-Test Scores of Students' Reading Comprehension Taught by Using Spider Map Technique**

| No | Valid of Pre-Test | Frequency of Pre-Test | Standard Graduated | Frequency of Post-test | Standard Graduated |
|---|---|---|---|---|---|
| 1 | 48 | 3 | No Pass | 0 | No Pass |
| 2 | 52 | 3 | No Pass | 0 | No Pass |
| 3 | 56 | 6 | No Pass | 0 | No Pass |
| 4 | 58 | 1 | No Pass | 0 | No Pass |
| 5 | 60 | 1 | No Pass | 2 | No Pass |
| 6 | 64 | 4 | No Pass | 3 | No Pass |
| 7 | 68 | 1 | No Pass | 2 | No Pass |
| 8 | 72 | 3 | Pass | 1 | Pass |
| 9 | 76 | 1 | Pass | 3 | Pass |
| 10 | 80 | 0 | Pass | 5 | Pass |
| 11 | 84 | 0 | Pass | 4 | Pass |
| 12 | 88 | 0 | Pass | 3 | Pass |
| | | 23 | | 23 | |

Based on the data obtained, in the pre-test of the experimental class that there were 19 students who did not pass the graduated standard (SKL), or the score obtained <70 while there were 4 students who passed the

graduated standard (SKL), or the score obtained ≥70. The percentage of the students who did not pass the graduated standard as follows:

$$= \frac{19}{23} x\ 100\%$$

= 82.6%

The percentage of the students who pass the graduated standard is as follows:

$$= \frac{4}{23} x\ 100\ \%$$

= 17.4%

Besides, it can also be seen that the total frequency is 23 and the total pretest scores is 1370 so that Mean ($M_x$) and Standard Deviation (δ) can be described as follows:

**Table IV. 11**
**Mean and Standard Deviation of Pre-Test Scores**

| | |
|---|---|
| **Mean** | 59.56 |
| **Standard Deviation** | 8.35 |

In the post-test of the experimental class that there were 7 students who did not pass the graduated standard (SKL), or the score obtained <70 while there were 16 students passed the graduated standard (SKL), or the score obtained ≥70. The percentage of students who did not pass the graduated standard as follows:

$$= \frac{7}{23} x\ 100\%$$

= 30.43%

The percentage of students who passed the graduated standard as follows:

$$= \frac{16}{23} x\ 100\ \%$$

= 69.57%

Besides, it can also be seen that the total frequency is 23 and the total scores is 1770 so that Mean ($M_x$) and Standard Deviation (δ) can be described as follows:

**Table IV. 12**
**Mean and Standard Deviation of Post-Test Scores**

| | |
|---|---|
| **Mean** | 76.95 |
| **Standard Deviation** | 8.22 |

**2. Students' Reading Comprehension Taught without Using Spider Map Technique.**

The following table is the description of the data of the students' pre-test and posttest scores of the control class. It was obtained from the result of their reading comprehension. The data can be described at the following table:

**Table IV. 13**
**Students' Pre-Test and Post-Test Scores of Control Class**

| No | Valid of Pre-Test | Frequency of Pre-Test | Standard Graduated | Valid of Post-Test | Frequency of Post-test | Standard Graduated |
|---|---|---|---|---|---|---|
| 1 | 48 | 1 | No Pass | 48 | 0 | No Pass |
| 2 | 52 | 5 | No Pass | 52 | 2 | No Pass |
| 3 | 56 | 6 | No Pass | 56 | 4 | No Pass |
| 4 | 58 | 1 | No Pass | 58 | 4 | No Pass |
| 5 | 60 | 2 | No Pass | 60 | 2 | No Pass |
| 6 | 64 | 3 | No Pass | 64 | 5 | No Pass |
| 7 | 68 | 2 | No Pass | 68 | 1 | No Pass |
| 8 | 72 | 3 | Pass | 72 | 2 | Pass |
| 9 | 76 | 0 | Pass | 76 | 2 | Pass |
| 10 | 80 | 0 | Pass | 80 | 1 | Pass |
| | | 23 | | | 23 | |

Based on the data obtained, in the pre-test of the control class there were 20 students who did not pass the graduated standard (SKL), or the score obtained <70 while there were 3 students who passed the graduated

standard (SKL), or the score obtained ≥70. The percentage of students who did not pass the graduated standard as follows:

$$= \frac{20}{23} x\ 100\%$$

= 86.95%

The percentage of students who passed the graduated standard as follows:

$$= \frac{3}{23} x\ 100\%$$

= 13.05%

Besides, it can also be seen that the total frequency is 23 and the total scores is 1366 so that Mean ($M_x$) and Standard Deviation (δ) can be described as follows.

**Table IV. 14**
**Mean and Standard Deviation of Pre-Test Scores**

| | |
|---|---|
| **Mean** | 59,39 |
| **Standard Deviation** | 7,27 |

From the table above, the distance between Mean ($M_x$) and Standard Deviation (δ) is too far. In other words, the scores obtained are normal.

In the post-test of experimental class that there were 18 students who did not pass the graduated standard (SKL), or the score obtained <70 while there were 5 students who passed the graduated standard (SKL), or the score obtained ≥70. The percentage of students who did not pass the graduated standard is as follows:

$$= \frac{18}{23} x\ 100\%$$

= 78.26%

The percentage of students who passed the graduated standard is as follows:

$= \frac{5}{23} x\ 100\ \%$

= 21.74%

Besides, it can also be seen that the total frequency is 23 and the total scores is 1482 so that Mean ($M_x$) and Standard Deviation (δ) can be described as follows:

**Table IV. 15**
**Mean and Standard Deviation of Post-Test Scores**

| | |
|---|---|
| **Mean** | 64.43 |
| **Standard Deviation** | 7.95 |

**3. Data Analysis of The Difference between Students' Reading Comprehension Taught by Using Spider Map Technique and without Using Spider Map Technique.**

The following table is description of data of the student's reading comprehension of the experiment class and the control class:

**Table IV.16**
**Students' Reading Comprehension Score**

| No. | Students | Experimental Class | | Gain | Control Class | | Gain |
|---|---|---|---|---|---|---|---|
| | | Pre-Test | Post-Test | | Pre-Test | Post-Test | |
| 1 | Student 1 | 64 | 80 | 16 | 72 | 80 | 8 |
| 2 | Student 2 | 48 | 76 | 28 | 48 | 60 | 12 |
| 3 | Student 3 | 52 | 68 | 16 | 56 | 56 | 0 |
| 4 | Student 4 | 72 | 88 | 16 | 52 | 68 | 16 |
| 5 | Student 5 | 60 | 80 | 20 | 56 | 64 | 8 |
| 6 | Student 6 | 58 | 72 | 14 | 56 | 68 | 12 |
| 7 | Student 7 | 56 | 80 | 24 | 72 | 76 | 4 |
| 8 | Student 8 | 56 | 84 | 28 | 64 | 70 | 6 |
| 9 | Student 9 | 48 | 68 | 20 | 52 | 56 | 4 |
| 10 | Student 10 | 64 | 80 | 16 | 52 | 52 | 0 |
| 11 | Student 11 | 56 | 68 | 12 | 68 | 72 | 4 |
| 12 | Student 12 | 64 | 60 | -4 | 60 | 64 | 4 |
| 13 | Student 13 | 56 | 72 | 16 | 58 | 60 | 2 |
| 14 | Student 14 | 52 | 76 | 24 | 56 | 68 | 12 |

| No. | Students | Experimental Class | | Gain | Control Class | | Gain |
|---|---|---|---|---|---|---|---|
| | | Pre-Test | Post-Test | | Pre-Test | Post-Test | |
| 15 | Student 15 | 72 | 88 | 16 | 60 | 68 | 8 |
| 16 | Student 16 | 68 | 84 | 16 | 68 | 68 | 0 |
| 17 | Student 17 | 48 | 60 | 12 | 52 | 60 | 8 |
| 18 | Student 18 | 56 | 76 | 20 | 56 | 52 | -4 |
| 19 | Student 19 | 64 | 84 | 20 | 64 | 56 | -8 |
| 20 | Student 20 | 52 | 80 | 28 | 64 | 56 | -8 |
| 21 | Student 21 | 56 | 74 | 18 | 56 | 60 | 4 |
| 22 | Student 22 | 76 | 88 | 12 | 52 | 72 | 20 |
| 23 | Student 23 | 72 | 84 | 12 | 72 | 76 | 4 |
| **Total** | | **1370** | **1770** | **400** | **1366** | **1482** | **116** |

The data were obtained through the post-test score of both the experimental class and the control class. To analyze the data, the writer used t-test formula by using software SPSS 17:

**Table IV.17**
**Group Statistics**

| | X | N | Mean | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|
| Y | 1 | 23 | 76.96 | 8.221 | 1.714 |
| | 2 | 23 | 64.43 | 7.953 | 1.658 |

**Table IV. 18**
**Independent Samples Test**

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 95% Confidence Interval of the Difference | |
| | | F | Sig. | T | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | Lower | Upper |
| Y | Equal variances assumed | .002 | .962 | 5.250 | 44 | .000 | 12.522 | 2.385 | 7.715 | 17.329 |
| | Equal variances not assumed | | | 5.250 | 43.952 | .000 | 12.522 | 2.385 | 7.715 | 17.329 |

*Out Put of Independent Sample T-Test* shows that *Levene's Test* for varian in this Hypothesis examination is:

$H_o$ = Identical variant population

$H_a$ = Non-identical variant population

This statement based on the probability gate:

If Probability > 0.05, Ho is accepted

If Probability < 0.05, Ho is rejected

Based on the account table *Levene's Test* analysis, the significance point is 0.000. Based on the taking decision standard, 0.000 is shorter than 0.05. It means that $H_o$ is rejected and $H_a$ is accepted and variant population was identical. Because both of the hypotheses were relevant, the next standard for analysis based on *Equal variant assumed.*

From the table above, it can be seen that $t_o$ is 5.250 and df is 44. The $t_o$ obtained is compared to t-table either at significant 5% or 1%. On significant level 5%, t-table shows 2.02 and on level 1%, t-table shows 2.72. Based on t-table, it can be analyzed that $t_o$ is higher than t-table at level 5% and 1%. In other word, we can read 2.02<5.250>2.72. Based on significant 5% and 1%, the writer can conclude that $H_o$ is rejected and $H_a$ is accepted. It means that there is a significant difference between the students' reading comprehension who are taught by using Spider Map Technique and those who are not; at the second year students of MA Hasanah Pekanbaru.

The data showed that the mean score of both class were different. The mean score of the experiment class in the pretest was 59.56 and the post-test was 76.95, it increased about 17.39 or 29.2%. Besides, the mean score of the result of control class in the pretest was 59.39 and the post-test was 64.43, it increased only 5.04 or 8.48%. To make clear, it can be seen from the following table:

**Table IV. 19**
**The Mean of Pre-Test and Post-Test of**
**Experiment Class and Control Class**

| | **Experiment class** | **Control class** |
|---|---|---|
| Mean pretest | 59.56 | 59.39 |
| Mean posttest | 76.95 | 64.43 |

From the table IV.19, it can be stated that using Spider Map Technique had effect positively to increase the students' reading comprehension. It is proved by the different score in the experimental class and the control class that was 12.52, so it can be concluded that using Spider Map Technique can increase students' reading comprehension.

# CHAPTER V

# CONCLUSION AND SUGGESTION

## A. Conclusion

Based on data analysis and research finding in chapter four, finally the research about the Effect of Spider Map Technique toward students' reading comprehension at the second year of MA Hasanah Pekanbaru comes to the conclusion as follows:

1. The mean pre-test of students' reading comprehension of experiment class was 59.56, which was categorized into enough level, and the mean of post-test after being taught by using Spider Map Technique was 76.95 which was categorized into good level.
2. The mean pre-test of students' reading comprehension of control class was 59.39, which was categorized into enough level and the mean post-test after being taught without using Spider Map technique was 64.43 which was categorized into enough level.
3. Based on the data analysis, it can be seen that there was significant difference between students' reading comprehension who were taught by using spider map technique and students' reading comprehension who were taught without using spider map technique of the second year students at MA Hasanah Pekanbaru.

## B. Suggestion

Considering the effects of Spider Map Technique toward students' reading comprehension, the writer would like to give some suggestions as follows:

1) Suggestions for the teacher:
   a. Spider Map Technique can be applied as alternative technique in teaching and learning process at the class.
   b. The teacher builds a favorable atmosphere in teaching-learning process, because the conductive condition in teaching would become one asset to carry the success of material to be taught.
   c. The teacher should be creative to select kinds of reading text in order to make students comprehend more the text and to diminish boredom in learning English especially in reading subject.

2) Suggestion for the students:
   a. The students should try to understand to use Spider Map Technique in reading text and practice in the classroom.
   b. The students should pay more attention to the lesson that has been shared by students in front of the class.
   c. The students should avoid cheating in doing their exercises because in Spider Map Technique each student is given a time to think about his/her own answers. So, the students should do independently in doing their exercises.

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